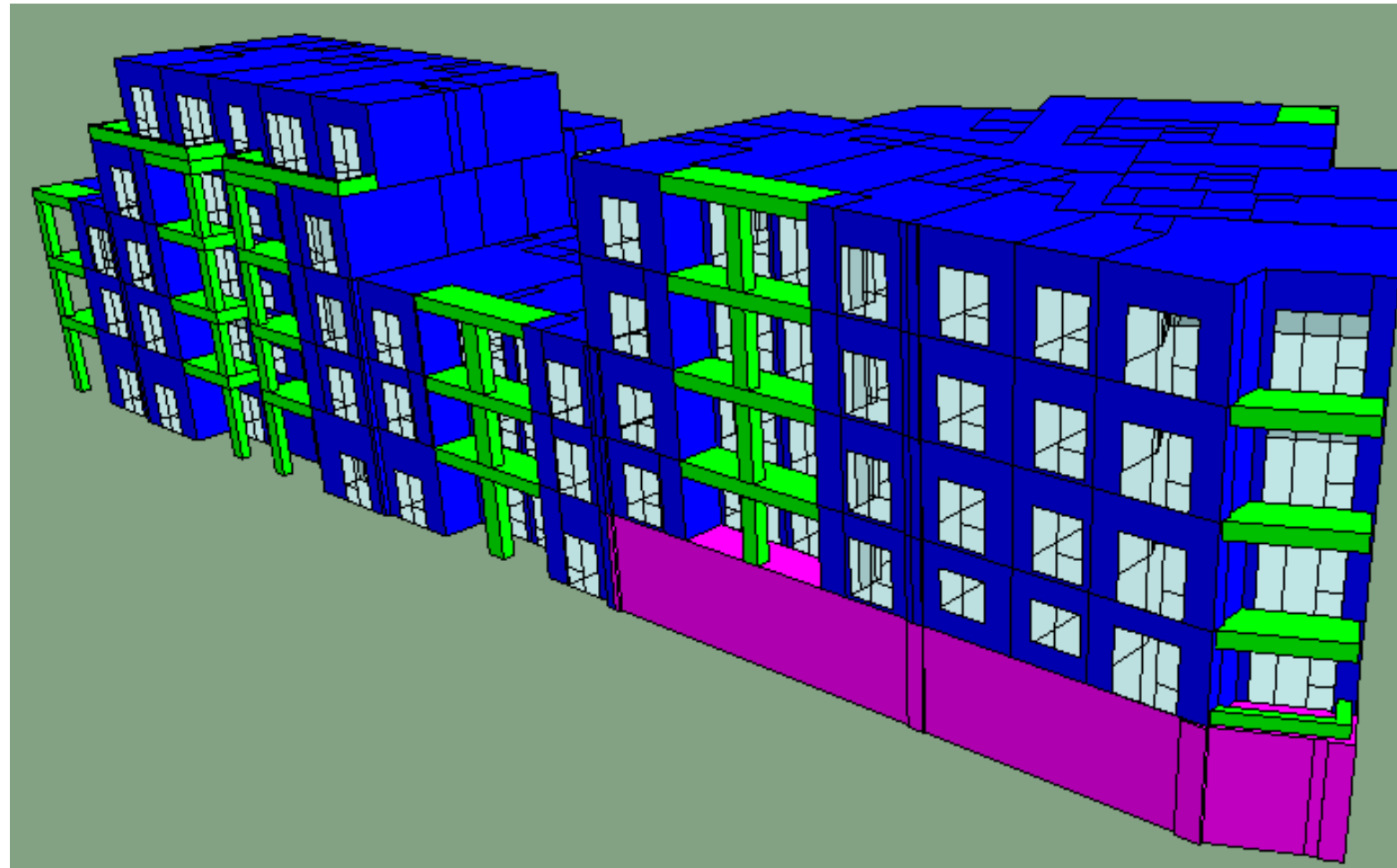




Otterfield Road, West Drayton, UB7 8EY

Overheating Analysis Report

May 2025

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Disclaimer

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1 Executive Summary

This report has been produced for the Otterfield Road development. The proposed development will include 45 residential units.

The report analyses the solar internal gains for all 45 residential units and 8 communal corridors.

The report demonstrates that a mechanical ventilation with heat recovery (MVHR) system, passive ventilation via openable windows, enhanced MVHR system and MVHR with cooling units is required to achieve compliance with the CIBSE overheating criteria. The following results are achieved:

- **100%** of rooms (123 out of 123) **pass** the CIBSE TM59 overheating Criterion A and **51.28%** of bedrooms (40 out of 78) **pass** Criterion B for the **current climate**, considering a G-value of 45% with standard flow rates (29 l/s – 37 l/s).
- **100%** of rooms (123 out of 123) **pass** the CIBSE TM59 overheating Criterion A and **64.10%** of bedrooms (50 out of 78) **pass** Criterion B for the **current climate**, with 2 ach.
- **100%** of rooms (123 out of 123) **pass** the CIBSE TM59 overheating Criterion A and **78.21%** of bedrooms (61 out of 78) **pass** Criterion B for the **current climate**, with 2.5 ach.
- **100%** of rooms (123 out of 123) **pass** the CIBSE TM59 overheating Criterion A and **82.05%** of bedrooms (64 out of 78) **pass** Criterion B for the **current climate**, with 3 ach.
- **100%** of rooms (123 out of 123) **pass** the CIBSE TM59 overheating Criterion A and **83.33%** of bedrooms (65 out of 78) **pass** Criterion B for the **current climate**, with 3.5 ach.
- **100%** of rooms (123 out of 123) **pass** the CIBSE TM59 overheating Criterion A and **100%** of bedrooms (78 out of 78) **pass** Criterion B for the **current climate**, with MVHR Cooling Units.

All communal corridors **pass** the applicable CIBSE criteria for the current climate scenario.

2 Introduction

This report has been produced for the Otterfield Road development, which consists of 45 residential units.

The site is located in West London, within the London Borough of Hillingdon. It is situated off Falling Lane, adjacent to Yiewsley Recreation Ground to the east. The site is in close proximity to High Street, with nearby access to key roads such as St. Stephens Road and Trout Road (Figure 1). The surrounding area primarily consists of high-density residential buildings, including semi-detached houses and apartment blocks, along with a mix of commercial properties, such as supermarkets and retail stores.

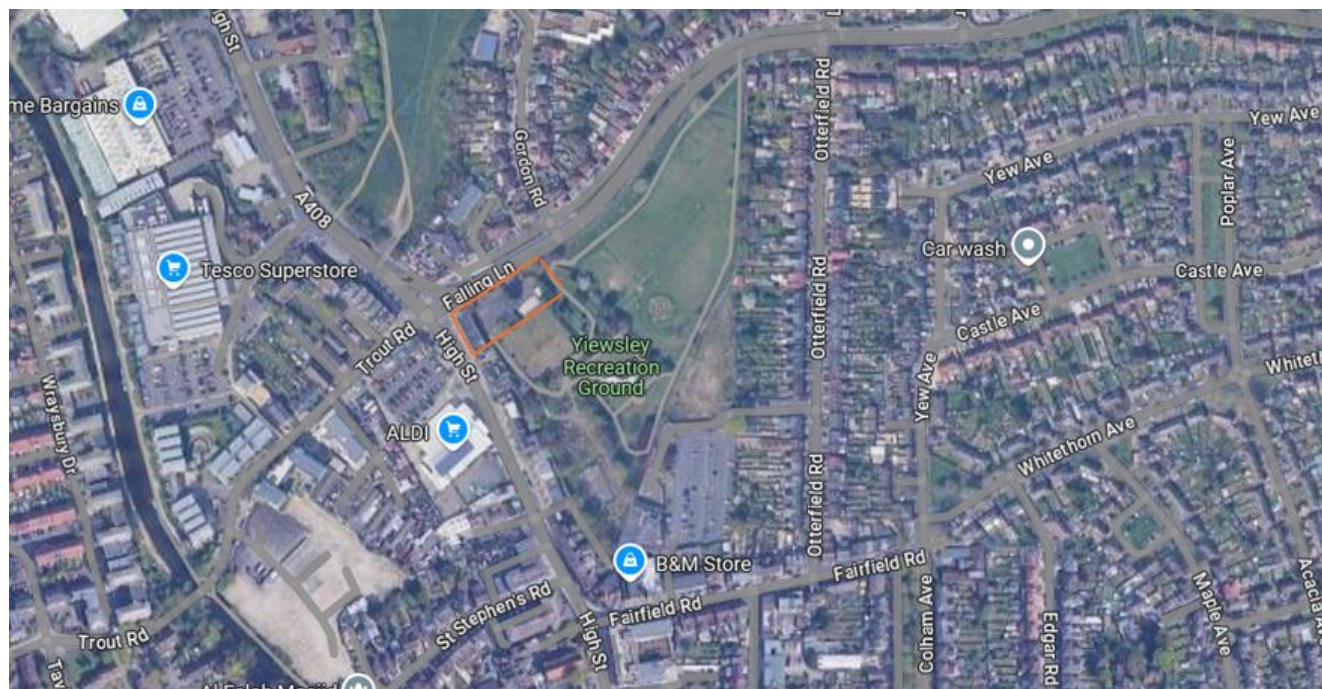


Figure 1. The Otterfield Road development; source Google maps

This report considers all the residential areas and seeks to investigate the overheating potential and propose an alternative solution to improve the thermal comfort of areas identified with a risk of overheating, if there is any, for the habitable spaces, kitchen/dining/living rooms and bedrooms.

3 Requirements

CIBSE TM59: 2017

The overheating criteria for buildings that are not mechanically cooled, during summer period, are defined in CIBSE TM59: 2017 'Design Methodology for the Assessment of Overheating Risk in Homes' which is directly associated with CIBSE TM52: 2013 'The Limits of Thermal Comfort: Avoiding Overheating in European Buildings' as follows:

Criterion A: For Kitchens, Living rooms and Bedrooms

CIBSE TM52 criterion 1: *Hours of Exceedance*

The number of hours (H_e) that ΔT is greater than or equal to one degree (K) during the period between May and September, shall not be more than 3% of occupied hours

Criterion B: For Bedrooms Only

To guarantee comfort during the sleeping hours the operative temperature in the bedroom from 10pm to 7am shall not exceed 26 °C for more than 1% of annual hours

(Note: 1% of the annual hours between 22:00 and 07:00 for bedrooms is 32 hours, so 33 or more hours above 26 °C will be recorded as a fail)

In order to demonstrate the proposed units are not at risk of overheating, these two criteria must be met.

For **communal corridors**, where heating pipework runs through, the overheating test should be based on the number of annual hours for which an operative temperature of 28°C is exceeded for more than 3% of the total annual hours.

CIBSE TM59:



CIBSE TM52:



Requirement O1 of Schedule 1 to the Building Regulations 2010

The aim of requirement O1, which will take effect on 15 June 2022, is to protect the health and welfare of occupants of the building by reducing the occurrence of high indoor temperatures. In the Secretary of State's view, requirement O1 is met by designing and constructing the building to achieve both of the following:

- Limiting unwanted solar gains in summer.
- Providing an adequate means of removing excess heat from the indoor environment.

Requirement: O1 Overheating mitigation

- Reasonable provision must be made in respect of a dwelling, institution or any other building containing one or more rooms for residential purposes, other than a room in a hotel ("residences") to—
 - limit unwanted solar gains in summer.
 - provide an adequate means to remove heat from the indoor environment.
- In meeting the obligations in paragraph (1)—
 - account must be taken of the safety of any occupant, and their reasonable enjoyment of the residence; and
 - mechanical cooling may only be used where insufficient heat is capable of being removed from the indoor environment without it.

4 CIBSE methodology

CIBSE Identification of Risk

This methodology is based on the use of dynamic thermal modelling for the treatment and assessment of overheating risk in residential buildings. This methodology is proposed for all residences and should especially be considered for:

- Large developments
- Developments in urban areas, particularly in southern England
- Blocks of flats
- Dwellings with high levels of insulation and airtightness
- Single aspect flats

Individual houses and developments with a low risk of overheating may not require the use of dynamic thermal modelling. Professional judgement must be used when taking the decision to omit dynamic thermal modelling to test overheating. The risk must be considered in the context of the project and the decision should be taken jointly with the client, design team and planners. A list of risk factors for identifying properties at high risk of overheating is provided in Energy Planning – Greater London Authority guidance on preparing energy assessments (GLA, 2018) and in BRE's Home Quality Mark (BRE, 2015).

CIBSE Methodology Overview

The assessment should follow the following steps:

1. A suitable sample of units within a development should be selected.
2. Zoning: all sample units should be zoned into the separate rooms including kitchens, living rooms, bedrooms, bathrooms and halls.
3. Building constructions should be modelled as proposed, accurately reflecting thermal properties such as thermal mass, insulation and solar transmittance for glazing.
4. Standard profiles should be applied for occupancy, lighting and equipment gains.
5. Guidance on the treatment of communal corridors.
6. Pipework and equipment, e.g., heat interface unit gains from community heating systems.
7. Openable windows should be included in the model.
8. Any internal or external shading provision should be included in the model.
9. Additional mechanical ventilation including mechanical ventilation with heat recovery (MVHR) or extract systems should be included in the model.
10. Air speed assumptions should be based on the guidance.
11. The weather file used for the methodology should be the DSY1 (current design summer year) file most appropriate for the site location for the 2020s high emissions, 50% percentile scenario.
12. The assessment should be undertaken using hourly dynamic simulation modelling, which includes all the relevant features of the building.

Internal Conditions

Internal conditions, (room gains from lights, equipment, occupants, infiltration rates and plant) are grouped together in profiles which are applied to the modelled zones.

All internal gains for occupancy, lighting and equipment are modelled in accordance with CIBSE TM59:2017, Table 1, Table 2 and Figure 1.

Sample Size

The assessment should try to identify if there is any space that is at risk of overheating. This is likely to be those:

- With large glazing areas
- On the topmost floor
- Having less shading
- Having large, sun-facing windows
- Having a single aspect, or
- Having limited opening windows

At least one corridor should be included in the assessment if the corridors contain community heating distribution pipework.

Dwellings Modelled

All 45 units and 8 communal corridors have been modelled for overheating risk using the IES VE software.

Weather Data

CIBSE Hourly Weather Data for Test Reference Years (TRYs) and Design Summer Years (DSYs) are available for 14 locations across the UK.

The Design Summer Year (DSY) consists of a 1-year sequence of hourly data, selected from data sets that represent a year with a hot summer. The selection is based on dry bulb temperatures during the period May-September. The year selected is the mid-year of the upper quartile. This enables designers to simulate building performance during a year with a hot, but not extreme, summer.

The analysis is based on CIBSE TM59 requirements and has been conducted using the CIBSE London DSY1 (Design Summer Year) weather file for the 2020s, high emissions, 50% percentile scenario.

5 Analysis

Software

Dynamic thermal analysis has been performed across the residential units to assess the conditions during annual period. The analysis accounts for the characteristics of each space (kitchen/dining/living rooms & bedrooms) including the internal gains, building fabric details, building orientation and external weather conditions.

The thermal model of the proposed development was constructed using the Integrated Environmental Solutions (IES-VE) 2023 version, which complies with CIBSE Applications Guide AM11 'Building Energy and Environmental Modelling'.

The following IES software tools were used:

ModelIT	Model the geometry of the building
Apache	Assign constructions, material properties, internal conditions, and occupancy patterns
SunCast	Calculate solar shading and provide data for thermal calculations
MacroFlo	Assign ventilation templates for openable windows and doors
Apache Sim	Simulate internal conditions

Building Geometry

The model's geometry and analysed spaces are based on the latest received floor plans and elevations, as follows:

- O00044-FRA-BE-00-DR-A-10200
- 1261-HUN-02-00-DR-A-05-0100-P01-GA Ground Floor Plan
- 1261-HUN-02-01-DR-A-05-0101-P01-GA First Floor Plan
- 1261-HUN-02-02-DR-A-05-0102-P01-GA Second Floor Plan
- 1261-HUN-02-03-DR-A-05-0103-P01-GA Third Floor Plan
- 1261-HUN-02-04-DR-A-05-0104-P01-GA Fourth Floor Plan
- South Elevation - Main Building
- West Elevation Rear Residential Entrance
- 01 Elevation
- 02 Elevation
- 03 Elevation
- 04 Elevation
- 05 Elevation

Building Fabric

The following construction details have been used in the analysis:

Element	Value
External Wall U-value	0.15 W/m ² K
Exposed Roof U-value	0.10 W/m ² K
Ground Floor U-value	0.10 W/m ² K
Window U-value/G-value	1.10 W/m ² K /45%
Glazed Doors U-value/G-value	1.40 W/m ² K /45%
Doors U-value	1.40 W/m ² K
Air Permeability	3.00 m ³ /m ² h @ 50Pa

Internal Conditions

Internal conditions (room gains from lights, equipment, occupants, infiltration rates and plant) are grouped together in profiles which are applied to the modelled zones.

All internal gains are based on Table 1, Table 2 and Figure 1 of CIBSE TM59:2017, also summarised below.

Gains are modelled by resolving them into radiant and convective portions. The convective portion is injected into the zone air, whilst the radiant gains are distributed amongst the zone's surfaces.

Infiltration, ventilation and air movement between the various zones of the building cause a transfer of heat between the appropriate air masses, which is represented by terms involving the mass flow, the temperature difference and the specific heat capacity of air.

Solar radiation entering a zone through transparent building components falls on internal surfaces, where it may be absorbed, reflected or transmitted depending on the surfaces' properties. Distribution of reflected and transmitted solar radiation continues until all the radiation has been accounted for.

The following design conditions, which are provided by TM59, have been included in the modelling analysis:

Location	Occupancy	Occupancy sensible/ latent (W/person)	Lighting (W/m ²)	Equipment (W)
1 bed Bedroom	1	75 / 55	2	80
2 beds Bedroom	2	75 / 55	2	80
Living Room/Kitchen	1-2	75 / 45	2	450

Occupancy Patterns

Occupancy patterns are as follows:

Habitable space	Occupancy (Weekdays)	Occupancy (Weekends)
Bedroom	Full day	Full day
Living Room/Kitchen	9am to 10pm*	9am to 10pm

* CIBSE TM59:2017, Table 2, Page 7.

Determining '*occupied hours*' is critical to the results of the analysis. In a domestic situation, the occupation of rooms cannot easily be determined and varies widely.

Mechanical Ventilation and Natural Ventilation Openings

The schedule for opening windows, to avoid the build-up of internal gains, and the details of the openings and the mechanical ventilation system are as follows:

Dwelling Window Opening Schedule:	<u>Temperature Conditions:</u> Start to open when the internal temperature exceeds 22°C and be fully open when the internal temperature exceeds 26°C AND the external temp is lower than the internal temp.
Opening Details:	Bedroom and KDL side-hung windows, which pose a risk of falling, open between 30 and 58 degrees, complying with the maximum stroke length requirement of 650mm. KDL balcony doors open 24/7. GF KDLs glazed openings closed during nighttime hours for security reasons.
Dwelling Mechanical Ventilation:	MVHR to each unit.

The proposed strategy incorporates the thermal properties of the glazed parts of the dwellings, combined with MVHR ventilation.

There is also a need to provide purge ventilation as well by opening windows. The projection of the climate change predictions under the 2020s high emissions scenario shows that the external temperatures are significantly higher with higher solar gains, therefore, purge ventilation for passive cooling purposes is applicable only when external temperatures are lower than internal ones.

The control of the windows can rely on manual control from the occupants, who should be advised by a thermostat when the windows should be opened, as described above.

Noise Impact Assessment

An alternative strategy has been implemented for the bedrooms in accordance with the Noise Impact Assessment Report, prepared by Bloc Consulting on 11th January 2022, which presents the following findings:

"Assuming windows open for rapid ventilation, all assessed spaces on all elevations would be expected to be subjected to noise levels identified as significant observable adverse effect level (SOAEL).

It is therefore recommended that an alternative to openable windows for natural ventilation be provided for future occupants. This could involve the use of a longer-term boost ventilation mode from the MVHR units."

In line with the Noise Impact Assessment Report, all bedroom windows on all facades have been assumed to remain closed at night (23:00 – 07:00) to mitigate noise impacts while ensuring compliance with Part O overheating requirements.

6 Discussions and Results

The overheating results for occupied areas of the dwellings are summarised in the following sections.

Compliance with the following criteria is addressed:

- **Criterion A:** For occupied rooms (kitchen/dining/living rooms and bedrooms), the number of hours (He) that delta T is greater than or equal to one degree (K) during the period between May and September, shall not be more than 3% of occupied hours.
- **Criterion B:** The operative temperature in the bedroom from 10pm to 7am shall not exceed 26°C for more than 1% of annual hours (>32 total hours).
- **Communal Corridors:** The operative temperature in the communal corridors shall not exceed 28°C for more than 3% of total annual hours (>262 hours).

Sample Size:

The assessment considered all 45 units and 8 communal corridors (Figure 3).

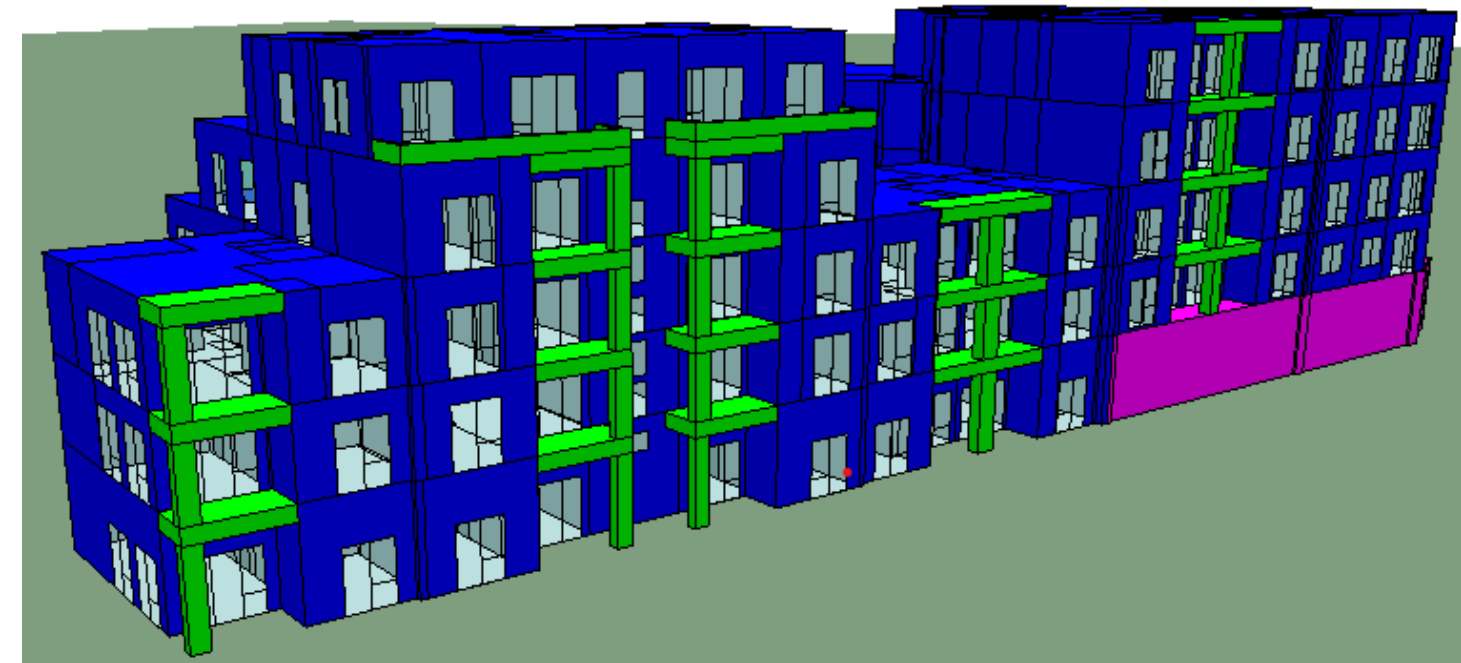


Figure 3. Thermal modelling design for the overheating study; studied flats and duplexes (blue), adjacent spaces (pink) and local shade (green).

Current Climate Scenario (DSY01)

The results of the current climate overheating analysis, along with the followed strategy are summarised thereafter:

Strategy

- Solar Energy Transmittance (G-Value) 45%.
- Standard flow rates (29 l/s to 37 l/s).
- Openable windows and balcony doors, as per temperature conditions and noise impact assessment.

Results

The overheating analysis shows that based on the above proposed strategy, **100%** of the rooms **pass** (123 out of 123) Criterion A, and **51.28%** (40 out of 78) of bedrooms **pass** CIBSE TM 59 Criterion B.

Location	No. Rooms Tested	Criterion A - No. Rooms with overheating issues	Criterion B - No. Rooms with overheating issues
K/D/Ls	45	0	
Bedrooms	78	0	38
TOTAL	123	0	38

Failing Bedrooms	
00_Unit 01 – Double Bedroom 1	02_Unit 21 - Double Bedroom 1
00_Unit 01 – Single Bedroom 1	02_Unit 21 - Double Bedroom 2
00_Unit 02 – Double Bedroom 1	02_Unit 21 - Single Bedroom 1
00_Unit 03 – Double Bedroom 1	02_Unit 22 - Double Bedroom 1
00_Unit 04 – Double Bedroom 1	02_Unit 25 - Double Bedroom 1
00_Unit 05 – Double Bedroom 1	02_Unit 28 - Double Bedroom 1
01_Unit 08 – Double Bedroom 1	03_Unit 32 - Double Bedroom 1
01_Unit 09 – Double Bedroom 1	03_Unit 33 - Double Bedroom 1
01_Unit 09 – Double Bedroom 2	03_Unit 33 - Double Bedroom 2
01_Unit 09 – Single Bedroom 1	03_Unit 33 - Single Bedroom 1
01_Unit 10 – Double Bedroom 1	03_Unit 34 - Double Bedroom 1
01_Unit 11 – Double Bedroom 1	03_Unit 35 - Double Bedroom 1
01_Unit 14 – Double Bedroom 1	03_Unit 36 - Double Bedroom 1
01_Unit 16 – Double Bedroom 1	03_Unit 38 - Double Bedroom 1
01_Unit 16 – Single Bedroom 1	04_Unit 40 - Double Bedroom 1
01_Unit 17 - Double Bedroom 1	04_Unit 41 - Double Bedroom 1

01_Unit 17 - Double Bedroom 2	04_Unit 41 - Double Bedroom 2
01_Unit 17 - Single Bedroom 1	04_Unit 41 - Single Bedroom 1
02_Unit 20 - Double Bedroom 1	04_Unit 42 - Double Bedroom 1

Mitigation for the Current Climate:

A suitable mitigation measure would be to upgrade dwellings' ventilation with enhanced MVHR with 15 l/s in each failing bedroom to mitigate overheating and improve thermal comfort conditions for the users.

Mitigation Option 1 – Enhanced MVHR (15 l/s)

The results of the current climate overheating analysis, along with the followed strategy are summarised thereafter:

Strategy

- Solar Energy Transmittance (G-Value) 45%.
- Standard flow rates (29 l/s to 37 l/s).
- Openable windows and balcony doors, as per temperature conditions and noise impact assessment.
- Enhanced supply flow rate to failing bedrooms (15 l/s).

Results

The overheating analysis shows that based on the above proposed strategy, **100%** of the rooms **pass** (123 out of 123) Criterion A, and **56.41%** (44 out of 78) of bedrooms **pass** CIBSE TM 59 Criterion B.

Location	No. Rooms Tested	Criterion A - No. Rooms with overheating issues	Criterion B - No. Rooms with overheating issues
K/D/Ls	45	0	
Bedrooms	78	0	34
TOTAL	123	0	34

Failing Bedrooms	
00_Unit 01 - Double Bedroom 1	02_Unit 21 - Double Bedroom 1
00_Unit 01 - Single Bedroom 1	02_Unit 21 - Double Bedroom 2
00_Unit 02 - Double Bedroom 1	02_Unit 22 - Double Bedroom 1
00_Unit 03 - Double Bedroom 1	02_Unit 25 - Double Bedroom 1
00_Unit 04 - Double Bedroom 1	02_Unit 28 - Double Bedroom 1
00_Unit 05 - Double Bedroom 1	03_Unit 31 - Double Bedroom 1
01_Unit 08 - Double Bedroom 1	03_Unit 32 - Double Bedroom 1
01_Unit 09 - Double Bedroom 1	03_Unit 33 - Double Bedroom 1
01_Unit 09 - Double Bedroom 2	03_Unit 33 - Double Bedroom 2
01_Unit 10 - Double Bedroom 1	03_Unit 34 - Double Bedroom 1
01_Unit 11 - Double Bedroom 1	03_Unit 35 - Double Bedroom 1
01_Unit 14 - Double Bedroom 1	03_Unit 36 - Double Bedroom 1
01_Unit 16 - Double Bedroom 1	03_Unit 38 - Double Bedroom 1
01_Unit 16 - Single Bedroom 1	04_Unit 40 - Double Bedroom 1
01_Unit 17 - Double Bedroom 1	04_Unit 41 - Double Bedroom 1
01_Unit 17 - Double Bedroom 2	04_Unit 41 - Double Bedroom 2
02_Unit 20 - Double Bedroom 1	04_Unit 42 - Double Bedroom 1

Mitigation for the Current Climate:

A suitable mitigation measure would be to upgrade dwellings' ventilation with enhanced MVHR with 1.5 ach in each failing bedroom to mitigate overheating and improve thermal comfort conditions for the users.

Mitigation Option 2 – Enhanced MVHR (1.5 ach)

The results of the current climate overheating analysis, along with the followed strategy are summarised thereafter:

Strategy

- Solar Energy Transmittance (G-Value) 45%.
- Standard flow rates (29 l/s to 37 l/s).
- Openable windows and balcony doors, as per temperature conditions and noise impact assessment.
- Enhanced supply flow rate to 15 l/s.
- Enhanced supply flow rate to failing bedrooms (1.5 ach).

Results

The overheating analysis shows that based on the above proposed strategy, **100%** of the rooms **pass** (123 out of 123) Criterion A, and **56.41%** (44 out of 78) of bedrooms **pass** CIBSE TM 59 Criterion B.

Location	No. Rooms Tested	Criterion A - No. Rooms with overheating issues	Criterion B - No. Rooms with overheating issues
K/D/Ls	45	0	
Bedrooms	78	0	34
TOTAL	123	0	34

Failing Bedrooms	
00_Unit 01 - Double Bedroom 1	02_Unit 20 - Double Bedroom 1
00_Unit 01 - Single Bedroom 1	02_Unit 21 - Double Bedroom 1
00_Unit 02 - Double Bedroom 1	02_Unit 21 - Double Bedroom 2
00_Unit 03 - Double Bedroom 1	02_Unit 22 - Double Bedroom 1
00_Unit 04 - Double Bedroom 1	02_Unit 25 - Double Bedroom 1
00_Unit 05 - Double Bedroom 1	03_Unit 28 - Double Bedroom 1
01_Unit 08 - Double Bedroom 1	03_Unit 32 - Double Bedroom 1
01_Unit 09 - Double Bedroom 1	03_Unit 33 - Double Bedroom 1
01_Unit 09 - Double Bedroom 2	03_Unit 33 - Double Bedroom 2
01_Unit 10 - Double Bedroom 1	03_Unit 34 - Double Bedroom 1
01_Unit 11 - Double Bedroom 1	03_Unit 35 - Double Bedroom 1
01_Unit 14 - Double Bedroom 1	03_Unit 36 - Double Bedroom 1
01_Unit 16 - Double Bedroom 1	03_Unit 38 - Double Bedroom 1
01_Unit 16 - Single Bedroom 1	04_Unit 40 - Double Bedroom 1
01_Unit 17 - Double Bedroom 1	04_Unit 41 - Double Bedroom 1
01_Unit 17 - Double Bedroom 2	04_Unit 41 - Double Bedroom 2
01_Unit 17 - Single Bedroom 1	04_Unit 42 - Double Bedroom 1

Mitigation for the Current Climate:

A suitable mitigation measure would be to upgrade dwellings' ventilation with enhanced MVHR with 2.0 ach in each failing bedroom to mitigate overheating and improve thermal comfort conditions for the users.

Units 09, 17, 21, 33 and 41 could not accommodate higher flow rates due to restrictions to duct sizes and ceiling void depths and will be mitigated with MVHR with cooling units.

Mitigation Option 3 – Enhanced MVHR (2.0 ach)

The results of the current climate overheating analysis, along with the followed strategy are summarised thereafter:

Strategy

- Solar Energy Transmittance (G-Value) 45%.
- Standard flow rates (29 l/s to 37 l/s).
- Openable windows and balcony doors, as per temperature conditions and noise impact assessment.
- Enhanced supply flow rate to 15 l/s.
- Enhanced supply flow rate to 1.5 ach.
- Enhanced supply flow rate to failing bedrooms (2 ach).

Results

The overheating analysis shows that based on the above proposed strategy, **100%** of the rooms **pass** (123 out of 123) Criterion A, and **64.10%** (50 out of 78) of bedrooms **pass** CIBSE TM 59 Criterion B.

Location	No. Rooms Tested	Criterion A - No. Rooms with overheating issues	Criterion B - No. Rooms with overheating issues
K/D/Ls	45	0	
Bedrooms	78	0	28
TOTAL	123	0	28

Failing Bedrooms	
00_Unit 01 - Double Bedroom 1	01_Unit 16 - Single Bedroom 1
00_Unit 01 - Single Bedroom 1	01_Unit 17 - Double Bedroom 1
00_Unit 02 - Double Bedroom 1	01_Unit 17 - Double Bedroom 2
00_Unit 03 - Double Bedroom 1	02_Unit 22 - Double Bedroom 1
00_Unit 04 - Double Bedroom 1	03_Unit 34 - Double Bedroom 1
00_Unit 05 - Double Bedroom 1	03_Unit 38 - Double Bedroom 1
01_Unit 10 - Double Bedroom 1	04_Unit 40 - Double Bedroom 1
01_Unit 11 - Double Bedroom 1	04_Unit 42 - Double Bedroom 1
01_Unit 14 - Double Bedroom 1	

Mitigation for the Current Climate:

A suitable mitigation measure would be to upgrade dwellings' ventilation with enhanced MVHR with 2.5 ach in each failing bedroom to mitigate overheating and improve thermal comfort conditions for the users.

Mitigation Option 4 – Enhanced MVHR (2.5 ach)

The results of the current climate overheating analysis, along with the followed strategy are summarised thereafter:

Strategy

- Solar Energy Transmittance (G-Value) 45%.
- Standard flow rates (29 l/s to 37 l/s).
- Openable windows and balcony doors, as per temperature conditions and noise impact assessment.
- Enhanced supply flow rate to 15 l/s.
- Enhanced supply flow rate to 1.5 ach.
- Enhanced supply flow rate to 2.0 ach.
- Enhanced supply flow rate to failing bedrooms (2.5 ach).

Results

The overheating analysis shows that based on the above proposed strategy, **100%** of the rooms **pass** (123 out of 123) Criterion A, and **78.21%** (61 out of 78) of bedrooms **pass** CIBSE TM 59 Criterion B.

Location	No. Rooms Tested	Criterion A - No. Rooms with overheating issues	Criterion B - No. Rooms with overheating issues
K/D/Ls	45	0	
Bedrooms	78	0	17
TOTAL	123	0	17

Failing Bedrooms	
00_Unit 01 – Double Bedroom 1	01_Unit 10 – Double Bedroom 1
00_Unit 01 – Single Bedroom 1	01_Unit 11 – Double Bedroom 1
00_Unit 04 – Double Bedroom 1	01_Unit 17 - Double Bedroom 2

Mitigation for the Current Climate:

A suitable mitigation measure would be to upgrade dwellings' ventilation with enhanced MVHR with 3.0 ach in each failing bedroom to mitigate overheating and improve thermal comfort conditions for the users.

Unit 01 could not accommodate higher flow rates due to restrictions to duct sizes and ceiling void depths and will be mitigated with MVHR Cooling Units.

Mitigation Option 5 – Enhanced MVHR (3.0 ach)

The results of the current climate overheating analysis, along with the followed strategy are summarised thereafter:

Strategy

- Solar Energy Transmittance (G-Value) 45%.
- Standard flow rates (29 l/s to 37 l/s).
- Openable windows and balcony doors, as per temperature conditions and noise impact assessment.
- Enhanced supply flow rate to 15 l/s.
- Enhanced supply flow rate to 1.5 ach.
- Enhanced supply flow rate to 2.0 ach.
- Enhanced supply flow rate to 2.5 ach.
- Enhanced supply flow rate to failing bedrooms (3.0 ach).

Results

The overheating analysis shows that based on the above proposed strategy, **100%** of the rooms **pass** (123 out of 123) Criterion A, and **82.05%** (64 out of 78) of bedrooms **pass** CIBSE TM 59 Criterion B.

Location	No. Rooms Tested	Criterion A - No. Rooms with overheating issues	Criterion B - No. Rooms with overheating issues
K/D/Ls	45	0	
Bedrooms	78	0	14
TOTAL	123	0	14

Units with Failing Bedroom
01_Unit 10 – Double Bedroom 1

Mitigation for the Current Climate:

A suitable mitigation measure would be to upgrade dwellings' ventilation with enhanced MVHR with 3.5 ach in the failing room to mitigate overheating and improve thermal comfort conditions for the users.

Mitigation Option 6 – Enhanced MVHR (3.5 ach)

The results of the current climate overheating analysis, along with the followed strategy are summarised thereafter:

Strategy

- Solar Energy Transmittance (G-Value) 45%.
- Standard flow rates (29 l/s to 37 l/s).
- Openable windows and balcony doors, as per temperature conditions and noise impact assessment.
- Enhanced supply flow rate to 15 l/s.
- Enhanced supply flow rate to 1.5 ach.
- Enhanced supply flow rate to 2.0 ach.
- Enhanced supply flow rate to 2.5 ach.
- Enhanced supply flow rate to 3.0 ach.
- Enhanced supply flow rate to failing bedrooms (3.5 ach).

Results

The overheating analysis shows that based on the above proposed strategy, **100%** of the rooms **pass** (123 out of 123) Criterion A, and **83.33%** (65 out of 78) of bedrooms **pass** CIBSE TM 59 Criterion B.

Location	No. Rooms Tested	Criterion A - No. Rooms with overheating issues	Criterion B - No. Rooms with overheating issues
K/D/Ls	45	0	
Bedrooms	78	0	13
TOTAL	123	0	13

Mitigation for the Current Climate:

A number of units could not accommodate higher flow rates due to restrictions to duct sizes and ceiling void depths and will be mitigated with MVHR Cooling Units.

Mitigation Option 7 – MVHR with Cooling

A number of units have had to have MVHR with cooling units added due to restrictions to duct sizes and ceiling void depths. These units are: 01, 09, 17, 21, 33 and 41.

The results of the current climate overheating analysis, along with the followed strategy are summarised thereafter:

Strategy

- Solar Energy Transmittance (G-Value) 45%.
- Standard flow rates (29 l/s to 37 l/s).
- Openable windows and balcony doors, as per temperature conditions and noise impact assessment.
- Enhanced supply flow rate to 15 l/s.
- Enhanced supply flow rate to 1.5 ach.
- Enhanced supply flow rate to 2.0 ach.
- Enhanced supply flow rate to 2.5 ach.
- Enhanced supply flow rate to 3.0 ach.
- Enhanced supply flow rate to 3.5 ach.
- MVHR with cooling units added to failing units.

Results

The overheating analysis shows that based on the above proposed strategy, **100%** of the rooms **pass** (123 out of 123) Criterion A, and **100%** (78 out of 78) of bedrooms **pass** CIBSE TM 59 Criterion B.

Location	No. Rooms Tested	Criterion A - No. Rooms with overheating issues	Criterion B - No. Rooms with overheating issues
K/D/Ls	45	0	
Bedrooms	78	0	0
TOTAL	123	0	0

The full set of results is provided in Appendix C and D.

Typical Room Analysis

This section of the report discusses the results for some examples of the assessed rooms.

Typical Kitchen

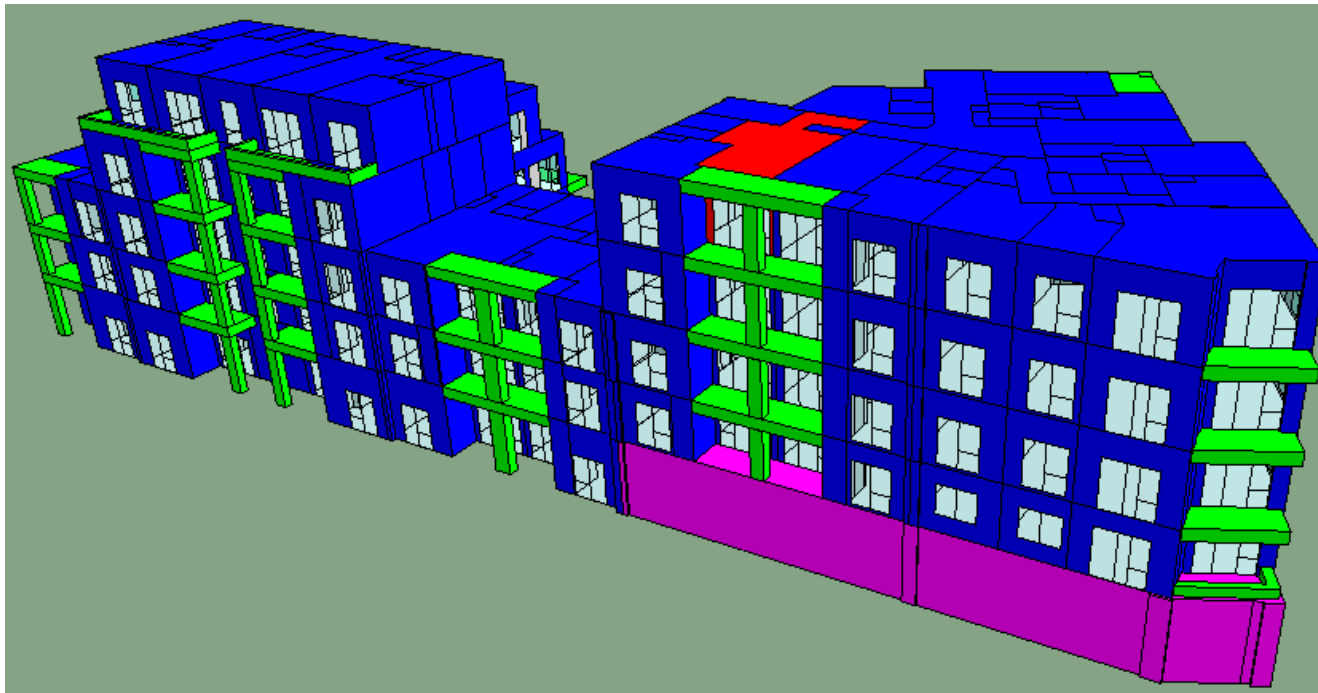


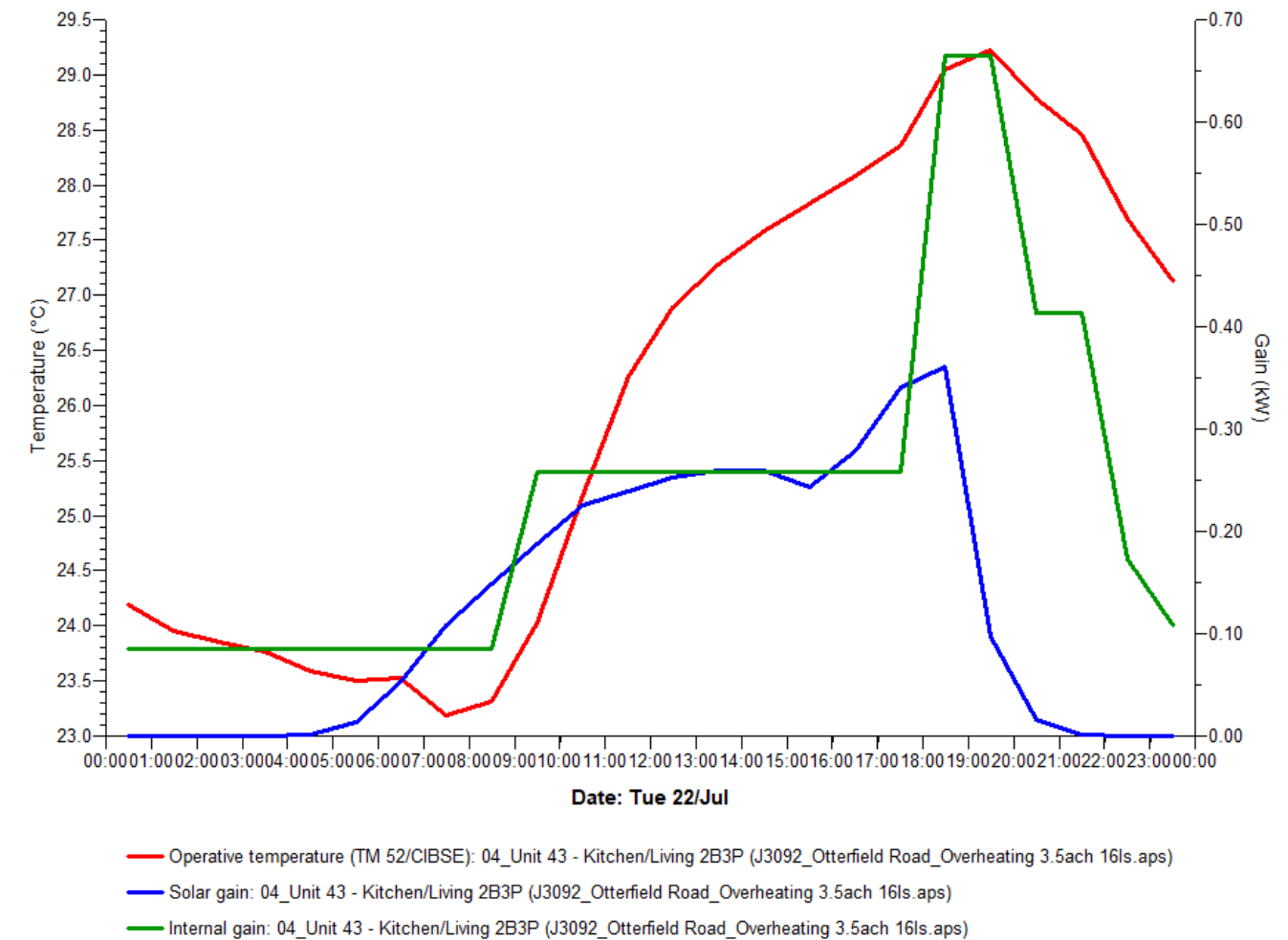
Figure 4: Example Kitchen in 04_Unit 43

An example 2-bedroom Kitchen located on the fourth floor in apartment 04_Unit 43 (04_Unit 43 – Kitchen/Living 2B3P) is reviewed in detail. This room features a north-west facing window.

The room is analysed on the hottest summer day (22nd of July) with a G-value of 45% and no internal blinds. As illustrated in Figure 5, solar gains reach a peak of 0.3603 kWh at 18:30. The internal gains from people, lighting and equipment hit a maximum of 0.6650 kWh in the evening. The operative temperature can be seen to rise throughout the day following this, reaching a peak temperature of 29.22°C at 19.30.

For low thermal mass or low conductivity (i.e.: highly insulating) elements, very little of the surface heat is conducted away internally. This means that the rise in temperature at the surface is much higher, leading to most heat being lost immediately by radiation and convection to the room. This has an impact on both air and mean radiant temperatures within a space. In the same way, the absorbed and radiated solar heat gains through

glazing will be absorbed by the internal surfaces and is released into the room with a time-lag, which explains the time shift of the peak solar heat gains and indoor operative temperature in the chart below.



Typical Double Bedroom

An example double bedroom located on the second floor in apartment 02_Unit 23 (02_Unit 23 – Double Bedroom 1) is reviewed in detail. The room features one south-east facing window. The room is highlighted in red below.

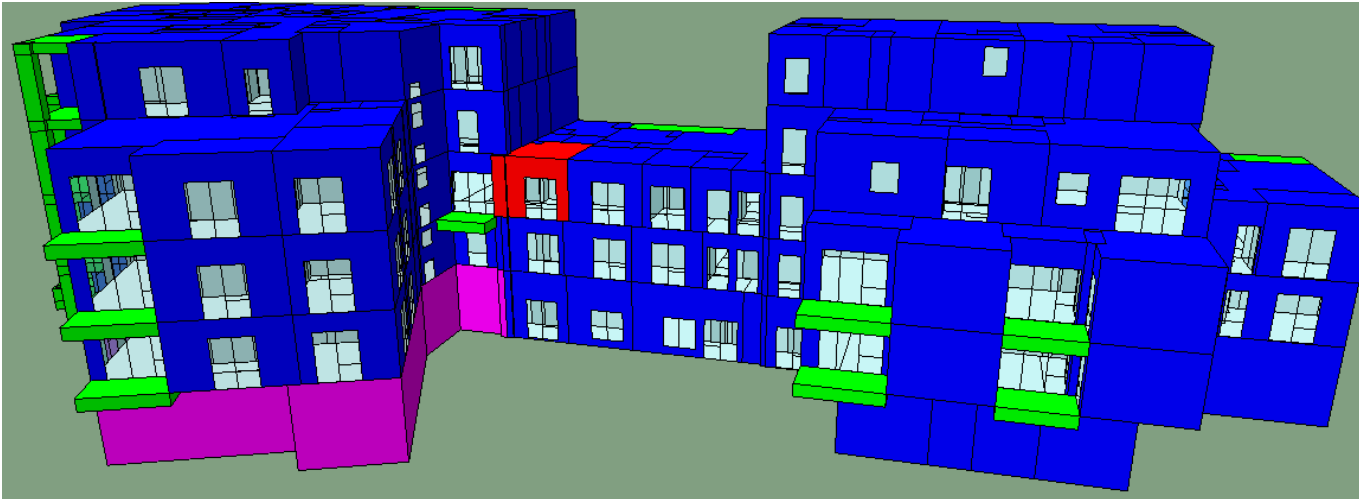
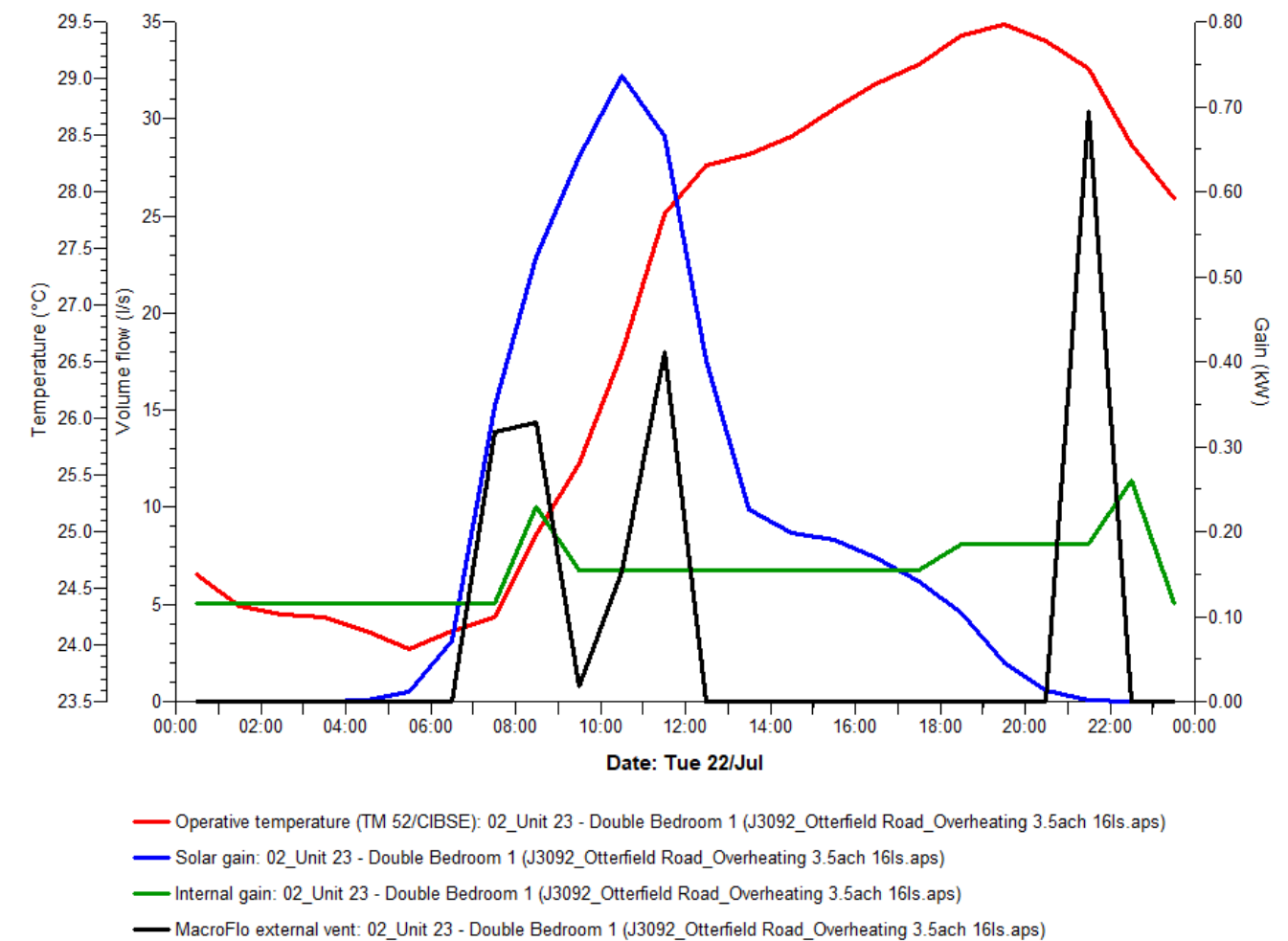


Figure 6: Example double bedroom in 02_Unit 23

In the analysed room on the hottest summer day (22nd of July), the solar gains appear to reach a peak of 0.7368 kWh at 10.30. As illustrated in Figure 7, the operative temperature can be seen to rise throughout the day with a peak of 29.47°C in the evening. During sleeping hours, the windows are opened to allow temperature drop during night-time. However, during daytime and when the external temperature is higher than the internal one, the windows remain close to prevent additional heat gains due to the incoming hot air to the room.

To comply with Criterion B and guarantee comfort during sleeping hours, sleeping hours must not exceed 26°C for more than 1% of annual hours (or 32 hours) between 22.00 and 07.00. The room is predicted to exceed 26 C between 22.00 and 07.00 for 18 hours per year, which complies with the requirements of Criterion B (full results in Appendix B).



Communal Corridor Analysis

As per CIBSE TM 59 assessment criteria for communal areas, the overheating analysis for communal corridors is based on the number of annual hours for which an operative temperature of 28°C is exceeded; whilst there is no mandatory target, any corridor where an operative temperature of 28°C is exceeded for more than 3% of total annual hours is flagged as a significant overheating risk.

Results:

The overheating analysis shows that all assessed communal corridors **pass** the applicable requirement.

Location	No. Rooms Tested	No. Corridors >28°C for more than 3% of total annual hours
Communal Corridors	8	0
TOTAL	8	0

The full set of results is provided in Appendix E.

7 Conclusion

An overheating analysis has been undertaken for the NWCC East development, in accordance with CIBSE TM59 and has been conducted using the CIBSE London DSY1 (Design Summer Year) weather file for the 2020s, high emissions, 50% percentile scenario.

The overheating risk for kitchen/dining/living rooms and bedrooms has been analysed on a sample of 45 units.

The following strategy is proposed to limit the risk of overheating:

- Low Solar Energy Transmittance glazing with a G-Value of 45% to all windows.
- Purge ventilation via manually openable windows, opened by occupants when desired if the internal temperature is over 22°C and as per noise impact assessment.
- Openable windows as per Acoustic Report.
- Part F flow rates (29 l/s – 37 l/s) to 40 rooms.
- Enhanced supply flow rate (2 ach) to 8 bedrooms.
- Enhanced supply flow rate (2.5 ach) to 10 bedrooms.
- Enhanced supply flow rate (3 ach) to 2 bedrooms.
- Enhanced supply flow rate (3.5 ach) to 1 bedroom.
- MVHR Cooling Unit to 6 units.

The simulation confirms that, based on the above strategy:

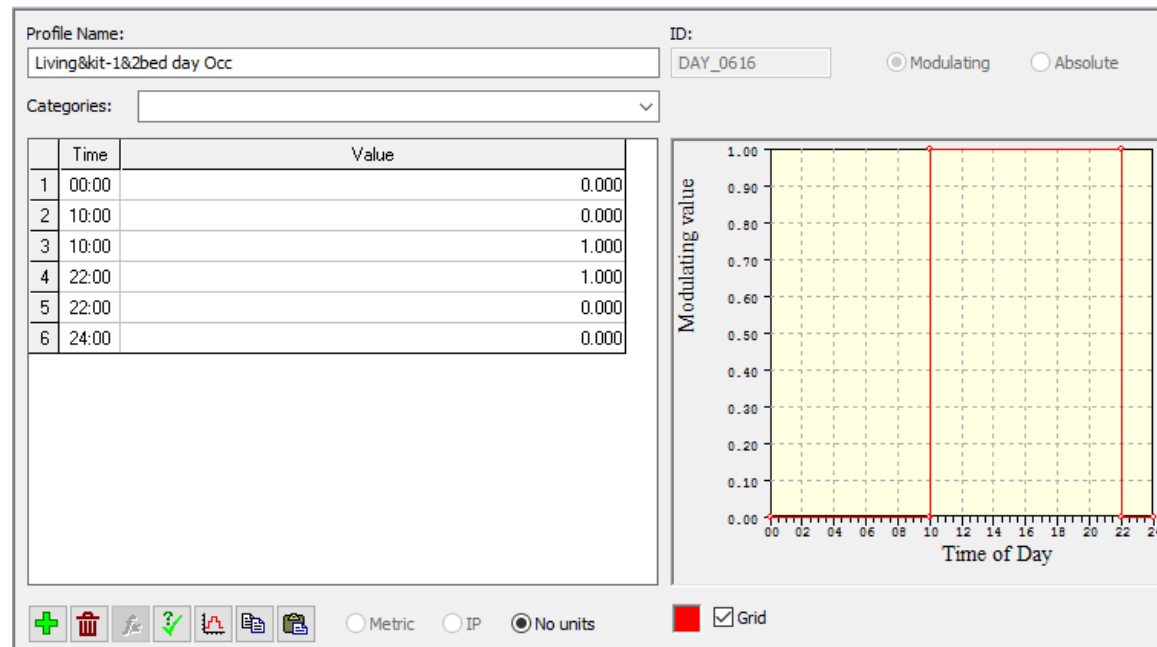
- **100%** of rooms (123 out of 123) **pass** the CIBSE TM59 overheating Criterion A and **51.28%** of bedrooms (40 out of 78) **pass** Criterion B for the **current climate**, considering a G-value of 45% with standard flow rates (29 l/s – 37 l/s).
- **100%** of rooms (123 out of 123) **pass** the CIBSE TM59 overheating Criterion A and **64.10%** of bedrooms (50 out of 78) **pass** Criterion B for the **current climate**, with 2 ach.
- **100%** of rooms (123 out of 123) **pass** the CIBSE TM59 overheating Criterion A and **78.21%** of bedrooms (61 out of 78) **pass** Criterion B for the **current climate**, with 2.5 ach.
- **100%** of rooms (123 out of 123) **pass** the CIBSE TM59 overheating Criterion A and **82.05%** of bedrooms (64 out of 78) **pass** Criterion B for the **current climate**, with 3 ach.
- **100%** of rooms (123 out of 123) **pass** the CIBSE TM59 overheating Criterion A and **83.33%** of bedrooms (65 out of 78) **pass** Criterion B for the **current climate**, with 3.5 ach.
- **100%** of rooms (123 out of 123) **pass** the CIBSE TM59 overheating Criterion A and **100%** of bedrooms (78 out of 78) **pass** Criterion B for the **current climate**, with MVHR Cooling Units.

All communal corridors **pass** the applicable CIBSE criteria for the current climate scenario.

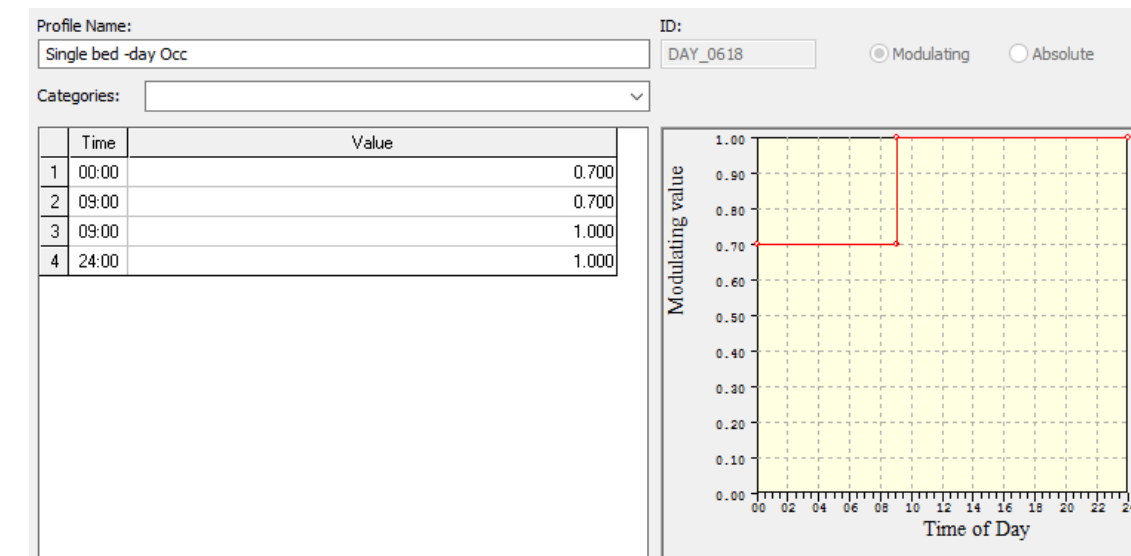
Appendix A - Thermal Comfort & Operative Temperature

Thermal Comfort and Operative Temperatures	The provision of thermal comfort for building occupants involves designing the internal conditions so that the heat loss and heat gain from occupants lie within the bounds that are generally accepted as comfortable. Thermal comfort is defined in the ISO 7730 as <i>“That condition of mind which expresses satisfaction with the thermal environment”</i>. This is a definition most people can agree on but also a definition that is not easily converted into physical parameters. The human body can be crudely regarded as a heat engine that converts fuel (food) into energy for its function and creates waste heat that must be dissipated by the body to ensure proper “thermoregulation”. The greater the amount of activity, the greater the amount of heat to be dissipated. Typical office work generates up to 110-130W of heat. Heat dissipation from the body takes place by several modes of heat transfer — radiation and convection from the outer surface, evaporation from both the surface and inner parts of the body and respiration involving both sensible and latent heat transfer. To maintain thermal equilibrium, the amount of heat produced or absorbed must equal the heat dissipated. The perception of thermal comfort is based on a range of variables:	Surface temperatures	Experiments with test subjects in rooms with different air and surface temperatures have shown that, for optimum thermal comfort occupants prefer that the perceived surface temperatures (the mean radiant temperature) should be close to the air temperature. In real buildings, the inside surface temperatures can vary widely between surfaces. The human body is directionally sensitive to the radiation pattern — it cannot average multiple adverse effects to reach an acceptable condition therefore an imbalance can be conceived as uncomfortable.
		Direct solar radiation -	If the occupants find themselves in the direct path of solar radiation transmitted through a glazed area, they may experience serious thermal discomfort. This will occur no matter how adequately the environmental systems are designed to cope with the solar and other loads.
Dry bulb air temperature	Is the most commonly quoted factor in relation to thermal comfort. In a ‘traditional’ building, if the air temperature is within reasonable limits, it is likely that there is a reasonable degree of thermal comfort. This simple relationship between air temperature and comfort is less reliable in lighter weight modern buildings.	PMV & PPD	The PMV represents the predicted mean vote of a large population of people exposed to a certain environment. It predicts the mean value of the votes of a large group of people on a seven-point scale from hot (+3) to cold (-3). PMV takes into account the environmental parameters (air temperature, mean radiant temperature, air velocity and relative humidity) together with heat production due to activity level and thermal resistance due to clothing. PPD is the predicted percentage of dissatisfied people at each PMV. As PMV changes away from zero in either the positive or the negative direction, PPD increases. Unlike PMV, which gives the average response of a large group of people, PPD is indicative of the range of individual responses.
Moisture content	Humans will experience discomfort if the moisture content of the air in the room is either too dry, causing drying of the respiratory tract and eyes or too moist so that the body is unable to lose heat through evaporation (sweating) from the skin.	Operative Temperatures	The CIBSE standard adopted in the UK for the assessment of comfort in an internal space is known as operative temperature (formerly known as dry resultant temperature); $T_{\text{operative}} = (0.5 \times T_{\text{air}}) + (0.5 \times T_{\text{radiant}})$ This is in effect a simple average and so an increasing air temperature requires a corresponding reduction in radiant temperature if comfort is to be maintained. This can be achieved through reduced areas of glass, external shading, exposed concrete soffits and radiant cooling systems.
Air movement	The movement of air across the surface of the body affects the convective heat transfer from both the bare and clothed parts; over the exposed skin surfaces the flow of air is a factor in determining the transmission rate of moisture from the surface. If the combined effect of temperature and movement is too great, then too much heat is removed and a subjective feeling of chill or draught results. Conversely, a high air temperature with little air movement will produce a subjective sensation of warmth that,		

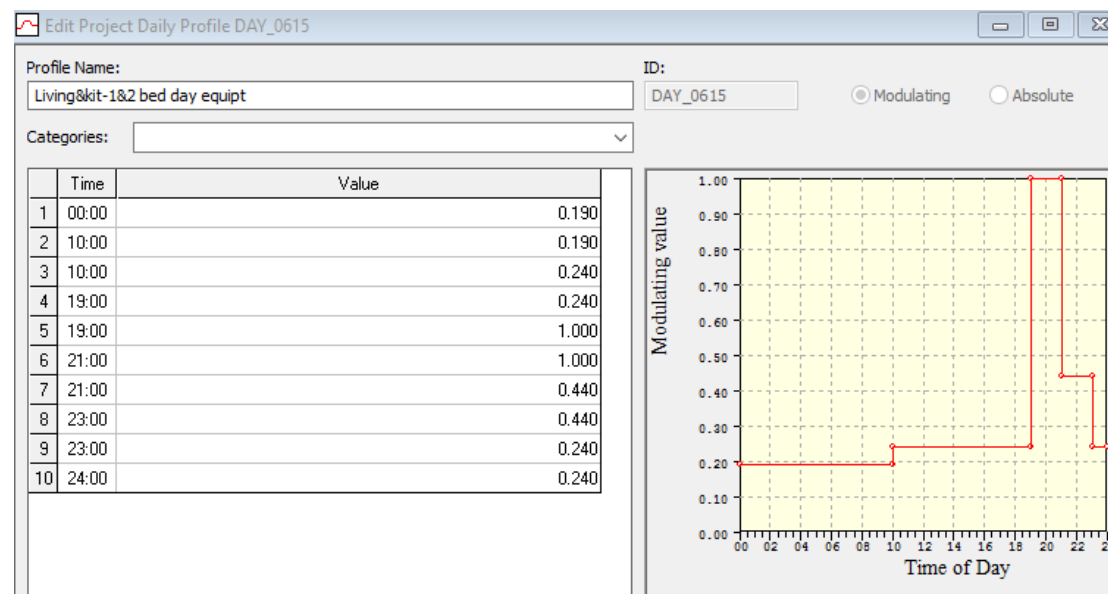
Appendix B - Occupancy and other usage profiles



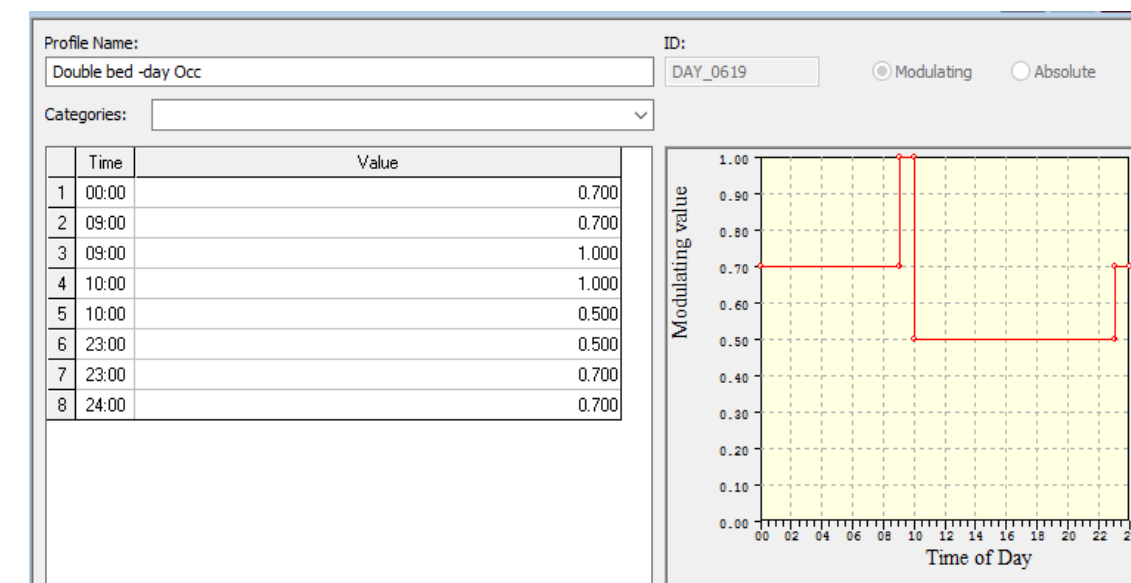
Living & kit – 1 & 2 beds Occupancy profile



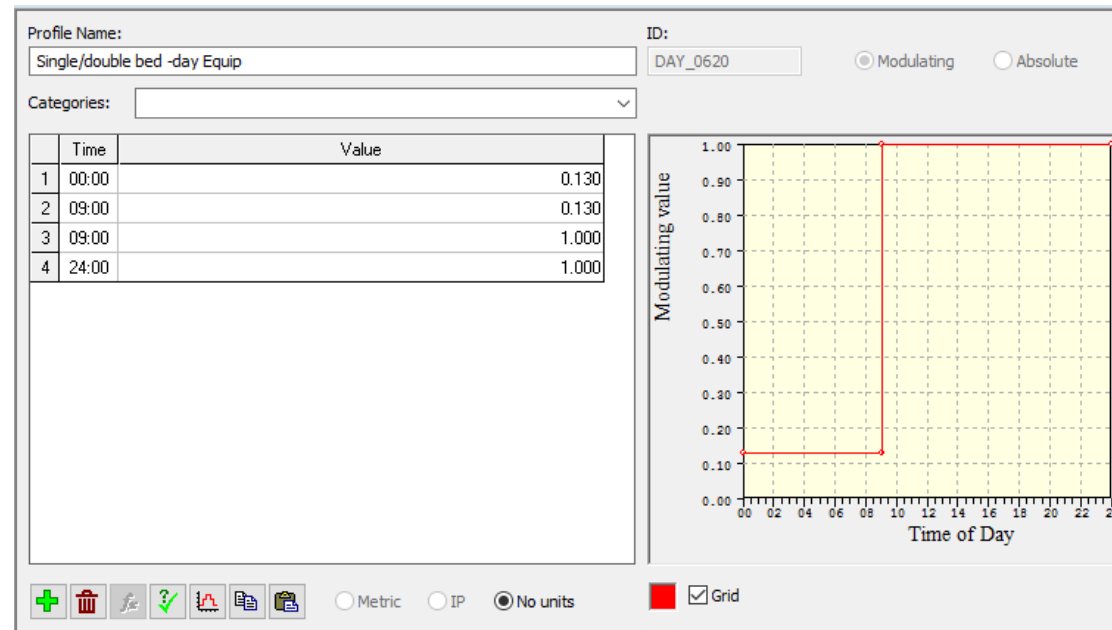
Bedrooms – single bed occupancy profile



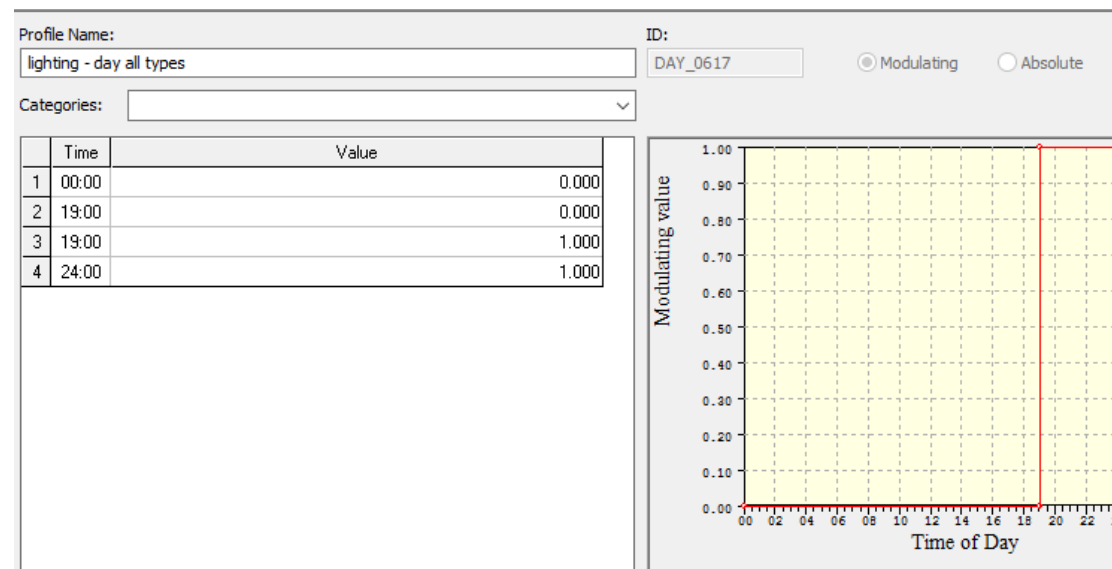
Living & kit – 1 & 2 beds Equipment profile



Bedrooms – double bed occupancy profile



Bedrooms – single/double bed equipment profile



Lighting profile

Appendix C – Criterion A Results

WEATHER FILE: DSY 1 – Standard Part F flow rates (29 l/s – 37 l/s)

Compliant

Room	Criteria 1 (%Hrs Top-Tmax>=1K)
00_Unit 01 - Double Bedroom 1	1.1
00_Unit 01 - Kitchen/Living 2B3P	1.1
00_Unit 01 - Single Bedroom 1	0.6
00_Unit 02 - Double Bedroom 1	0.9
00_Unit 02 - Kitchen/Living 1B2P	0.8
00_Unit 03 - Double Bedroom 1	0.4
00_Unit 03 - Kitchen/Living 1B2P	0.1
00_Unit 04 - Double Bedroom 1	0.5
00_Unit 04 - Kitchen/Living 1B2P	0.2
00_Unit 05 - Double Bedroom 1	0.9
00_Unit 05 - Kitchen/Living 1B2P	0.3
01_Unit 06 - Double Bedroom 1	0.4
01_Unit 06 - Double Bedroom 2	0
01_Unit 06 - Kitchen/Living 3B5P	0.3
01_Unit 06 - Single Bedroom 1	0.4
01_Unit 07 - Double Bedroom 1	0.1
01_Unit 07 - Kitchen/Living 1B2P	0.2
01_Unit 08 - Double Bedroom 1	0
01_Unit 08 - Kitchen/Living 1B2P	0.3
01_Unit 09 - Double Bedroom 1	0.8
01_Unit 09 - Double Bedroom 2	0.5
01_Unit 09 - Kitchen/Living 3B5P	2
01_Unit 09 - Single Bedroom 1	1.2
01_Unit 10 - Double Bedroom 1	1.4
01_Unit 10 - Kitchen/Living 1B2P	1.4
01_Unit 11 - Double Bedroom 1	1
01_Unit 11 - Kitchen/Living 1B2P	1.1
01_Unit 12 - Double Bedroom 1	1.3
01_Unit 12 - Kitchen/Living 2B3P	1.2
01_Unit 12 - Single Bedroom 1	0.9
01_Unit 13 - Double Bedroom 1	2.3
01_Unit 13 - Kitchen/Living 2B3P	1.6
01_Unit 13 - Single Bedroom 1	1
01_Unit 14 - Double Bedroom 1	1.3
01_Unit 14 - Kitchen/Living 1B2P	1
01_Unit 15 - Double Bedroom 1	0.1
01_Unit 15 - Kitchen/Living 2B3P	1.2
01_Unit 15 - Single Bedroom 1	0.6
01_Unit 16 - Double Bedroom 1	0.8

01_Unit 16 - Kitchen/Living 2B3P	0.6
01_Unit 16 - Single Bedroom 1	0.7
01_Unit 17 - Double Bedroom 1	0.3
01_Unit 17 - Double Bedroom 2	2.1
01_Unit 17 - Kitchen/Living 3B5P	1.1
01_Unit 17 - Single Bedroom 1	1.1
02_Unit 18 - Double Bedroom 1	0.3
02_Unit 18 - Double Bedroom 2	0
02_Unit 18 - Kitchen/Living 3B5P	0.1
02_Unit 18 - Single Bedroom 1	0.2
02_Unit 19 - Double Bedroom 1	0
02_Unit 19 - Kitchen/Living 1B2P	0.2
02_Unit 20 - Double Bedroom 1	0.4
02_Unit 20 - Kitchen/Living 1B2P	0.3
02_Unit 21 - Double Bedroom 1	1.3
02_Unit 21 - Double Bedroom 2	1
02_Unit 21 - Kitchen/Living 3B5P	2.3
02_Unit 21 - Single Bedroom 1	1.6
02_Unit 22 - Double Bedroom 1	1.9
02_Unit 22 - Kitchen/Living 1B2P	1.4
02_Unit 23 - Double Bedroom 1	0.2
02_Unit 23 - Double Bedroom 2	1.4
02_Unit 23 - Kitchen/Living 3B5P	0.6
02_Unit 23 - Single Bedroom 1	1
02_Unit 24 - Double Bedroom 1	0.7
02_Unit 24 - Double Bedroom 2	1.2
02_Unit 24 - Kitchen/Living 3B5P	2.3
02_Unit 24 - Single Bedroom 1	1.1
02_Unit 25 - Double Bedroom 1	1
02_Unit 25 - Kitchen/Living 1B2P	1
02_Unit 26 - Double Bedroom 1	0.1
02_Unit 26 - Kitchen/Living 2B3P	1.6
02_Unit 26 - Single Bedroom 1	0.7
02_Unit 27 - Double Bedroom 1	0.5
02_Unit 27 - Kitchen/Living 2B3P	0.2
02_Unit 27 - Single Bedroom 1	0.4
02_Unit 28 - Double Bedroom 1	0.9
02_Unit 28 - Kitchen/Living 1B2P	1
02_Unit 29 - Double Bedroom 1	1.1
02_Unit 29 - Kitchen/Living 2B3P	0.7
02_Unit 29 - Single Bedroom 1	0.4
03_Unit 30 - Double Bedroom 1	0.3
03_Unit 30 - Double Bedroom 2	0
03_Unit 30 - Kitchen/Living 3B5P	0
03_Unit 30 - Single Bedroom 1	0.1

03_Unit 31 - Double Bedroom 1	0
03_Unit 31 - Kitchen/Living 1B2P	0.2
03_Unit 32 - Double Bedroom 1	0.6
03_Unit 32 - Kitchen/Living 1B2P	0.3
03_Unit 33 - Double Bedroom 1	1.3
03_Unit 33 - Double Bedroom 2	1.1
03_Unit 33 - Kitchen/Living 3B5P	2.3
03_Unit 33 - Single Bedroom 1	1.7
03_Unit 34 - Double Bedroom 1	1.9
03_Unit 34 - Kitchen/Living 1B2P	1.4
03_Unit 35 - Double Bedroom 1	0.1
03_Unit 35 - Kitchen/Living 1B2P	1
03_Unit 36 - Double Bedroom 1	0.2
03_Unit 36 - Kitchen/Living 1B2P	0.6
03_Unit 37 - Double Bedroom 1	0.2
03_Unit 37 - Double Bedroom 2	0
03_Unit 37 - Kitchen/Living 3B5P	0.2
03_Unit 37 - Single Bedroom 1	0.5
03_Unit 38 - Double Bedroom 1	0.2
03_Unit 38 - Kitchen/Living 1B2P	0.7
04_Unit 39 - Double Bedroom 1	0.2
04_Unit 39 - Kitchen/Living 1B2P	0.1
04_Unit 40 - Double Bedroom 1	0.6
04_Unit 40 - Kitchen/Living 1B2P	1
04_Unit 41 - Double Bedroom 1	1.2
04_Unit 41 - Double Bedroom 2	1
04_Unit 41 - Kitchen/Living 3B5P	2.5
04_Unit 41 - Single Bedroom 1	1.6
04_Unit 42 - Double Bedroom 1	1.7
04_Unit 42 - Kitchen/Living 1B2P	1.2
04_Unit 43 - Double Bedroom 1	0.2
04_Unit 43 - Kitchen/Living 2B3P	0.3
04_Unit 43 - Single Bedroom 1	0.1
04_Unit 44 - Double Bedroom 1	0.5
04_Unit 44 - Kitchen/Living 2B3P	0.4
04_Unit 44 - Single Bedroom 1	0
04_Unit 45 - Double Bedroom 1	0.7
04_Unit 45 - Kitchen/Living 2B3P	0.4
04_Unit 45 - Single Bedroom 1	0

WEATHER FILE: DSY 1 – MVHR (Enhanced Supply Flow Rate 15 l/s)

Compliant

Room	Criteria 1 (%Hrs Top-Tmax>=1K)
00_Unit 01 - Double Bedroom 1	1.1
00_Unit 01 - Kitchen/Living 2B3P	1
00_Unit 01 - Single Bedroom 1	0.6
00_Unit 02 - Double Bedroom 1	0.8
00_Unit 02 - Kitchen/Living 1B2P	0.8
00_Unit 03 - Double Bedroom 1	0.4
00_Unit 03 - Kitchen/Living 1B2P	0.1
00_Unit 04 - Double Bedroom 1	0.5
00_Unit 04 - Kitchen/Living 1B2P	0.2
00_Unit 05 - Double Bedroom 1	0.8
00_Unit 05 - Kitchen/Living 1B2P	0.3
01_Unit 06 - Double Bedroom 1	0.4
01_Unit 06 - Double Bedroom 2	0
01_Unit 06 - Kitchen/Living 3B5P	0.3
01_Unit 06 - Single Bedroom 1	0.4
01_Unit 07 - Double Bedroom 1	0.1
01_Unit 07 - Kitchen/Living 1B2P	0.2
01_Unit 08 - Double Bedroom 1	0
01_Unit 08 - Kitchen/Living 1B2P	0.3
01_Unit 09 - Double Bedroom 1	0.7
01_Unit 09 - Double Bedroom 2	0.5
01_Unit 09 - Kitchen/Living 3B5P	2
01_Unit 09 - Single Bedroom 1	1.1
01_Unit 10 - Double Bedroom 1	1.3
01_Unit 10 - Kitchen/Living 1B2P	1.4
01_Unit 11 - Double Bedroom 1	1
01_Unit 11 - Kitchen/Living 1B2P	1.1
01_Unit 12 - Double Bedroom 1	1.3
01_Unit 12 - Kitchen/Living 2B3P	1.1
01_Unit 12 - Single Bedroom 1	0.9
01_Unit 13 - Double Bedroom 1	2.3
01_Unit 13 - Kitchen/Living 2B3P	1.6
01_Unit 13 - Single Bedroom 1	1
01_Unit 14 - Double Bedroom 1	1.2
01_Unit 14 - Kitchen/Living 1B2P	1
01_Unit 15 - Double Bedroom 1	0.1
01_Unit 15 - Kitchen/Living 2B3P	1.2
01_Unit 15 - Single Bedroom 1	0.6
01_Unit 16 - Double Bedroom 1	0.7
01_Unit 16 - Kitchen/Living 2B3P	0.5
01_Unit 16 - Single Bedroom 1	0.7
01_Unit 17 - Double Bedroom 1	0.3

01_Unit 17 - Double Bedroom 2	1.9
01_Unit 17 - Kitchen/Living 3B5P	1.1
01_Unit 17 - Single Bedroom 1	1.1
02_Unit 18 - Double Bedroom 1	0.3
02_Unit 18 - Double Bedroom 2	0
02_Unit 18 - Kitchen/Living 3B5P	0.1
02_Unit 18 - Single Bedroom 1	0.2
02_Unit 19 - Double Bedroom 1	0
02_Unit 19 - Kitchen/Living 1B2P	0.2
02_Unit 20 - Double Bedroom 1	0.4
02_Unit 20 - Kitchen/Living 1B2P	0.3
02_Unit 21 - Double Bedroom 1	1.2
02_Unit 21 - Double Bedroom 2	0.9
02_Unit 21 - Kitchen/Living 3B5P	2.3
02_Unit 21 - Single Bedroom 1	1.5
02_Unit 22 - Double Bedroom 1	1.7
02_Unit 22 - Kitchen/Living 1B2P	1.4
02_Unit 23 - Double Bedroom 1	0.2
02_Unit 23 - Double Bedroom 2	1.4
02_Unit 23 - Kitchen/Living 3B5P	0.6
02_Unit 23 - Single Bedroom 1	1
02_Unit 24 - Double Bedroom 1	0.7
02_Unit 24 - Double Bedroom 2	1.2
02_Unit 24 - Kitchen/Living 3B5P	2.3
02_Unit 24 - Single Bedroom 1	1.1
02_Unit 25 - Double Bedroom 1	1
02_Unit 25 - Kitchen/Living 1B2P	1
02_Unit 26 - Double Bedroom 1	0
02_Unit 26 - Kitchen/Living 2B3P	1.6
02_Unit 26 - Single Bedroom 1	0.7
02_Unit 27 - Double Bedroom 1	0.5
02_Unit 27 - Kitchen/Living 2B3P	0.2
02_Unit 27 - Single Bedroom 1	0.4
02_Unit 28 - Double Bedroom 1	0.8
02_Unit 28 - Kitchen/Living 1B2P	1
02_Unit 29 - Double Bedroom 1	1.1
02_Unit 29 - Kitchen/Living 2B3P	0.7
02_Unit 29 - Single Bedroom 1	0.4
03_Unit 30 - Double Bedroom 1	0.3
03_Unit 30 - Double Bedroom 2	0
03_Unit 30 - Kitchen/Living 3B5P	0
03_Unit 30 - Single Bedroom 1	0.1
03_Unit 31 - Double Bedroom 1	0
03_Unit 31 - Kitchen/Living 1B2P	0.2
03_Unit 32 - Double Bedroom 1	0.5

03_Unit 32 - Kitchen/Living 1B2P	0.3
03_Unit 33 - Double Bedroom 1	1.2
03_Unit 33 - Double Bedroom 2	1
03_Unit 33 - Kitchen/Living 3B5P	2.3
03_Unit 33 - Single Bedroom 1	1.5
03_Unit 34 - Double Bedroom 1	1.8
03_Unit 34 - Kitchen/Living 1B2P	1.4
03_Unit 35 - Double Bedroom 1	0.1
03_Unit 35 - Kitchen/Living 1B2P	1
03_Unit 36 - Double Bedroom 1	0.2
03_Unit 36 - Kitchen/Living 1B2P	0.6
03_Unit 37 - Double Bedroom 1	0.2
03_Unit 37 - Double Bedroom 2	0
03_Unit 37 - Kitchen/Living 3B5P	0.2
03_Unit 37 - Single Bedroom 1	0.5
03_Unit 38 - Double Bedroom 1	0.2
03_Unit 38 - Kitchen/Living 1B2P	0.6
04_Unit 39 - Double Bedroom 1	0.2
04_Unit 39 - Kitchen/Living 1B2P	0.1
04_Unit 40 - Double Bedroom 1	0.5
04_Unit 40 - Kitchen/Living 1B2P	0.9
04_Unit 41 - Double Bedroom 1	1.2
04_Unit 41 - Double Bedroom 2	0.9
04_Unit 41 - Kitchen/Living 3B5P	2.5
04_Unit 41 - Single Bedroom 1	1.4
04_Unit 42 - Double Bedroom 1	1.7
04_Unit 42 - Kitchen/Living 1B2P	1.2
04_Unit 43 - Double Bedroom 1	0.2
04_Unit 43 - Kitchen/Living 2B3P	0.2
04_Unit 43 - Single Bedroom 1	0.1
04_Unit 44 - Double Bedroom 1	0.5
04_Unit 44 - Kitchen/Living 2B3P	0.4
04_Unit 44 - Single Bedroom 1	0
04_Unit 45 - Double Bedroom 1	0.7
04_Unit 45 - Kitchen/Living 2B3P	0.4
04_Unit 45 - Single Bedroom 1	0

WEATHER FILE: DSY 1 – MVHR (Enhanced Supply Flow Rate 1.5 ach)

Compliant

Room	Criteria 1 (%Hrs Top-Tmax>=1K)
00_Unit 01 - Double Bedroom 1	1.1
00_Unit 01 - Kitchen/Living 2B3P	1
00_Unit 01 - Single Bedroom 1	0.6
00_Unit 02 - Double Bedroom 1	0.8
00_Unit 02 - Kitchen/Living 1B2P	0.8
00_Unit 03 - Double Bedroom 1	0.4
00_Unit 03 - Kitchen/Living 1B2P	0.1
00_Unit 04 - Double Bedroom 1	0.5
00_Unit 04 - Kitchen/Living 1B2P	0.2
00_Unit 05 - Double Bedroom 1	0.8
00_Unit 05 - Kitchen/Living 1B2P	0.3
01_Unit 06 - Double Bedroom 1	0.4
01_Unit 06 - Double Bedroom 2	0
01_Unit 06 - Kitchen/Living 3B5P	0.3
01_Unit 06 - Single Bedroom 1	0.4
01_Unit 07 - Double Bedroom 1	0.1
01_Unit 07 - Kitchen/Living 1B2P	0.2
01_Unit 08 - Double Bedroom 1	0
01_Unit 08 - Kitchen/Living 1B2P	0.3
01_Unit 09 - Double Bedroom 1	0.7
01_Unit 09 - Double Bedroom 2	0.5
01_Unit 09 - Kitchen/Living 3B5P	2
01_Unit 09 - Single Bedroom 1	1.1
01_Unit 10 - Double Bedroom 1	1.3
01_Unit 10 - Kitchen/Living 1B2P	1.4
01_Unit 11 - Double Bedroom 1	1
01_Unit 11 - Kitchen/Living 1B2P	1.1
01_Unit 12 - Double Bedroom 1	1.3
01_Unit 12 - Kitchen/Living 2B3P	1.1
01_Unit 12 - Single Bedroom 1	0.9
01_Unit 13 - Double Bedroom 1	2.3
01_Unit 13 - Kitchen/Living 2B3P	1.6
01_Unit 13 - Single Bedroom 1	1
01_Unit 14 - Double Bedroom 1	1.2
01_Unit 14 - Kitchen/Living 1B2P	1
01_Unit 15 - Double Bedroom 1	0.1
01_Unit 15 - Kitchen/Living 2B3P	1.2
01_Unit 15 - Single Bedroom 1	0.6
01_Unit 16 - Double Bedroom 1	0.7
01_Unit 16 - Kitchen/Living 2B3P	0.5
01_Unit 16 - Single Bedroom 1	0.7
01_Unit 17 - Double Bedroom 1	0.3

01_Unit 17 - Double Bedroom 2	1.9
01_Unit 17 - Kitchen/Living 3B5P	1.1
01_Unit 17 - Single Bedroom 1	1.1
02_Unit 18 - Double Bedroom 1	0.3
02_Unit 18 - Double Bedroom 2	0
02_Unit 18 - Kitchen/Living 3B5P	0.1
02_Unit 18 - Single Bedroom 1	0.2
02_Unit 19 - Double Bedroom 1	0
02_Unit 19 - Kitchen/Living 1B2P	0.2
02_Unit 20 - Double Bedroom 1	0.4
02_Unit 20 - Kitchen/Living 1B2P	0.3
02_Unit 21 - Double Bedroom 1	1.2
02_Unit 21 - Double Bedroom 2	0.9
02_Unit 21 - Kitchen/Living 3B5P	2.3
02_Unit 21 - Single Bedroom 1	1.5
02_Unit 22 - Double Bedroom 1	1.7
02_Unit 22 - Kitchen/Living 1B2P	1.4
02_Unit 23 - Double Bedroom 1	0.2
02_Unit 23 - Double Bedroom 2	1.4
02_Unit 23 - Kitchen/Living 3B5P	0.6
02_Unit 23 - Single Bedroom 1	1
02_Unit 24 - Double Bedroom 1	0.7
02_Unit 24 - Double Bedroom 2	1.2
02_Unit 24 - Kitchen/Living 3B5P	2.3
02_Unit 24 - Single Bedroom 1	1.1
02_Unit 25 - Double Bedroom 1	1
02_Unit 25 - Kitchen/Living 1B2P	1
02_Unit 26 - Double Bedroom 1	0
02_Unit 26 - Kitchen/Living 2B3P	1.6
02_Unit 26 - Single Bedroom 1	0.7
02_Unit 27 - Double Bedroom 1	0.5
02_Unit 27 - Kitchen/Living 2B3P	0.2
02_Unit 27 - Single Bedroom 1	0.4
02_Unit 28 - Double Bedroom 1	0.8
02_Unit 28 - Kitchen/Living 1B2P	1
02_Unit 29 - Double Bedroom 1	1.1
02_Unit 29 - Kitchen/Living 2B3P	0.7
02_Unit 29 - Single Bedroom 1	0.4
03_Unit 30 - Double Bedroom 1	0.3
03_Unit 30 - Double Bedroom 2	0
03_Unit 30 - Kitchen/Living 3B5P	0
03_Unit 30 - Single Bedroom 1	0.1
03_Unit 31 - Double Bedroom 1	0
03_Unit 31 - Kitchen/Living 1B2P	0.2
03_Unit 32 - Double Bedroom 1	0.5

03_Unit 32 - Kitchen/Living 1B2P	0.3
03_Unit 33 - Double Bedroom 1	1.2
03_Unit 33 - Double Bedroom 2	1
03_Unit 33 - Kitchen/Living 3B5P	2.3
03_Unit 33 - Single Bedroom 1	1.5
03_Unit 34 - Double Bedroom 1	1.8
03_Unit 34 - Kitchen/Living 1B2P	1.4
03_Unit 35 - Double Bedroom 1	0.1
03_Unit 35 - Kitchen/Living 1B2P	1
03_Unit 36 - Double Bedroom 1	0.2
03_Unit 36 - Kitchen/Living 1B2P	0.6
03_Unit 37 - Double Bedroom 1	0.2
03_Unit 37 - Double Bedroom 2	0
03_Unit 37 - Kitchen/Living 3B5P	0.2
03_Unit 37 - Single Bedroom 1	0.5
03_Unit 38 - Double Bedroom 1	0.2
03_Unit 38 - Kitchen/Living 1B2P	0.6
04_Unit 39 - Double Bedroom 1	0.2
04_Unit 39 - Kitchen/Living 1B2P	0.1
04_Unit 40 - Double Bedroom 1	0.5
04_Unit 40 - Kitchen/Living 1B2P	0.9
04_Unit 41 - Double Bedroom 1	1.2
04_Unit 41 - Double Bedroom 2	0.9
04_Unit 41 - Kitchen/Living 3B5P	2.5
04_Unit 41 - Single Bedroom 1	1.4
04_Unit 42 - Double Bedroom 1	1.7
04_Unit 42 - Kitchen/Living 1B2P	1.2
04_Unit 43 - Double Bedroom 1	0.2
04_Unit 43 - Kitchen/Living 2B3P	0.2
04_Unit 43 - Single Bedroom 1	0.1
04_Unit 44 - Double Bedroom 1	0.5
04_Unit 44 - Kitchen/Living 2B3P	0.4
04_Unit 44 - Single Bedroom 1	0
04_Unit 45 - Double Bedroom 1	0.7
04_Unit 45 - Kitchen/Living 2B3P	0.4
04_Unit 45 - Single Bedroom 1	0

WEATHER FILE: DSY 1 – MVHR (Enhanced Supply Flow Rate 2 ach)

Compliant

Room	Criteria 1 (%Hrs Top-Tmax>=1K)
00_Unit 01 - Double Bedroom 1	1
00_Unit 01 - Kitchen/Living 2B3P	1
00_Unit 01 - Single Bedroom 1	0.6
00_Unit 02 - Double Bedroom 1	0.8
00_Unit 02 - Kitchen/Living 1B2P	0.8
00_Unit 03 - Double Bedroom 1	0.4
00_Unit 03 - Kitchen/Living 1B2P	0.1
00_Unit 04 - Double Bedroom 1	0.4
00_Unit 04 - Kitchen/Living 1B2P	0.2
00_Unit 05 - Double Bedroom 1	0.7
00_Unit 05 - Kitchen/Living 1B2P	0.3
01_Unit 06 - Double Bedroom 1	0.4
01_Unit 06 - Double Bedroom 2	0
01_Unit 06 - Kitchen/Living 3B5P	0.3
01_Unit 06 - Single Bedroom 1	0.4
01_Unit 07 - Double Bedroom 1	0.1
01_Unit 07 - Kitchen/Living 1B2P	0.2
01_Unit 08 - Double Bedroom 1	0.1
01_Unit 08 - Kitchen/Living 1B2P	0.3
01_Unit 09 - Double Bedroom 1	0.7
01_Unit 09 - Double Bedroom 2	0.5
01_Unit 09 - Kitchen/Living 3B5P	2
01_Unit 09 - Single Bedroom 1	1.1
01_Unit 10 - Double Bedroom 1	1.2
01_Unit 10 - Kitchen/Living 1B2P	1.4
01_Unit 11 - Double Bedroom 1	1
01_Unit 11 - Kitchen/Living 1B2P	1
01_Unit 12 - Double Bedroom 1	1.3
01_Unit 12 - Kitchen/Living 2B3P	1.1
01_Unit 12 - Single Bedroom 1	0.9
01_Unit 13 - Double Bedroom 1	2.3
01_Unit 13 - Kitchen/Living 2B3P	1.6
01_Unit 13 - Single Bedroom 1	1
01_Unit 14 - Double Bedroom 1	1.1
01_Unit 14 - Kitchen/Living 1B2P	1
01_Unit 15 - Double Bedroom 1	0.1
01_Unit 15 - Kitchen/Living 2B3P	1.2
01_Unit 15 - Single Bedroom 1	0.6
01_Unit 16 - Double Bedroom 1	0.7
01_Unit 16 - Kitchen/Living 2B3P	0.5
01_Unit 16 - Single Bedroom 1	0.7
01_Unit 17 - Double Bedroom 1	0.3

01_Unit 17 - Double Bedroom 2	1.9
01_Unit 17 - Kitchen/Living 3B5P	1.1
01_Unit 17 - Single Bedroom 1	1.1
02_Unit 18 - Double Bedroom 1	0.3
02_Unit 18 - Double Bedroom 2	0
02_Unit 18 - Kitchen/Living 3B5P	0.1
02_Unit 18 - Single Bedroom 1	0.2
02_Unit 19 - Double Bedroom 1	0
02_Unit 19 - Kitchen/Living 1B2P	0.2
02_Unit 20 - Double Bedroom 1	0.4
02_Unit 20 - Kitchen/Living 1B2P	0.3
02_Unit 21 - Double Bedroom 1	1.2
02_Unit 21 - Double Bedroom 2	0.9
02_Unit 21 - Kitchen/Living 3B5P	2.3
02_Unit 21 - Single Bedroom 1	1.5
02_Unit 22 - Double Bedroom 1	1.6
02_Unit 22 - Kitchen/Living 1B2P	1.4
02_Unit 23 - Double Bedroom 1	0.2
02_Unit 23 - Double Bedroom 2	1.4
02_Unit 23 - Kitchen/Living 3B5P	0.6
02_Unit 23 - Single Bedroom 1	1
02_Unit 24 - Double Bedroom 1	0.7
02_Unit 24 - Double Bedroom 2	1.2
02_Unit 24 - Kitchen/Living 3B5P	2.3
02_Unit 24 - Single Bedroom 1	1.1
02_Unit 25 - Double Bedroom 1	0.8
02_Unit 25 - Kitchen/Living 1B2P	1
02_Unit 26 - Double Bedroom 1	0
02_Unit 26 - Kitchen/Living 2B3P	1.6
02_Unit 26 - Single Bedroom 1	0.7
02_Unit 27 - Double Bedroom 1	0.5
02_Unit 27 - Kitchen/Living 2B3P	0.2
02_Unit 27 - Single Bedroom 1	0.4
02_Unit 28 - Double Bedroom 1	0.7
02_Unit 28 - Kitchen/Living 1B2P	1
02_Unit 29 - Double Bedroom 1	1
02_Unit 29 - Kitchen/Living 2B3P	0.7
02_Unit 29 - Single Bedroom 1	0.4
03_Unit 30 - Double Bedroom 1	0.3
03_Unit 30 - Double Bedroom 2	0
03_Unit 30 - Kitchen/Living 3B5P	0
03_Unit 30 - Single Bedroom 1	0.1
03_Unit 31 - Double Bedroom 1	0
03_Unit 31 - Kitchen/Living 1B2P	0.2
03_Unit 32 - Double Bedroom 1	0.4

03_Unit 32 - Kitchen/Living 1B2P	0.3
03_Unit 33 - Double Bedroom 1	1.2
03_Unit 33 - Double Bedroom 2	1
03_Unit 33 - Kitchen/Living 3B5P	2.3
03_Unit 33 - Single Bedroom 1	1.5
03_Unit 34 - Double Bedroom 1	1.7
03_Unit 34 - Kitchen/Living 1B2P	1.4
03_Unit 35 - Double Bedroom 1	0.1
03_Unit 35 - Kitchen/Living 1B2P	0.9
03_Unit 36 - Double Bedroom 1	0.2
03_Unit 36 - Kitchen/Living 1B2P	0.6
03_Unit 37 - Double Bedroom 1	0.2
03_Unit 37 - Double Bedroom 2	0
03_Unit 37 - Kitchen/Living 3B5P	0.2
03_Unit 37 - Single Bedroom 1	0.5
03_Unit 38 - Double Bedroom 1	0.2
03_Unit 38 - Kitchen/Living 1B2P	0.6
04_Unit 39 - Double Bedroom 1	0.2
04_Unit 39 - Kitchen/Living 1B2P	0.1
04_Unit 40 - Double Bedroom 1	0.5
04_Unit 40 - Kitchen/Living 1B2P	0.9
04_Unit 41 - Double Bedroom 1	1.2
04_Unit 41 - Double Bedroom 2	0.9
04_Unit 41 - Kitchen/Living 3B5P	2.5
04_Unit 41 - Single Bedroom 1	1.4
04_Unit 42 - Double Bedroom 1	1.6
04_Unit 42 - Kitchen/Living 1B2P	1.1
04_Unit 43 - Double Bedroom 1	0.2
04_Unit 43 - Kitchen/Living 2B3P	0.2
04_Unit 43 - Single Bedroom 1	0.1
04_Unit 44 - Double Bedroom 1	0.5
04_Unit 44 - Kitchen/Living 2B3P	0.4
04_Unit 44 - Single Bedroom 1	0
04_Unit 45 - Double Bedroom 1	0.7
04_Unit 45 - Kitchen/Living 2B3P	0.3
04_Unit 45 - Single Bedroom 1	0

WEATHER FILE: DSY 1 – MVHR (Enhanced Supply Flow Rate 2.5 ach)

Compliant

Room	Criteria 1 (%Hrs Top-Tmax>=1K)
00_Unit 01 - Double Bedroom 1	1
00_Unit 01 - Kitchen/Living 2B3P	1
00_Unit 01 - Single Bedroom 1	0.6
00_Unit 02 - Double Bedroom 1	0.7
00_Unit 02 - Kitchen/Living 1B2P	0.8
00_Unit 03 - Double Bedroom 1	0.4
00_Unit 03 - Kitchen/Living 1B2P	0.1
00_Unit 04 - Double Bedroom 1	0.4
00_Unit 04 - Kitchen/Living 1B2P	0.2
00_Unit 05 - Double Bedroom 1	0.7
00_Unit 05 - Kitchen/Living 1B2P	0.3
01_Unit 06 - Double Bedroom 1	0.4
01_Unit 06 - Double Bedroom 2	0
01_Unit 06 - Kitchen/Living 3B5P	0.3
01_Unit 06 - Single Bedroom 1	0.4
01_Unit 07 - Double Bedroom 1	0.1
01_Unit 07 - Kitchen/Living 1B2P	0.2
01_Unit 08 - Double Bedroom 1	0.1
01_Unit 08 - Kitchen/Living 1B2P	0.3
01_Unit 09 - Double Bedroom 1	0.7
01_Unit 09 - Double Bedroom 2	0.5
01_Unit 09 - Kitchen/Living 3B5P	2
01_Unit 09 - Single Bedroom 1	1.1
01_Unit 10 - Double Bedroom 1	1.2
01_Unit 10 - Kitchen/Living 1B2P	1.4
01_Unit 11 - Double Bedroom 1	1
01_Unit 11 - Kitchen/Living 1B2P	1
01_Unit 12 - Double Bedroom 1	1.3
01_Unit 12 - Kitchen/Living 2B3P	1.1
01_Unit 12 - Single Bedroom 1	0.9
01_Unit 13 - Double Bedroom 1	2.3
01_Unit 13 - Kitchen/Living 2B3P	1.5
01_Unit 13 - Single Bedroom 1	1
01_Unit 14 - Double Bedroom 1	1.1
01_Unit 14 - Kitchen/Living 1B2P	0.9
01_Unit 15 - Double Bedroom 1	0.1
01_Unit 15 - Kitchen/Living 2B3P	1.2
01_Unit 15 - Single Bedroom 1	0.6
01_Unit 16 - Double Bedroom 1	0.7
01_Unit 16 - Kitchen/Living 2B3P	0.5
01_Unit 16 - Single Bedroom 1	0.6
01_Unit 17 - Double Bedroom 1	0.3

01_Unit 17 - Double Bedroom 2	1.9
01_Unit 17 - Kitchen/Living 3B5P	1.1
01_Unit 17 - Single Bedroom 1	1.1
02_Unit 18 - Double Bedroom 1	0.3
02_Unit 18 - Double Bedroom 2	0
02_Unit 18 - Kitchen/Living 3B5P	0.1
02_Unit 18 - Single Bedroom 1	0.2
02_Unit 19 - Double Bedroom 1	0
02_Unit 19 - Kitchen/Living 1B2P	0.2
02_Unit 20 - Double Bedroom 1	0.4
02_Unit 20 - Kitchen/Living 1B2P	0.3
02_Unit 21 - Double Bedroom 1	1.2
02_Unit 21 - Double Bedroom 2	0.9
02_Unit 21 - Kitchen/Living 3B5P	2.3
02_Unit 21 - Single Bedroom 1	1.5
02_Unit 22 - Double Bedroom 1	1.6
02_Unit 22 - Kitchen/Living 1B2P	1.4
02_Unit 23 - Double Bedroom 1	0.2
02_Unit 23 - Double Bedroom 2	1.4
02_Unit 23 - Kitchen/Living 3B5P	0.6
02_Unit 23 - Single Bedroom 1	1
02_Unit 24 - Double Bedroom 1	0.7
02_Unit 24 - Double Bedroom 2	1.2
02_Unit 24 - Kitchen/Living 3B5P	2.3
02_Unit 24 - Single Bedroom 1	1.1
02_Unit 25 - Double Bedroom 1	0.8
02_Unit 25 - Kitchen/Living 1B2P	1
02_Unit 26 - Double Bedroom 1	0
02_Unit 26 - Kitchen/Living 2B3P	1.6
02_Unit 26 - Single Bedroom 1	0.7
02_Unit 27 - Double Bedroom 1	0.5
02_Unit 27 - Kitchen/Living 2B3P	0.2
02_Unit 27 - Single Bedroom 1	0.4
02_Unit 28 - Double Bedroom 1	0.7
02_Unit 28 - Kitchen/Living 1B2P	1
02_Unit 29 - Double Bedroom 1	1
02_Unit 29 - Kitchen/Living 2B3P	0.7
02_Unit 29 - Single Bedroom 1	0.4
03_Unit 30 - Double Bedroom 1	0.3
03_Unit 30 - Double Bedroom 2	0
03_Unit 30 - Kitchen/Living 3B5P	0
03_Unit 30 - Single Bedroom 1	0.1
03_Unit 31 - Double Bedroom 1	0
03_Unit 31 - Kitchen/Living 1B2P	0.2
03_Unit 32 - Double Bedroom 1	0.4

03_Unit 32 - Kitchen/Living 1B2P	0.3
03_Unit 33 - Double Bedroom 1	1.2
03_Unit 33 - Double Bedroom 2	1
03_Unit 33 - Kitchen/Living 3B5P	2.3
03_Unit 33 - Single Bedroom 1	1.5
03_Unit 34 - Double Bedroom 1	1.6
03_Unit 34 - Kitchen/Living 1B2P	1.4
03_Unit 35 - Double Bedroom 1	0.1
03_Unit 35 - Kitchen/Living 1B2P	0.9
03_Unit 36 - Double Bedroom 1	0.2
03_Unit 36 - Kitchen/Living 1B2P	0.6
03_Unit 37 - Double Bedroom 1	0.2
03_Unit 37 - Double Bedroom 2	0
03_Unit 37 - Kitchen/Living 3B5P	0.2
03_Unit 37 - Single Bedroom 1	0.5
03_Unit 38 - Double Bedroom 1	0.2
03_Unit 38 - Kitchen/Living 1B2P	0.6
04_Unit 39 - Double Bedroom 1	0.2
04_Unit 39 - Kitchen/Living 1B2P	0.1
04_Unit 40 - Double Bedroom 1	0.5
04_Unit 40 - Kitchen/Living 1B2P	0.9
04_Unit 41 - Double Bedroom 1	1.2
04_Unit 41 - Double Bedroom 2	0.9
04_Unit 41 - Kitchen/Living 3B5P	2.5
04_Unit 41 - Single Bedroom 1	1.4
04_Unit 42 - Double Bedroom 1	1.6
04_Unit 42 - Kitchen/Living 1B2P	1.1
04_Unit 43 - Double Bedroom 1	0.2
04_Unit 43 - Kitchen/Living 2B3P	0.2
04_Unit 43 - Single Bedroom 1	0.1
04_Unit 44 - Double Bedroom 1	0.5
04_Unit 44 - Kitchen/Living 2B3P	0.4
04_Unit 44 - Single Bedroom 1	0
04_Unit 45 - Double Bedroom 1	0.7
04_Unit 45 - Kitchen/Living 2B3P	0.3
04_Unit 45 - Single Bedroom 1	0

WEATHER FILE: DSY 1 – MVHR (Enhanced Supply Flow Rate 3 ach)

Compliant

Room	Criteria 1 (%Hrs Top-Tmax>=1K)
00_Unit 01 - Double Bedroom 1	1
00_Unit 01 - Kitchen/Living 2B3P	1
00_Unit 01 - Single Bedroom 1	0.6
00_Unit 02 - Double Bedroom 1	0.7
00_Unit 02 - Kitchen/Living 1B2P	0.8
00_Unit 03 - Double Bedroom 1	0.4
00_Unit 03 - Kitchen/Living 1B2P	0.1
00_Unit 04 - Double Bedroom 1	0.4
00_Unit 04 - Kitchen/Living 1B2P	0.2
00_Unit 05 - Double Bedroom 1	0.7
00_Unit 05 - Kitchen/Living 1B2P	0.3
01_Unit 06 - Double Bedroom 1	0.4
01_Unit 06 - Double Bedroom 2	0
01_Unit 06 - Kitchen/Living 3B5P	0.3
01_Unit 06 - Single Bedroom 1	0.4
01_Unit 07 - Double Bedroom 1	0.1
01_Unit 07 - Kitchen/Living 1B2P	0.2
01_Unit 08 - Double Bedroom 1	0.1
01_Unit 08 - Kitchen/Living 1B2P	0.3
01_Unit 09 - Double Bedroom 1	0.7
01_Unit 09 - Double Bedroom 2	0.5
01_Unit 09 - Kitchen/Living 3B5P	2
01_Unit 09 - Single Bedroom 1	1.1
01_Unit 10 - Double Bedroom 1	1.2
01_Unit 10 - Kitchen/Living 1B2P	1.4
01_Unit 11 - Double Bedroom 1	0.9
01_Unit 11 - Kitchen/Living 1B2P	1
01_Unit 12 - Double Bedroom 1	1.3
01_Unit 12 - Kitchen/Living 2B3P	1.1
01_Unit 12 - Single Bedroom 1	0.9
01_Unit 13 - Double Bedroom 1	2.3
01_Unit 13 - Kitchen/Living 2B3P	1.5
01_Unit 13 - Single Bedroom 1	1
01_Unit 14 - Double Bedroom 1	1.1
01_Unit 14 - Kitchen/Living 1B2P	0.9
01_Unit 15 - Double Bedroom 1	0.1
01_Unit 15 - Kitchen/Living 2B3P	1.2
01_Unit 15 - Single Bedroom 1	0.6
01_Unit 16 - Double Bedroom 1	0.7
01_Unit 16 - Kitchen/Living 2B3P	0.5
01_Unit 16 - Single Bedroom 1	0.6
01_Unit 17 - Double Bedroom 1	0.3

01_Unit 17 - Double Bedroom 2	1.9
01_Unit 17 - Kitchen/Living 3B5P	1.1
01_Unit 17 - Single Bedroom 1	1.1
02_Unit 18 - Double Bedroom 1	0.3
02_Unit 18 - Double Bedroom 2	0
02_Unit 18 - Kitchen/Living 3B5P	0.1
02_Unit 18 - Single Bedroom 1	0.2
02_Unit 19 - Double Bedroom 1	0
02_Unit 19 - Kitchen/Living 1B2P	0.2
02_Unit 20 - Double Bedroom 1	0.4
02_Unit 20 - Kitchen/Living 1B2P	0.3
02_Unit 21 - Double Bedroom 1	1.2
02_Unit 21 - Double Bedroom 2	0.9
02_Unit 21 - Kitchen/Living 3B5P	2.3
02_Unit 21 - Single Bedroom 1	1.5
02_Unit 22 - Double Bedroom 1	1.6
02_Unit 22 - Kitchen/Living 1B2P	1.4
02_Unit 23 - Double Bedroom 1	0.2
02_Unit 23 - Double Bedroom 2	1.4
02_Unit 23 - Kitchen/Living 3B5P	0.6
02_Unit 23 - Single Bedroom 1	1
02_Unit 24 - Double Bedroom 1	0.7
02_Unit 24 - Double Bedroom 2	1.2
02_Unit 24 - Kitchen/Living 3B5P	2.3
02_Unit 24 - Single Bedroom 1	1.1
02_Unit 25 - Double Bedroom 1	0.8
02_Unit 25 - Kitchen/Living 1B2P	1
02_Unit 26 - Double Bedroom 1	0
02_Unit 26 - Kitchen/Living 2B3P	1.6
02_Unit 26 - Single Bedroom 1	0.7
02_Unit 27 - Double Bedroom 1	0.5
02_Unit 27 - Kitchen/Living 2B3P	0.2
02_Unit 27 - Single Bedroom 1	0.4
02_Unit 28 - Double Bedroom 1	0.7
02_Unit 28 - Kitchen/Living 1B2P	1
02_Unit 29 - Double Bedroom 1	1
02_Unit 29 - Kitchen/Living 2B3P	0.7
02_Unit 29 - Single Bedroom 1	0.4
03_Unit 30 - Double Bedroom 1	0.3
03_Unit 30 - Double Bedroom 2	0
03_Unit 30 - Kitchen/Living 3B5P	0
03_Unit 30 - Single Bedroom 1	0.1
03_Unit 31 - Double Bedroom 1	0
03_Unit 31 - Kitchen/Living 1B2P	0.2
03_Unit 32 - Double Bedroom 1	0.4

03_Unit 32 - Kitchen/Living 1B2P	0.3
03_Unit 33 - Double Bedroom 1	1.2
03_Unit 33 - Double Bedroom 2	1
03_Unit 33 - Kitchen/Living 3B5P	2.3
03_Unit 33 - Single Bedroom 1	1.5
03_Unit 34 - Double Bedroom 1	1.6
03_Unit 34 - Kitchen/Living 1B2P	1.4
03_Unit 35 - Double Bedroom 1	0.1
03_Unit 35 - Kitchen/Living 1B2P	0.9
03_Unit 36 - Double Bedroom 1	0.2
03_Unit 36 - Kitchen/Living 1B2P	0.6
03_Unit 37 - Double Bedroom 1	0.2
03_Unit 37 - Double Bedroom 2	0
03_Unit 37 - Kitchen/Living 3B5P	0.2
03_Unit 37 - Single Bedroom 1	0.5
03_Unit 38 - Double Bedroom 1	0.2
03_Unit 38 - Kitchen/Living 1B2P	0.6
04_Unit 39 - Double Bedroom 1	0.2
04_Unit 39 - Kitchen/Living 1B2P	0.1
04_Unit 40 - Double Bedroom 1	0.5
04_Unit 40 - Kitchen/Living 1B2P	0.9
04_Unit 41 - Double Bedroom 1	1.2
04_Unit 41 - Double Bedroom 2	0.9
04_Unit 41 - Kitchen/Living 3B5P	2.5
04_Unit 41 - Single Bedroom 1	1.4
04_Unit 42 - Double Bedroom 1	1.6
04_Unit 42 - Kitchen/Living 1B2P	1.1
04_Unit 43 - Double Bedroom 1	0.2
04_Unit 43 - Kitchen/Living 2B3P	0.2
04_Unit 43 - Single Bedroom 1	0.1
04_Unit 44 - Double Bedroom 1	0.5
04_Unit 44 - Kitchen/Living 2B3P	0.4
04_Unit 44 - Single Bedroom 1	0
04_Unit 45 - Double Bedroom 1	0.7
04_Unit 45 - Kitchen/Living 2B3P	0.3
04_Unit 45 - Single Bedroom 1	0

WEATHER FILE: DSY 1 – MVHR (Enhanced Supply Flow Rate 3.5 ach)

Compliant

Room	Criteria 1 (%Hrs Top-Tmax>=1K)
00_Unit 01 - Double Bedroom 1	1
00_Unit 01 - Kitchen/Living 2B3P	1
00_Unit 01 - Single Bedroom 1	0.6
00_Unit 02 - Double Bedroom 1	0.7
00_Unit 02 - Kitchen/Living 1B2P	0.8
00_Unit 03 - Double Bedroom 1	0.4
00_Unit 03 - Kitchen/Living 1B2P	0.1
00_Unit 04 - Double Bedroom 1	0.4
00_Unit 04 - Kitchen/Living 1B2P	0.2
00_Unit 05 - Double Bedroom 1	0.7
00_Unit 05 - Kitchen/Living 1B2P	0.3
01_Unit 06 - Double Bedroom 1	0.4
01_Unit 06 - Double Bedroom 2	0
01_Unit 06 - Kitchen/Living 3B5P	0.3
01_Unit 06 - Single Bedroom 1	0.4
01_Unit 07 - Double Bedroom 1	0.1
01_Unit 07 - Kitchen/Living 1B2P	0.2
01_Unit 08 - Double Bedroom 1	0.1
01_Unit 08 - Kitchen/Living 1B2P	0.3
01_Unit 09 - Double Bedroom 1	0.7
01_Unit 09 - Double Bedroom 2	0.5
01_Unit 09 - Kitchen/Living 3B5P	2
01_Unit 09 - Single Bedroom 1	1.1
01_Unit 10 - Double Bedroom 1	1.1
01_Unit 10 - Kitchen/Living 1B2P	1.4
01_Unit 11 - Double Bedroom 1	0.9
01_Unit 11 - Kitchen/Living 1B2P	1
01_Unit 12 - Double Bedroom 1	1.3
01_Unit 12 - Kitchen/Living 2B3P	1.1
01_Unit 12 - Single Bedroom 1	0.9
01_Unit 13 - Double Bedroom 1	2.3
01_Unit 13 - Kitchen/Living 2B3P	1.5
01_Unit 13 - Single Bedroom 1	1
01_Unit 14 - Double Bedroom 1	1.1
01_Unit 14 - Kitchen/Living 1B2P	0.9
01_Unit 15 - Double Bedroom 1	0.1
01_Unit 15 - Kitchen/Living 2B3P	1.2
01_Unit 15 - Single Bedroom 1	0.6
01_Unit 16 - Double Bedroom 1	0.7
01_Unit 16 - Kitchen/Living 2B3P	0.5
01_Unit 16 - Single Bedroom 1	0.6
01_Unit 17 - Double Bedroom 1	0.3

01_Unit 17 - Double Bedroom 2	1.9
01_Unit 17 - Kitchen/Living 3B5P	1.1
01_Unit 17 - Single Bedroom 1	1.1
02_Unit 18 - Double Bedroom 1	0.3
02_Unit 18 - Double Bedroom 2	0
02_Unit 18 - Kitchen/Living 3B5P	0.1
02_Unit 18 - Single Bedroom 1	0.2
02_Unit 19 - Double Bedroom 1	0
02_Unit 19 - Kitchen/Living 1B2P	0.2
02_Unit 20 - Double Bedroom 1	0.4
02_Unit 20 - Kitchen/Living 1B2P	0.3
02_Unit 21 - Double Bedroom 1	1.2
02_Unit 21 - Double Bedroom 2	0.9
02_Unit 21 - Kitchen/Living 3B5P	2.3
02_Unit 21 - Single Bedroom 1	1.5
02_Unit 22 - Double Bedroom 1	1.6
02_Unit 22 - Kitchen/Living 1B2P	1.4
02_Unit 23 - Double Bedroom 1	0.2
02_Unit 23 - Double Bedroom 2	1.4
02_Unit 23 - Kitchen/Living 3B5P	0.6
02_Unit 23 - Single Bedroom 1	1
02_Unit 24 - Double Bedroom 1	0.7
02_Unit 24 - Double Bedroom 2	1.2
02_Unit 24 - Kitchen/Living 3B5P	2.3
02_Unit 24 - Single Bedroom 1	1.1
02_Unit 25 - Double Bedroom 1	0.8
02_Unit 25 - Kitchen/Living 1B2P	1
02_Unit 26 - Double Bedroom 1	0
02_Unit 26 - Kitchen/Living 2B3P	1.6
02_Unit 26 - Single Bedroom 1	0.7
02_Unit 27 - Double Bedroom 1	0.5
02_Unit 27 - Kitchen/Living 2B3P	0.2
02_Unit 27 - Single Bedroom 1	0.4
02_Unit 28 - Double Bedroom 1	0.7
02_Unit 28 - Kitchen/Living 1B2P	1
02_Unit 29 - Double Bedroom 1	1
02_Unit 29 - Kitchen/Living 2B3P	0.7
02_Unit 29 - Single Bedroom 1	0.4
03_Unit 30 - Double Bedroom 1	0.3
03_Unit 30 - Double Bedroom 2	0
03_Unit 30 - Kitchen/Living 3B5P	0
03_Unit 30 - Single Bedroom 1	0.1
03_Unit 31 - Double Bedroom 1	0
03_Unit 31 - Kitchen/Living 1B2P	0.2
03_Unit 32 - Double Bedroom 1	0.4

03_Unit 32 - Kitchen/Living 1B2P	0.3
03_Unit 33 - Double Bedroom 1	1.2
03_Unit 33 - Double Bedroom 2	1
03_Unit 33 - Kitchen/Living 3B5P	2.3
03_Unit 33 - Single Bedroom 1	1.5
03_Unit 34 - Double Bedroom 1	1.6
03_Unit 34 - Kitchen/Living 1B2P	1.4
03_Unit 35 - Double Bedroom 1	0.1
03_Unit 35 - Kitchen/Living 1B2P	0.9
03_Unit 36 - Double Bedroom 1	0.2
03_Unit 36 - Kitchen/Living 1B2P	0.6
03_Unit 37 - Double Bedroom 1	0.2
03_Unit 37 - Double Bedroom 2	0
03_Unit 37 - Kitchen/Living 3B5P	0.2
03_Unit 37 - Single Bedroom 1	0.5
03_Unit 38 - Double Bedroom 1	0.2
03_Unit 38 - Kitchen/Living 1B2P	0.6
04_Unit 39 - Double Bedroom 1	0.2
04_Unit 39 - Kitchen/Living 1B2P	0.1
04_Unit 40 - Double Bedroom 1	0.5
04_Unit 40 - Kitchen/Living 1B2P	0.9
04_Unit 41 - Double Bedroom 1	1.2
04_Unit 41 - Double Bedroom 2	0.9
04_Unit 41 - Kitchen/Living 3B5P	2.5
04_Unit 41 - Single Bedroom 1	1.4
04_Unit 42 - Double Bedroom 1	1.6
04_Unit 42 - Kitchen/Living 1B2P	1.1
04_Unit 43 - Double Bedroom 1	0.2
04_Unit 43 - Kitchen/Living 2B3P	0.2
04_Unit 43 - Single Bedroom 1	0.1
04_Unit 44 - Double Bedroom 1	0.5
04_Unit 44 - Kitchen/Living 2B3P	0.4
04_Unit 44 - Single Bedroom 1	0
04_Unit 45 - Double Bedroom 1	0.7
04_Unit 45 - Kitchen/Living 2B3P	0.3
04_Unit 45 - Single Bedroom 1	0

WEATHER FILE: DSY 1 – MVHR Cooling Units

Compliant

Room	Criteria 1 (%Hrs Top-Tmax>=1K)
00_Unit 01 - Double Bedroom 1	0
00_Unit 01 - Kitchen/Living 2B3P	0
00_Unit 01 - Single Bedroom 1	0
00_Unit 02 - Double Bedroom 1	0.7
00_Unit 02 - Kitchen/Living 1B2P	0.2
00_Unit 03 - Double Bedroom 1	0.2
00_Unit 03 - Kitchen/Living 1B2P	0
00_Unit 04 - Double Bedroom 1	0.3
00_Unit 04 - Kitchen/Living 1B2P	0.1
00_Unit 05 - Double Bedroom 1	0.7
00_Unit 05 - Kitchen/Living 1B2P	0
01_Unit 06 - Double Bedroom 1	0.4
01_Unit 06 - Double Bedroom 2	0
01_Unit 06 - Kitchen/Living 3B5P	0
01_Unit 06 - Single Bedroom 1	0.2
01_Unit 07 - Double Bedroom 1	0
01_Unit 07 - Kitchen/Living 1B2P	0
01_Unit 08 - Double Bedroom 1	0
01_Unit 08 - Kitchen/Living 1B2P	0
01_Unit 09 - Double Bedroom 1	0
01_Unit 09 - Double Bedroom 2	0
01_Unit 09 - Kitchen/Living 3B5P	0.3
01_Unit 09 - Single Bedroom 1	0.1
01_Unit 10 - Double Bedroom 1	0.9
01_Unit 10 - Kitchen/Living 1B2P	0.9
01_Unit 11 - Double Bedroom 1	1
01_Unit 11 - Kitchen/Living 1B2P	0.7
01_Unit 12 - Double Bedroom 1	1.2
01_Unit 12 - Kitchen/Living 2B3P	0.6
01_Unit 12 - Single Bedroom 1	0.8
01_Unit 13 - Double Bedroom 1	2.3
01_Unit 13 - Kitchen/Living 2B3P	1.4
01_Unit 13 - Single Bedroom 1	1
01_Unit 14 - Double Bedroom 1	1
01_Unit 14 - Kitchen/Living 1B2P	0.6
01_Unit 15 - Double Bedroom 1	0
01_Unit 15 - Kitchen/Living 2B3P	0.9
01_Unit 15 - Single Bedroom 1	0.5
01_Unit 16 - Double Bedroom 1	0.6
01_Unit 16 - Kitchen/Living 2B3P	0
01_Unit 16 - Single Bedroom 1	0.1
01_Unit 17 - Double Bedroom 1	0

01_Unit 17 - Double Bedroom 2	0.6
01_Unit 17 - Kitchen/Living 3B5P	0.1
01_Unit 17 - Single Bedroom 1	0.4
02_Unit 18 - Double Bedroom 1	0.1
02_Unit 18 - Double Bedroom 2	0
02_Unit 18 - Kitchen/Living 3B5P	0
02_Unit 18 - Single Bedroom 1	0
02_Unit 19 - Double Bedroom 1	0
02_Unit 19 - Kitchen/Living 1B2P	0
02_Unit 20 - Double Bedroom 1	0
02_Unit 20 - Kitchen/Living 1B2P	0
02_Unit 21 - Double Bedroom 1	0.1
02_Unit 21 - Double Bedroom 2	0
02_Unit 21 - Kitchen/Living 3B5P	0.7
02_Unit 21 - Single Bedroom 1	0.7
02_Unit 22 - Double Bedroom 1	1.3
02_Unit 22 - Kitchen/Living 1B2P	0.9
02_Unit 23 - Double Bedroom 1	0
02_Unit 23 - Double Bedroom 2	1.4
02_Unit 23 - Kitchen/Living 3B5P	0.3
02_Unit 23 - Single Bedroom 1	0.9
02_Unit 24 - Double Bedroom 1	0.7
02_Unit 24 - Double Bedroom 2	1.2
02_Unit 24 - Kitchen/Living 3B5P	2.2
02_Unit 24 - Single Bedroom 1	1.1
02_Unit 25 - Double Bedroom 1	0.8
02_Unit 25 - Kitchen/Living 1B2P	0.6
02_Unit 26 - Double Bedroom 1	0
02_Unit 26 - Kitchen/Living 2B3P	1.2
02_Unit 26 - Single Bedroom 1	0.5
02_Unit 27 - Double Bedroom 1	0.4
02_Unit 27 - Kitchen/Living 2B3P	0
02_Unit 27 - Single Bedroom 1	0.1
02_Unit 28 - Double Bedroom 1	0.7
02_Unit 28 - Kitchen/Living 1B2P	0.5
02_Unit 29 - Double Bedroom 1	0.9
02_Unit 29 - Kitchen/Living 2B3P	0.3
02_Unit 29 - Single Bedroom 1	0.2
03_Unit 30 - Double Bedroom 1	0
03_Unit 30 - Double Bedroom 2	0
03_Unit 30 - Kitchen/Living 3B5P	0
03_Unit 30 - Single Bedroom 1	0
03_Unit 31 - Double Bedroom 1	0
03_Unit 31 - Kitchen/Living 1B2P	0
03_Unit 32 - Double Bedroom 1	0.1

03_Unit 32 - Kitchen/Living 1B2P	0
03_Unit 33 - Double Bedroom 1	0.2
03_Unit 33 - Double Bedroom 2	0
03_Unit 33 - Kitchen/Living 3B5P	0.8
03_Unit 33 - Single Bedroom 1	0.7
03_Unit 34 - Double Bedroom 1	1.4
03_Unit 34 - Kitchen/Living 1B2P	0.9
03_Unit 35 - Double Bedroom 1	0.1
03_Unit 35 - Kitchen/Living 1B2P	0.5
03_Unit 36 - Double Bedroom 1	0.1
03_Unit 36 - Kitchen/Living 1B2P	0.4
03_Unit 37 - Double Bedroom 1	0
03_Unit 37 - Double Bedroom 2	0
03_Unit 37 - Kitchen/Living 3B5P	0
03_Unit 37 - Single Bedroom 1	0.4
03_Unit 38 - Double Bedroom 1	0.1
03_Unit 38 - Kitchen/Living 1B2P	0.4
04_Unit 39 - Double Bedroom 1	0.1
04_Unit 39 - Kitchen/Living 1B2P	0
04_Unit 40 - Double Bedroom 1	0.2
04_Unit 40 - Kitchen/Living 1B2P	0.1
04_Unit 41 - Double Bedroom 1	0.1
04_Unit 41 - Double Bedroom 2	0
04_Unit 41 - Kitchen/Living 3B5P	1
04_Unit 41 - Single Bedroom 1	0.7
04_Unit 42 - Double Bedroom 1	1.3
04_Unit 42 - Kitchen/Living 1B2P	0.7
04_Unit 43 - Double Bedroom 1	0.1
04_Unit 43 - Kitchen/Living 2B3P	0.1
04_Unit 43 - Single Bedroom 1	0
04_Unit 44 - Double Bedroom 1	0.4
04_Unit 44 - Kitchen/Living 2B3P	0.2
04_Unit 44 - Single Bedroom 1	0
04_Unit 45 - Double Bedroom 1	0.6
04_Unit 45 - Kitchen/Living 2B3P	0.2
04_Unit 45 - Single Bedroom 1	0

Appendix D – Criterion B Results

04_Unit 45 - Double Bedroom 1	22
04_Unit 45 - Single Bedroom 1	16

WEATHER FILE: DSY 1 – Standard Part F flow rates (29 l/s – 37 l/s)			
Compliant Rooms		Non-Compliant Rooms	
Room	Night-time hours >26°C per annum	Room	Night-time hours >26°C per annum
01_Unit 06 - Double Bedroom 1	20	00_Unit 01 - Double Bedroom 1	57
01_Unit 06 - Double Bedroom 2	17	00_Unit 01 - Single Bedroom 1	45
01_Unit 06 - Single Bedroom 1	19	00_Unit 02 - Double Bedroom 1	57
01_Unit 07 - Double Bedroom 1	30	00_Unit 03 - Double Bedroom 1	50
01_Unit 12 - Double Bedroom 1	20	00_Unit 04 - Double Bedroom 1	65
01_Unit 12 - Single Bedroom 1	17	00_Unit 05 - Double Bedroom 1	57
01_Unit 13 - Double Bedroom 1	17	01_Unit 08 - Double Bedroom 1	38
01_Unit 13 - Single Bedroom 1	15	01_Unit 09 - Double Bedroom 1	48
01_Unit 15 - Double Bedroom 1	12	01_Unit 09 - Double Bedroom 2	42
01_Unit 15 - Single Bedroom 1	10	01_Unit 09 - Single Bedroom 1	35
02_Unit 18 - Double Bedroom 1	21	01_Unit 10 - Double Bedroom 1	58
02_Unit 18 - Double Bedroom 2	17	01_Unit 11 - Double Bedroom 1	40
02_Unit 18 - Single Bedroom 1	16	01_Unit 14 - Double Bedroom 1	40
02_Unit 19 - Double Bedroom 1	30	01_Unit 16 - Double Bedroom 1	47
02_Unit 23 - Double Bedroom 1	19	01_Unit 16 - Single Bedroom 1	42
02_Unit 23 - Double Bedroom 2	19	01_Unit 17 - Double Bedroom 1	42
02_Unit 23 - Single Bedroom 1	17	01_Unit 17 - Double Bedroom 2	70
02_Unit 24 - Double Bedroom 1	21	01_Unit 17 - Single Bedroom 1	39
02_Unit 24 - Double Bedroom 2	20	02_Unit 20 - Double Bedroom 1	45
02_Unit 24 - Single Bedroom 1	17	02_Unit 21 - Double Bedroom 1	48
02_Unit 26 - Double Bedroom 1	17	02_Unit 21 - Double Bedroom 2	42
02_Unit 26 - Single Bedroom 1	12	02_Unit 21 - Single Bedroom 1	36
02_Unit 27 - Double Bedroom 1	28	02_Unit 22 - Double Bedroom 1	46
02_Unit 27 - Single Bedroom 1	30	02_Unit 25 - Double Bedroom 1	40
02_Unit 29 - Double Bedroom 1	24	02_Unit 28 - Double Bedroom 1	39
02_Unit 29 - Single Bedroom 1	19	03_Unit 32 - Double Bedroom 1	47
03_Unit 30 - Double Bedroom 1	21	03_Unit 33 - Double Bedroom 1	51
03_Unit 30 - Double Bedroom 2	17	03_Unit 33 - Double Bedroom 2	44
03_Unit 30 - Single Bedroom 1	16	03_Unit 33 - Single Bedroom 1	39
03_Unit 31 - Double Bedroom 1	32	03_Unit 34 - Double Bedroom 1	46
03_Unit 37 - Double Bedroom 1	16	03_Unit 35 - Double Bedroom 1	40
03_Unit 37 - Double Bedroom 2	15	03_Unit 36 - Double Bedroom 1	44
03_Unit 37 - Single Bedroom 1	16	03_Unit 38 - Double Bedroom 1	48
04_Unit 39 - Double Bedroom 1	28	04_Unit 40 - Double Bedroom 1	51
04_Unit 43 - Double Bedroom 1	31	04_Unit 41 - Double Bedroom 1	49
04_Unit 43 - Single Bedroom 1	22	04_Unit 41 - Double Bedroom 2	45
04_Unit 44 - Double Bedroom 1	26	04_Unit 41 - Single Bedroom 1	37
04_Unit 44 - Single Bedroom 1	17	04_Unit 42 - Double Bedroom 1	45

WEATHER FILE: DSY 1 – Enhanced MVHR (Enhanced Supply Flow Rate 15 l/s)

Compliant Rooms		Non-Compliant Rooms	
Room	Night-time hours >26°C per annum	Room	Night-time hours >26°C per annum
01_Unit 06 - Double Bedroom 1	21	00_Unit 01 - Double Bedroom 1	47
01_Unit 06 - Double Bedroom 2	18	00_Unit 01 - Single Bedroom 1	41
01_Unit 06 - Single Bedroom 1	20	00_Unit 02 - Double Bedroom 1	51
01_Unit 07 - Double Bedroom 1	30	00_Unit 03 - Double Bedroom 1	47
01_Unit 09 - Single Bedroom 1	29	00_Unit 04 - Double Bedroom 1	56
01_Unit 12 - Double Bedroom 1	21	00_Unit 05 - Double Bedroom 1	52
01_Unit 12 - Single Bedroom 1	18	01_Unit 08 - Double Bedroom 1	37
01_Unit 13 - Double Bedroom 1	18	01_Unit 09 - Double Bedroom 1	39
01_Unit 13 - Single Bedroom 1	16	01_Unit 09 - Double Bedroom 2	34
01_Unit 15 - Double Bedroom 1	14	01_Unit 10 - Double Bedroom 1	54
01_Unit 15 - Single Bedroom 1	10	01_Unit 11 - Double Bedroom 1	39
01_Unit 17 - Single Bedroom 1	33	01_Unit 14 - Double Bedroom 1	39
02_Unit 18 - Double Bedroom 1	21	01_Unit 16 - Double Bedroom 1	37
02_Unit 18 - Double Bedroom 2	17	01_Unit 16 - Single Bedroom 1	35
02_Unit 18 - Single Bedroom 1	16	01_Unit 17 - Double Bedroom 1	41
02_Unit 19 - Double Bedroom 1	31	01_Unit 17 - Double Bedroom 2	56
02_Unit 21 - Single Bedroom 1	32	02_Unit 20 - Double Bedroom 1	41
02_Unit 23 - Double Bedroom 1	20	02_Unit 21 - Double Bedroom 1	41
02_Unit 23 - Double Bedroom 2	20	02_Unit 21 - Double Bedroom 2	35
02_Unit 23 - Single Bedroom 1	19	02_Unit 22 - Double Bedroom 1	42
02_Unit 24 - Double Bedroom 1	21	02_Unit 25 - Double Bedroom 1	36
02_Unit 24 - Double Bedroom 2	20	02_Unit 28 - Double Bedroom 1	37
02_Unit 24 - Single Bedroom 1	18	03_Unit 31 - Double Bedroom 1	35
02_Unit 26 - Double Bedroom 1	18	03_Unit 32 - Double Bedroom 1	45
02_Unit 26 - Single Bedroom 1	13	03_Unit 33 - Double Bedroom 1	43
02_Unit 27 - Double Bedroom 1	28	03_Unit 33 - Double Bedroom 2	37
02_Unit 27 - Single Bedroom 1	30	03_Unit 34 - Double Bedroom 1	43
02_Unit 29 - Double Bedroom 1	24	03_Unit 35 - Double Bedroom 1	38
02_Unit 29 - Single Bedroom 1	19	03_Unit 36 - Double Bedroom 1	43
03_Unit 30 - Double Bedroom 1	21	03_Unit 38 - Double Bedroom 1	47
03_Unit 30 - Double Bedroom 2	19	04_Unit 40 - Double Bedroom 1	45
03_Unit 30 - Single Bedroom 1	16	04_Unit 41 - Double Bedroom 1	41
03_Unit 33 - Single Bedroom 1	32	04_Unit 41 - Double Bedroom 2	36
03_Unit 37 - Double Bedroom 1	19	04_Unit 42 - Double Bedroom 1	41
03_Unit 37 - Double Bedroom 2	15		
03_Unit 37 - Single Bedroom 1	16		
04_Unit 39 - Double Bedroom 1	29		
04_Unit 41 - Single Bedroom 1	32		
04_Unit 43 - Double Bedroom 1	29		
04_Unit 43 - Single Bedroom 1	25		

04_Unit 44 - Double Bedroom 1	27
04_Unit 44 - Single Bedroom 1	17
04_Unit 45 - Double Bedroom 1	24
04_Unit 45 - Single Bedroom 1	16

WEATHER FILE: DSY 1 – Enhanced MVHR (Enhanced Supply Flow Rate 1.5 ach)

Compliant Rooms		Non-Compliant Rooms	
Room	Night-time hours >26°C per annum	Room	Night-time hours >26°C per annum
01_Unit 06 - Double Bedroom 1	20	00_Unit 01 - Double Bedroom 1	46
01_Unit 06 - Double Bedroom 2	17	00_Unit 01 - Single Bedroom 1	41
01_Unit 06 - Single Bedroom 1	19	00_Unit 02 - Double Bedroom 1	51
01_Unit 07 - Double Bedroom 1	30	00_Unit 03 - Double Bedroom 1	46
01_Unit 09 - Single Bedroom 1	28	00_Unit 04 - Double Bedroom 1	55
01_Unit 12 - Double Bedroom 1	20	00_Unit 05 - Double Bedroom 1	51
01_Unit 12 - Single Bedroom 1	17	01_Unit 08 - Double Bedroom 1	36
01_Unit 13 - Double Bedroom 1	17	01_Unit 09 - Double Bedroom 1	36
01_Unit 13 - Single Bedroom 1	15	01_Unit 09 - Double Bedroom 2	34
01_Unit 15 - Double Bedroom 1	12	01_Unit 10 - Double Bedroom 1	54
01_Unit 15 - Single Bedroom 1	10	01_Unit 11 - Double Bedroom 1	38
02_Unit 18 - Double Bedroom 1	21	01_Unit 14 - Double Bedroom 1	38
02_Unit 18 - Double Bedroom 2	17	01_Unit 16 - Double Bedroom 1	37
02_Unit 18 - Single Bedroom 1	16	01_Unit 16 - Single Bedroom 1	35
02_Unit 19 - Double Bedroom 1	30	01_Unit 17 - Double Bedroom 1	40
02_Unit 21 - Single Bedroom 1	32	01_Unit 17 - Double Bedroom 2	56
02_Unit 23 - Double Bedroom 1	19	01_Unit 17 - Single Bedroom 1	33
02_Unit 23 - Double Bedroom 2	19	02_Unit 20 - Double Bedroom 1	38
02_Unit 23 - Single Bedroom 1	17	02_Unit 21 - Double Bedroom 1	38
02_Unit 24 - Double Bedroom 1	21	02_Unit 21 - Double Bedroom 2	34
02_Unit 24 - Double Bedroom 2	20	02_Unit 22 - Double Bedroom 1	41
02_Unit 24 - Single Bedroom 1	17	02_Unit 25 - Double Bedroom 1	36
02_Unit 26 - Double Bedroom 1	17	02_Unit 28 - Double Bedroom 1	37
02_Unit 26 - Single Bedroom 1	12	03_Unit 32 - Double Bedroom 1	44
02_Unit 27 - Double Bedroom 1	28	03_Unit 33 - Double Bedroom 1	40
02_Unit 27 - Single Bedroom 1	30	03_Unit 33 - Double Bedroom 2	36
02_Unit 29 - Double Bedroom 1	24	03_Unit 34 - Double Bedroom 1	42
02_Unit 29 - Single Bedroom 1	19	03_Unit 35 - Double Bedroom 1	37
03_Unit 30 - Double Bedroom 1	21	03_Unit 36 - Double Bedroom 1	41
03_Unit 30 - Double Bedroom 2	17	03_Unit 38 - Double Bedroom 1	45
03_Unit 30 - Single Bedroom 1	16	04_Unit 40 - Double Bedroom 1	42
03_Unit 31 - Double Bedroom 1	32	04_Unit 41 - Double Bedroom 1	41
03_Unit 33 - Single Bedroom 1	32	04_Unit 41 - Double Bedroom 2	34
03_Unit 37 - Double Bedroom 1	16	04_Unit 42 - Double Bedroom 1	40
03_Unit 37 - Double Bedroom 2	15		
03_Unit 37 - Single Bedroom 1	16		
04_Unit 39 - Double Bedroom 1	28		
04_Unit 41 - Single Bedroom 1	32		
04_Unit 43 - Double Bedroom 1	31		
04_Unit 43 - Single Bedroom 1	22		

04_Unit 44 - Double Bedroom 1	26
04_Unit 44 - Single Bedroom 1	17
04_Unit 45 - Double Bedroom 1	22
04_Unit 45 - Single Bedroom 1	16

WEATHER FILE: DSY 1 – Enhanced MVHR (Enhanced Supply Flow Rate 2 ach)

Compliant Rooms		Non-Compliant Rooms	
Room	Night-time hours >26°C per annum	Room	Night-time hours >26°C per annum
01_Unit 06 - Double Bedroom 1	20	00_Unit 01 - Double Bedroom 1	40
01_Unit 06 - Double Bedroom 2	17	00_Unit 01 - Single Bedroom 1	40
01_Unit 06 - Single Bedroom 1	19	00_Unit 02 - Double Bedroom 1	34
01_Unit 07 - Double Bedroom 1	30	00_Unit 03 - Double Bedroom 1	36
01_Unit 08 - Double Bedroom 1	28	00_Unit 04 - Double Bedroom 1	42
01_Unit 09 - Single Bedroom 1	28	00_Unit 05 - Double Bedroom 1	40
01_Unit 12 - Double Bedroom 1	20	01_Unit 09 - Double Bedroom 1	36
01_Unit 12 - Single Bedroom 1	17	01_Unit 09 - Double Bedroom 2	34
01_Unit 13 - Double Bedroom 1	17	01_Unit 10 - Double Bedroom 1	45
01_Unit 13 - Single Bedroom 1	15	01_Unit 11 - Double Bedroom 1	36
01_Unit 15 - Double Bedroom 1	12	01_Unit 14 - Double Bedroom 1	35
01_Unit 15 - Single Bedroom 1	10	01_Unit 16 - Single Bedroom 1	35
01_Unit 16 - Double Bedroom 1	33	01_Unit 17 - Double Bedroom 1	40
02_Unit 18 - Double Bedroom 1	21	01_Unit 17 - Double Bedroom 2	56
02_Unit 18 - Double Bedroom 2	17	01_Unit 17 - Single Bedroom 1	33
02_Unit 18 - Single Bedroom 1	16	02_Unit 21 - Double Bedroom 1	38
02_Unit 19 - Double Bedroom 1	30	02_Unit 21 - Double Bedroom 2	34
02_Unit 20 - Double Bedroom 1	32	02_Unit 22 - Double Bedroom 1	34
02_Unit 21 - Single Bedroom 1	32	03_Unit 33 - Double Bedroom 1	40
02_Unit 23 - Double Bedroom 1	19	03_Unit 33 - Double Bedroom 2	36
02_Unit 23 - Double Bedroom 2	19	03_Unit 34 - Double Bedroom 1	36
02_Unit 23 - Single Bedroom 1	17	03_Unit 38 - Double Bedroom 1	35
02_Unit 24 - Double Bedroom 1	21	04_Unit 40 - Double Bedroom 1	34
02_Unit 24 - Double Bedroom 2	20	04_Unit 41 - Double Bedroom 1	41
02_Unit 24 - Single Bedroom 1	17	04_Unit 41 - Double Bedroom 2	34
02_Unit 25 - Double Bedroom 1	32	04_Unit 42 - Double Bedroom 1	34
02_Unit 26 - Double Bedroom 1	17		
02_Unit 26 - Single Bedroom 1	12		
02_Unit 27 - Double Bedroom 1	28		
02_Unit 27 - Single Bedroom 1	30		
02_Unit 28 - Double Bedroom 1	32		
02_Unit 29 - Double Bedroom 1	23		
02_Unit 29 - Single Bedroom 1	17		
03_Unit 30 - Double Bedroom 1	21		
03_Unit 30 - Double Bedroom 2	17		
03_Unit 30 - Single Bedroom 1	16		
03_Unit 31 - Double Bedroom 1	31		
03_Unit 32 - Double Bedroom 1	33		
03_Unit 33 - Single Bedroom 1	32		
03_Unit 35 - Double Bedroom 1	32		

03_Unit 36 - Double Bedroom 1	31
03_Unit 37 - Double Bedroom 1	16
03_Unit 37 - Double Bedroom 2	15
03_Unit 37 - Single Bedroom 1	16
04_Unit 39 - Double Bedroom 1	27
04_Unit 41 - Single Bedroom 1	32
04_Unit 43 - Double Bedroom 1	31
04_Unit 43 - Single Bedroom 1	22
04_Unit 44 - Double Bedroom 1	24
04_Unit 44 - Single Bedroom 1	17
04_Unit 45 - Double Bedroom 1	22
04_Unit 45 - Single Bedroom 1	16

WEATHER FILE: DSY 1 – Enhanced MVHR (Enhanced Supply Flow Rate 2.5 ach)

Compliant Rooms		Non-Compliant Rooms	
Room	Night-time hours >26°C per annum	Room	Night-time hours >26°C per annum
00_Unit 02 - Double Bedroom 1	30	00_Unit 01 - Double Bedroom 1	35
00_Unit 03 - Double Bedroom 1	29	00_Unit 01 - Single Bedroom 1	37
00_Unit 05 - Double Bedroom 1	33	00_Unit 04 - Double Bedroom 1	37
01_Unit 06 - Double Bedroom 1	20	01_Unit 09 - Double Bedroom 1	36
01_Unit 06 - Double Bedroom 2	17	01_Unit 09 - Double Bedroom 2	34
01_Unit 06 - Single Bedroom 1	19	01_Unit 10 - Double Bedroom 1	39
01_Unit 07 - Double Bedroom 1	30	01_Unit 11 - Double Bedroom 1	34
01_Unit 08 - Double Bedroom 1	28	01_Unit 17 - Double Bedroom 1	40
01_Unit 09 - Single Bedroom 1	28	01_Unit 17 - Double Bedroom 2	56
01_Unit 12 - Double Bedroom 1	20	01_Unit 17 - Single Bedroom 1	33
01_Unit 12 - Single Bedroom 1	17	02_Unit 21 - Double Bedroom 1	38
01_Unit 13 - Double Bedroom 1	17	02_Unit 21 - Double Bedroom 2	34
01_Unit 13 - Single Bedroom 1	15	03_Unit 33 - Double Bedroom 1	40
01_Unit 14 - Double Bedroom 1	28	03_Unit 33 - Double Bedroom 2	36
01_Unit 15 - Double Bedroom 1	12	04_Unit 41 - Double Bedroom 1	41
01_Unit 15 - Single Bedroom 1	10	04_Unit 41 - Double Bedroom 2	34
01_Unit 16 - Double Bedroom 1	33		
01_Unit 16 - Single Bedroom 1	31		
02_Unit 18 - Double Bedroom 1	21		
02_Unit 18 - Double Bedroom 2	17		
02_Unit 18 - Single Bedroom 1	16		
02_Unit 19 - Double Bedroom 1	30		
02_Unit 20 - Double Bedroom 1	32		
02_Unit 21 - Single Bedroom 1	32		
02_Unit 22 - Double Bedroom 1	32		
02_Unit 23 - Double Bedroom 1	18		
02_Unit 23 - Double Bedroom 2	19		
02_Unit 23 - Single Bedroom 1	17		
02_Unit 24 - Double Bedroom 1	21		
02_Unit 24 - Double Bedroom 2	20		
02_Unit 24 - Single Bedroom 1	17		
02_Unit 25 - Double Bedroom 1	32		
02_Unit 26 - Double Bedroom 1	17		
02_Unit 26 - Single Bedroom 1	12		
02_Unit 27 - Double Bedroom 1	28		
02_Unit 27 - Single Bedroom 1	30		
02_Unit 28 - Double Bedroom 1	32		
02_Unit 29 - Double Bedroom 1	23		
02_Unit 29 - Single Bedroom 1	17		
03_Unit 30 - Double Bedroom 1	21		

03_Unit 30 - Double Bedroom 2	17
03_Unit 30 - Single Bedroom 1	16
03_Unit 31 - Double Bedroom 1	31
03_Unit 32 - Double Bedroom 1	32
03_Unit 33 - Single Bedroom 1	32
03_Unit 34 - Double Bedroom 1	32
03_Unit 35 - Double Bedroom 1	32
03_Unit 36 - Double Bedroom 1	31
03_Unit 37 - Double Bedroom 1	16
03_Unit 37 - Double Bedroom 2	15
03_Unit 37 - Single Bedroom 1	16
03_Unit 38 - Double Bedroom 1	30
04_Unit 39 - Double Bedroom 1	27
04_Unit 40 - Double Bedroom 1	32
04_Unit 41 - Single Bedroom 1	32
04_Unit 42 - Double Bedroom 1	32
04_Unit 43 - Double Bedroom 1	31
04_Unit 43 - Single Bedroom 1	22
04_Unit 44 - Double Bedroom 1	24
04_Unit 44 - Single Bedroom 1	17
04_Unit 45 - Double Bedroom 1	22
04_Unit 45 - Single Bedroom 1	16

WEATHER FILE: DSY 1 – Enhanced MVHR (Enhanced Supply Flow Rate 3 ach)

Compliant Rooms		Non-Compliant Rooms	
Room	Night-time hours >26°C per annum	Room	Night-time hours >26°C per annum
00_Unit 02 - Double Bedroom 1	30	00_Unit 01 - Double Bedroom 1	35
00_Unit 03 - Double Bedroom 1	29	00_Unit 01 - Single Bedroom 1	37
00_Unit 04 - Double Bedroom 1	31	01_Unit 09 - Double Bedroom 1	36
00_Unit 05 - Double Bedroom 1	33	01_Unit 09 - Double Bedroom 2	34
01_Unit 06 - Double Bedroom 1	20	01_Unit 10 - Double Bedroom 1	35
01_Unit 06 - Double Bedroom 2	17	01_Unit 17 - Double Bedroom 1	40
01_Unit 06 - Single Bedroom 1	19	01_Unit 17 - Double Bedroom 2	56
01_Unit 07 - Double Bedroom 1	30	01_Unit 17 - Single Bedroom 1	33
01_Unit 08 - Double Bedroom 1	28	02_Unit 21 - Double Bedroom 1	38
01_Unit 09 - Single Bedroom 1	28	02_Unit 21 - Double Bedroom 2	34
01_Unit 11 - Double Bedroom 1	29	03_Unit 33 - Double Bedroom 1	40
01_Unit 12 - Double Bedroom 1	19	03_Unit 33 - Double Bedroom 2	36
01_Unit 12 - Single Bedroom 1	17	04_Unit 41 - Double Bedroom 1	41
01_Unit 13 - Double Bedroom 1	17	04_Unit 41 - Double Bedroom 2	34
01_Unit 13 - Single Bedroom 1	15		
01_Unit 14 - Double Bedroom 1	28		
01_Unit 15 - Double Bedroom 1	12		
01_Unit 15 - Single Bedroom 1	10		
01_Unit 16 - Double Bedroom 1	33		
01_Unit 16 - Single Bedroom 1	31		
02_Unit 18 - Double Bedroom 1	21		
02_Unit 18 - Double Bedroom 2	17		
02_Unit 18 - Single Bedroom 1	16		
02_Unit 19 - Double Bedroom 1	30		
02_Unit 20 - Double Bedroom 1	32		
02_Unit 21 - Single Bedroom 1	32		
02_Unit 22 - Double Bedroom 1	32		
02_Unit 23 - Double Bedroom 1	18		
02_Unit 23 - Double Bedroom 2	19		
02_Unit 23 - Single Bedroom 1	17		
02_Unit 24 - Double Bedroom 1	21		
02_Unit 24 - Double Bedroom 2	20		
02_Unit 24 - Single Bedroom 1	17		
02_Unit 25 - Double Bedroom 1	32		
02_Unit 26 - Double Bedroom 1	17		
02_Unit 26 - Single Bedroom 1	12		
02_Unit 27 - Double Bedroom 1	28		
02_Unit 27 - Single Bedroom 1	30		
02_Unit 28 - Double Bedroom 1	32		

02_Unit 29 - Double Bedroom 1	23
02_Unit 29 - Single Bedroom 1	17
03_Unit 30 - Double Bedroom 1	21
03_Unit 30 - Double Bedroom 2	17
03_Unit 30 - Single Bedroom 1	16
03_Unit 31 - Double Bedroom 1	31
03_Unit 32 - Double Bedroom 1	32
03_Unit 33 - Single Bedroom 1	32
03_Unit 34 - Double Bedroom 1	32
03_Unit 35 - Double Bedroom 1	32
03_Unit 36 - Double Bedroom 1	31
03_Unit 37 - Double Bedroom 1	16
03_Unit 37 - Double Bedroom 2	15
03_Unit 37 - Single Bedroom 1	16
03_Unit 38 - Double Bedroom 1	30
04_Unit 39 - Double Bedroom 1	27
04_Unit 40 - Double Bedroom 1	32
04_Unit 41 - Single Bedroom 1	32
04_Unit 42 - Double Bedroom 1	32
04_Unit 43 - Double Bedroom 1	31
04_Unit 43 - Single Bedroom 1	22
04_Unit 44 - Double Bedroom 1	24
04_Unit 44 - Single Bedroom 1	17
04_Unit 45 - Double Bedroom 1	22
04_Unit 45 - Single Bedroom 1	16

WEATHER FILE: DSY 1 – Enhanced MVHR (Enhanced Supply Flow Rate 3.5 ach)

Compliant Rooms		Non-Compliant Rooms	
Room	Night-time hours >26°C per annum	Room	Night-time hours >26°C per annum
00_Unit 02 - Double Bedroom 1	30	00_Unit 01 - Double Bedroom 1	35
00_Unit 03 - Double Bedroom 1	29	00_Unit 01 - Single Bedroom 1	37
00_Unit 04 - Double Bedroom 1	31	01_Unit 09 - Double Bedroom 1	36
00_Unit 05 - Double Bedroom 1	33	01_Unit 09 - Double Bedroom 2	34
01_Unit 06 - Double Bedroom 1	20	01_Unit 17 - Double Bedroom 1	40
01_Unit 06 - Double Bedroom 2	17	01_Unit 17 - Double Bedroom 2	56
01_Unit 06 - Single Bedroom 1	19	01_Unit 17 - Single Bedroom 1	33
01_Unit 07 - Double Bedroom 1	30	02_Unit 21 - Double Bedroom 1	38
01_Unit 08 - Double Bedroom 1	28	02_Unit 21 - Double Bedroom 2	34
01_Unit 09 - Single Bedroom 1	28	03_Unit 33 - Double Bedroom 1	40
01_Unit 10 - Double Bedroom 1	32	03_Unit 33 - Double Bedroom 2	36
01_Unit 11 - Double Bedroom 1	29	04_Unit 41 - Double Bedroom 1	41
01_Unit 12 - Double Bedroom 1	19	04_Unit 41 - Double Bedroom 2	34
01_Unit 12 - Single Bedroom 1	17		
01_Unit 13 - Double Bedroom 1	17		
01_Unit 13 - Single Bedroom 1	15		
01_Unit 14 - Double Bedroom 1	28		
01_Unit 15 - Double Bedroom 1	12		
01_Unit 15 - Single Bedroom 1	10		
01_Unit 16 - Double Bedroom 1	33		
01_Unit 16 - Single Bedroom 1	31		
02_Unit 18 - Double Bedroom 1	21		
02_Unit 18 - Double Bedroom 2	17		
02_Unit 18 - Single Bedroom 1	16		
02_Unit 19 - Double Bedroom 1	30		
02_Unit 20 - Double Bedroom 1	32		
02_Unit 21 - Single Bedroom 1	32		
02_Unit 22 - Double Bedroom 1	32		
02_Unit 23 - Double Bedroom 1	18		
02_Unit 23 - Double Bedroom 2	19		
02_Unit 23 - Single Bedroom 1	17		
02_Unit 24 - Double Bedroom 1	21		
02_Unit 24 - Double Bedroom 2	20		
02_Unit 24 - Single Bedroom 1	17		
02_Unit 25 - Double Bedroom 1	32		
02_Unit 26 - Double Bedroom 1	17		
02_Unit 26 - Single Bedroom 1	12		

02_Unit 27 - Double Bedroom 1	28
02_Unit 27 - Single Bedroom 1	30
02_Unit 28 - Double Bedroom 1	32
02_Unit 29 - Double Bedroom 1	23
02_Unit 29 - Single Bedroom 1	17
03_Unit 30 - Double Bedroom 1	21
03_Unit 30 - Double Bedroom 2	17
03_Unit 30 - Single Bedroom 1	16
03_Unit 31 - Double Bedroom 1	31
03_Unit 32 - Double Bedroom 1	32
03_Unit 33 - Single Bedroom 1	32
03_Unit 34 - Double Bedroom 1	32
03_Unit 35 - Double Bedroom 1	32
03_Unit 36 - Double Bedroom 1	31
03_Unit 37 - Double Bedroom 1	16
03_Unit 37 - Double Bedroom 2	15
03_Unit 37 - Single Bedroom 1	16
03_Unit 38 - Double Bedroom 1	30
04_Unit 39 - Double Bedroom 1	27
04_Unit 40 - Double Bedroom 1	32
04_Unit 41 - Single Bedroom 1	32
04_Unit 42 - Double Bedroom 1	32
04_Unit 43 - Double Bedroom 1	31
04_Unit 43 - Single Bedroom 1	22
04_Unit 44 - Double Bedroom 1	24
04_Unit 44 - Single Bedroom 1	17
04_Unit 45 - Double Bedroom 1	22
04_Unit 45 - Single Bedroom 1	16

WEATHER FILE: DSY 1 – MVHR Cooling Units

Compliant Rooms

Room	Night-time hours >26°C per annum
00_Unit 01 - Double Bedroom 1	4
00_Unit 01 - Single Bedroom 1	6
00_Unit 02 - Double Bedroom 1	30
00_Unit 03 - Double Bedroom 1	32
00_Unit 04 - Double Bedroom 1	30
00_Unit 05 - Double Bedroom 1	32
01_Unit 06 - Double Bedroom 1	21
01_Unit 06 - Double Bedroom 2	16
01_Unit 06 - Single Bedroom 1	18
01_Unit 07 - Double Bedroom 1	30
01_Unit 08 - Double Bedroom 1	25
01_Unit 09 - Double Bedroom 1	9
01_Unit 09 - Double Bedroom 2	10
01_Unit 09 - Single Bedroom 1	9
01_Unit 10 - Double Bedroom 1	26
01_Unit 11 - Double Bedroom 1	29
01_Unit 12 - Double Bedroom 1	18
01_Unit 12 - Single Bedroom 1	15
01_Unit 13 - Double Bedroom 1	17
01_Unit 13 - Single Bedroom 1	15
01_Unit 14 - Double Bedroom 1	28
01_Unit 15 - Double Bedroom 1	12
01_Unit 15 - Single Bedroom 1	10
01_Unit 16 - Double Bedroom 1	31
01_Unit 16 - Single Bedroom 1	27
01_Unit 17 - Double Bedroom 1	20
01_Unit 17 - Double Bedroom 2	19
01_Unit 17 - Single Bedroom 1	12
02_Unit 18 - Double Bedroom 1	21
02_Unit 18 - Double Bedroom 2	16
02_Unit 18 - Single Bedroom 1	16
02_Unit 19 - Double Bedroom 1	30
02_Unit 20 - Double Bedroom 1	27
02_Unit 21 - Double Bedroom 1	13
02_Unit 21 - Double Bedroom 2	13
02_Unit 21 - Single Bedroom 1	11
02_Unit 22 - Double Bedroom 1	27
02_Unit 23 - Double Bedroom 1	18

02_Unit 23 - Double Bedroom 2	19
02_Unit 23 - Single Bedroom 1	17
02_Unit 24 - Double Bedroom 1	21
02_Unit 24 - Double Bedroom 2	20
02_Unit 24 - Single Bedroom 1	17
02_Unit 25 - Double Bedroom 1	31
02_Unit 26 - Double Bedroom 1	16
02_Unit 26 - Single Bedroom 1	12
02_Unit 27 - Double Bedroom 1	26
02_Unit 27 - Single Bedroom 1	19
02_Unit 28 - Double Bedroom 1	28
02_Unit 29 - Double Bedroom 1	21
02_Unit 29 - Single Bedroom 1	16
03_Unit 30 - Double Bedroom 1	21
03_Unit 30 - Double Bedroom 2	17
03_Unit 30 - Single Bedroom 1	16
03_Unit 31 - Double Bedroom 1	26
03_Unit 32 - Double Bedroom 1	29
03_Unit 33 - Double Bedroom 1	14
03_Unit 33 - Double Bedroom 2	15
03_Unit 33 - Single Bedroom 1	12
03_Unit 34 - Double Bedroom 1	29
03_Unit 35 - Double Bedroom 1	30
03_Unit 36 - Double Bedroom 1	31
03_Unit 37 - Double Bedroom 1	15
03_Unit 37 - Double Bedroom 2	14
03_Unit 37 - Single Bedroom 1	16
03_Unit 38 - Double Bedroom 1	30
04_Unit 39 - Double Bedroom 1	27
04_Unit 40 - Double Bedroom 1	27
04_Unit 41 - Double Bedroom 1	14
04_Unit 41 - Double Bedroom 2	14
04_Unit 41 - Single Bedroom 1	12
04_Unit 42 - Double Bedroom 1	29
04_Unit 43 - Double Bedroom 1	31
04_Unit 43 - Single Bedroom 1	21
04_Unit 44 - Double Bedroom 1	24
04_Unit 44 - Single Bedroom 1	17
04_Unit 45 - Double Bedroom 1	20
04_Unit 45 - Single Bedroom 1	15

Appendix E – Communal Corridors

WEATHER FILE: DSY 1

Room Name	Air temperature (°C) - hours in range
	> 28.00
01 - Corridor N	46
01 - Corridor S	30
02 - Corridor N	50
02 - Corridor S	33
03 - Corridor N	32
03 - Corridor S	25
04 - Corridor N	21
04 - Corridor S	15

Appendix F – Ventilation Strategy

Number of rooms that pass	Flow rate
79	Part F flow rates
8	2 ach
10	2.5 ach
2	3 ach
1	3.5 ach
23	Cooling

Space Name	Flow Rate (ac/hr)	Flow Rate (l/s)	Floor Area (m ²)
00_Unit 01 - Double Bedroom 1	1.35	18.00	12.96
00_Unit 01 - Kitchen/Living 2B3P	1.36	49.00	35.09
00_Unit 01 - Single Bedroom 1	1.35	13.00	9.38
00_Unit 02 - Double Bedroom 1	2.50	50.35	19.64
00_Unit 02 - Kitchen/Living 1B2P	0.54	20.00	36.19
00_Unit 03 - Double Bedroom 1	2.50	46.12	17.98
00_Unit 03 - Kitchen/Living 1B2P	0.47	20.00	41.09
00_Unit 04 - Double Bedroom 1	3.00	55.41	18.01
00_Unit 04 - Kitchen/Living 1B2P	0.48	20.00	40.96
00_Unit 05 - Double Bedroom 1	2.50	42.82	16.61
00_Unit 05 - Kitchen/Living 1B2P	0.49	20.00	39.86
01_Unit 06 - Double Bedroom 1	0.48	6.25	16.62
01_Unit 06 - Double Bedroom 2	0.41	5.00	15.57
01_Unit 06 - Kitchen/Living 3B5P	0.49	21.25	55.81
01_Unit 06 - Single Bedroom 1	0.48	4.50	12.04
01_Unit 07 - Double Bedroom 1	0.87	11.00	16.26
01_Unit 07 - Kitchen/Living 1B2P	0.97	18.00	24.01
01_Unit 08 - Double Bedroom 1	2.00	26.30	16.95
01_Unit 08 - Kitchen/Living 1B2P	1.01	18.00	22.98
01_Unit 09 - Double Bedroom 1	1.32	18.00	17.56
01_Unit 09 - Double Bedroom 2	1.34	14.00	13.49
01_Unit 09 - Kitchen/Living 3B5P	1.30	37.00	36.68
01_Unit 09 - Single Bedroom 1	1.32	11.00	10.72
01_Unit 10 - Double Bedroom 1	3.50	38.55	14.11
01_Unit 10 - Kitchen/Living 1B2P	0.96	18.00	24.14
01_Unit 11 - Double Bedroom 1	3.00	33.23	14.29
01_Unit 11 - Kitchen/Living 1B2P	0.96	18.00	24.07
01_Unit 12 - Double Bedroom 1	0.65	6.50	12.95
01_Unit 12 - Kitchen/Living 2B3P	0.66	17.50	34.35
01_Unit 12 - Single Bedroom 1	0.67	5.00	9.64
01_Unit 13 - Double Bedroom 1	0.62	6.50	13.52
01_Unit 13 - Kitchen/Living 2B3P	0.66	17.50	34.34
01_Unit 13 - Single Bedroom 1	0.66	5.00	9.79
01_Unit 14 - Double Bedroom 1	2.50	29.82	15.38
01_Unit 14 - Kitchen/Living 1B2P	0.94	18.00	24.69

01_Unit 15 - Double Bedroom 1	0.50	6.50	16.76
01_Unit 15 - Kitchen/Living 2B3P	0.75	17.50	30.03
01_Unit 15 - Single Bedroom 1	0.69	5.00	9.31
01_Unit 16 - Double Bedroom 1	2.00	19.40	12.50
01_Unit 16 - Kitchen/Living 2B3P	0.79	17.50	28.56
01_Unit 16 - Single Bedroom 1	0.77	5.00	8.42
01_Unit 17 - Double Bedroom 1	1.08	15.50	18.55
01_Unit 17 - Double Bedroom 2	1.10	14.50	16.95
01_Unit 17 - Kitchen/Living 3B5P	1.09	37.50	44.24
01_Unit 17 - Single Bedroom 1	1.08	12.50	14.92
02_Unit 18 - Double Bedroom 1	0.41	6.25	17.86
02_Unit 18 - Double Bedroom 2	0.34	5.00	16.99
02_Unit 18 - Kitchen/Living 3B5P	0.42	21.25	58.97
02_Unit 18 - Single Bedroom 1	0.44	4.50	12.04
02_Unit 19 - Double Bedroom 1	0.79	11.00	16.26
02_Unit 19 - Kitchen/Living 1B2P	0.87	18.00	24.01
02_Unit 20 - Double Bedroom 1	2.00	29.12	16.95
02_Unit 20 - Kitchen/Living 1B2P	0.91	18.00	22.98
02_Unit 21 - Double Bedroom 1	1.19	18.00	17.56
02_Unit 21 - Double Bedroom 2	1.21	14.00	13.49
02_Unit 21 - Kitchen/Living 3B5P	1.17	37.00	36.68
02_Unit 21 - Single Bedroom 1	1.19	11.00	10.72
02_Unit 22 - Double Bedroom 1	2.50	30.48	14.11
02_Unit 22 - Kitchen/Living 1B2P	0.87	18.00	24.14
02_Unit 23 - Double Bedroom 1	0.48	6.25	15.34
02_Unit 23 - Double Bedroom 2	0.47	5.00	12.56
02_Unit 23 - Kitchen/Living 3B5P	0.47	21.25	52.90
02_Unit 23 - Single Bedroom 1	0.47	4.50	11.05
02_Unit 24 - Double Bedroom 1	0.52	6.25	14.23
02_Unit 24 - Double Bedroom 2	0.46	5.00	12.92
02_Unit 24 - Kitchen/Living 3B5P	0.52	21.25	48.22
02_Unit 24 - Single Bedroom 1	0.56	4.50	9.42
02_Unit 25 - Double Bedroom 1	2.00	26.41	15.37
02_Unit 25 - Kitchen/Living 1B2P	0.85	18.00	24.69
02_Unit 26 - Double Bedroom 1	0.46	6.50	16.76
02_Unit 26 - Kitchen/Living 2B3P	0.68	17.50	30.03
02_Unit 26 - Single Bedroom 1	0.63	5.00	9.31
02_Unit 27 - Double Bedroom 1	0.61	6.50	12.50
02_Unit 27 - Kitchen/Living 2B3P	0.72	17.50	28.56
02_Unit 27 - Single Bedroom 1	0.69	5.00	8.42
02_Unit 28 - Double Bedroom 1	2.00	26.41	15.37
02_Unit 28 - Kitchen/Living 1B2P	0.83	18.00	25.20
02_Unit 29 - Double Bedroom 1	0.53	6.50	14.39
02_Unit 29 - Kitchen/Living 2B3P	0.52	17.50	39.90
02_Unit 29 - Single Bedroom 1	0.64	5.00	9.14
03_Unit 30 - Double Bedroom 1	0.41	6.25	17.86
03_Unit 30 - Double Bedroom 2	0.35	5.00	16.99

03_Unit 30 - Kitchen/Living 3B5P	0.42	21.25	58.97
03_Unit 30 - Single Bedroom 1	0.44	4.50	12.04
03_Unit 31 - Double Bedroom 1	1.50	20.95	16.26
03_Unit 31 - Kitchen/Living 1B2P	0.87	18.00	24.01
03_Unit 32 - Double Bedroom 1	2.00	29.12	16.95
03_Unit 32 - Kitchen/Living 1B2P	0.91	18.00	22.98
03_Unit 33 - Double Bedroom 1	1.19	18.00	17.56
03_Unit 33 - Double Bedroom 2	1.21	14.00	13.49
03_Unit 33 - Kitchen/Living 3B5P	1.17	37.00	36.68
03_Unit 33 - Single Bedroom 1	1.19	11.00	10.72
03_Unit 34 - Double Bedroom 1	2.50	30.48	14.11
03_Unit 34 - Kitchen/Living 1B2P	0.87	18.00	24.14
03_Unit 35 - Double Bedroom 1	2.00	24.45	14.23
03_Unit 35 - Kitchen/Living 1B2P	0.86	18.00	24.27
03_Unit 36 - Double Bedroom 1	2.00	26.58	15.53
03_Unit 36 - Kitchen/Living 1B2P	0.85	18.00	24.69
03_Unit 37 - Double Bedroom 1	0.55	6.25	13.35
03_Unit 37 - Double Bedroom 2	0.46	5.00	12.68
03_Unit 37 - Kitchen/Living 3B5P	0.60	21.25	41.48
03_Unit 37 - Single Bedroom 1	0.52	4.50	10.29
03_Unit 38 - Double Bedroom 1	2.50	33.28	15.56
03_Unit 38 - Kitchen/Living 1B2P	0.83	18.00	25.20
04_Unit 39 - Double Bedroom 1	0.80	11.00	16.26
04_Unit 39 - Kitchen/Living 1B2P	0.87	18.00	24.27
04_Unit 40 - Double Bedroom 1	2.50	35.99	16.95
04_Unit 40 - Kitchen/Living 1B2P	0.92	18.00	22.98
04_Unit 41 - Double Bedroom 1	1.21	18.00	17.56
04_Unit 41 - Double Bedroom 2	1.22	14.00	13.49
04_Unit 41 - Kitchen/Living 3B5P	1.19	37.00	36.68
04_Unit 41 - Single Bedroom 1	1.21	11.00	10.72
04_Unit 42 - Double Bedroom 1	2.50	30.16	14.11
04_Unit 42 - Kitchen/Living 1B2P	0.88	18.00	24.14
04_Unit 43 - Double Bedroom 1	0.49	6.50	15.59
04_Unit 43 - Kitchen/Living 2B3P	0.63	17.50	32.52
04_Unit 43 - Single Bedroom 1	0.59	5.00	10.02
04_Unit 44 - Double Bedroom 1	0.58	6.50	13.25
04_Unit 44 - Kitchen/Living 2B3P	0.63	17.50	32.70
04_Unit 44 - Single Bedroom 1	0.64	5.00	9.23
04_Unit 45 - Double Bedroom 1	0.58	6.50	13.27
04_Unit 45 - Kitchen/Living 2B3P	0.62	17.50	33.26
04_Unit 45 - Single Bedroom 1	0.64	5.00	9.23