



Crest Nicholson Operations Limited

LAND WEST OF GATESMEAD

Overheating Assessment

Revision A

Independent, multidisciplinary engineering
and environmental consultants

LAND WEST OF GATESMEAD

Overheating Assessment

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EXECUTIVE SUMMARY

Create Consulting Engineers Ltd has been appointed to provide an overheating analysis in support of the full planning application for the proposed development located at Land West of Gatesmead.

IES VE (Integrated Environmental Solutions Virtual Environment), a dynamic thermal modelling software tool, has been used to predict the temperatures of the living spaces inside the scheme.

The overheating risk assessment has been undertaken in accordance with Greater London Authority (GLA) requirements and the relevant guidance documents. The analysis follows CIBSE TM49: Design Summer Years for London (2014), as stipulated by the GLA, CIBSE TM52: The Limits of Thermal Comfort – Avoiding Overheating in European Buildings (2013), and CIBSE TM59: Design methodology for the assessment of overheating risk in homes. The assessment also considers the requirements of Approved Document O (Part O) of the Building Regulations.

Thermal comfort standards utilise a model that provides a means of predicting whether humans in a mechanically conditioned space will be satisfied with the thermal environment based on six core parameters: air temperature, humidity, air movement, mean radiant temperature of surrounding surfaces, metabolic rate and clothing insulation. For naturally conditioned buildings, the adaptive thermal comfort model correlates human comfort directly with indoor operative temperature and outdoor temperature. Achieving thermal comfort also requires some level of control over the thermal comfort parameters in any given environment.

The overheating risk assessments have been carried out using TM59 with the latest DSY weather files. Passing the overheating criteria for the 2020s, high emissions, 50th percentile scenario is necessary using the most suitable DSY1 file for the site location. While other files like DSY2 and DSY3, which represent more extreme conditions, can be used to test designs further, passing against these files is not mandatory for TM59.

The overheating modelling results for the proposed development, along with the overheating mitigation strategies outlined in the table below, demonstrate that the proposed measures achieve compliance with the DSY1 weather data file.

Key Measure	Mitigation Strategy
Orientation	<i>Strategy 1:</i> The orientation of the development is constrained by site boundaries; however, the facades have been optimized to balance thermal control and access to daylight, both internally and externally.
Thermal Mass	<i>Strategy 1:</i> Thermal mass has been incorporated into the building design, with calculations performed using IES VE software, considering the properties of the materials and construction elements.
Solar Control Glazing	<i>Strategy 1:</i> Low g-value of 0.40
Solar control through insulation	<i>Strategy 1:</i> Proper insulation to regulate indoor temperatures and reduce heat gain
External Shading	<i>Strategy 1:</i> 250mm deep window reveal and Local shading from adjacent buildings

Key Measure	Mitigation Strategy
Natural Ventilation	<i>Strategy 1:</i> The use of windows for natural ventilation may be limited due to external noise constraints. However, occupants still have the option to open windows as needed during warm weather conditions to maintain thermal comfort.
Shading Device	<i>Strategy 2:</i> Internal blinds to limit solar gains
Mechanical Ventilation	<i>Strategy 3:</i> All dwellings to be equipped with active ventilation systems using Mechanical Ventilation with Heat Recovery (MVHR) featuring a summer bypass mode.

A summary of the overheating results for the residential development is presented in the table below.

Weather File	CIBSE TM59 Criterion	Total Rooms Assessed	Pass	Fail
DSY1_2020H50	Criterion (a) <i>$\Delta T \geq 1K$ should not exceed 3% of occupied hours (May–September)</i>	133	133	00
	Criterion (b) <i>Bedroom operative temperature should not exceed 26°C for more than 1% of annual hours</i>	79	79	00

The assessment concludes that, while passive measures have been incorporated into the model wherever feasible, such as natural ventilation, low g-value glazing, window recesses, and external shading, these strategies alone may not ensure optimal thermal comfort in all dwellings. Therefore, MVHR with a summer bypass mode is proposed as an additional measure to mitigate overheating risks effectively. All dwellings comply with the current weather scenario (DSY1_2020H50) and demonstrate resilience under future extreme weather conditions (DSY2 and DSY3), indicating strong climate change adaptation.

This overheating mitigation strategy is consistent with Policy DP39 of the Mid Sussex Local Plan.

1.0 INTRODUCTION

- 1.1 Create Consulting Engineers Ltd has been commissioned by Crest Nicholson Operations Limited to carry out an overheating analysis in support of a full planning application for the proposed development at Land West of Gatesmead. The local planning authority is Mid Sussex District Council.
- 1.2 The proposed development involves the construction of up to 49 new homes, along with associated open space and infrastructure.
- 1.3 This report demonstrates how temperatures will reach inside the building were predicted using dynamic simulation modelling and whether these results comply with guidance contained in the Approved document Part O, TM49, TM52, and TM59.
- 1.4 The report will demonstrate compliance with CIBSE TM59 guidance, which aims to reduce the risk of overheating in homes.

Planning Policy

- 1.5 Several national and regional planning policies address the issue of overheating in buildings. The following policies outline key requirements to ensure developments are designed to minimise overheating risk and promote occupant comfort.

National Design Guide – Policy H1

- 1.6 The National Design Guide, Policy H1 (Paragraph 125) states:

“Well-designed homes and buildings are efficient and cost effective to run. They help to reduce greenhouse gas emissions by incorporating features that encourage sustainable lifestyles. They have good ventilation, avoid overheating, minimise sound pollution and have good air quality, while providing comfort and personal control for their users.”
- 1.7 This policy emphasises the importance of integrating design measures that reduce the likelihood of overheating while ensuring good indoor air quality and occupant wellbeing.

Approved Document Part O – Overheating

- 1.8 Approved Document Part O aims:

“To protect the health and welfare of occupants of the building by reducing the occurrence of high indoor temperatures.”
- 1.9 To meet this objective, Part O requires that the overheating risk is assessed through dynamic thermal modelling in accordance with the guidance and performance targets set out in the Chartered Institution of Building Services Engineers (CIBSE) Technical Memorandum 52 (TM52).

2.0 MODEL INFORMATION

Dynamic Thermal Analysis Software

- 2.1 The thermal model was produced using IES VE version 2024, a full dynamic simulation modelling software capable of performing simulations for large and complex buildings. IES VE can produce accurate predictions of internal temperatures to allow designers to make decisions on cooling and ventilation strategies.

Site Location and Description

- 2.2 The proposed development lies within the jurisdiction of Mid Sussex District Council (MSDC). The Site lies along the A272, which links to both the A22 and A23, which provide good connectivity to local towns and cities, as well as to the M23 and on to the M25 in the north. Crawley and the nearby Gatwick Airport lie to the north-west.
- 2.3 The site comprises approximately 4.5 hectares (ha) of grassland surrounded by vegetation to the north of Old Wickham Lane, a designated Public Right of Way (PRoW). It is generally surrounded by residential areas, including the Gates Mead development to the north-east, from which vehicular access will be taken. Haywards Heath Golf Course lies to the north of the site.

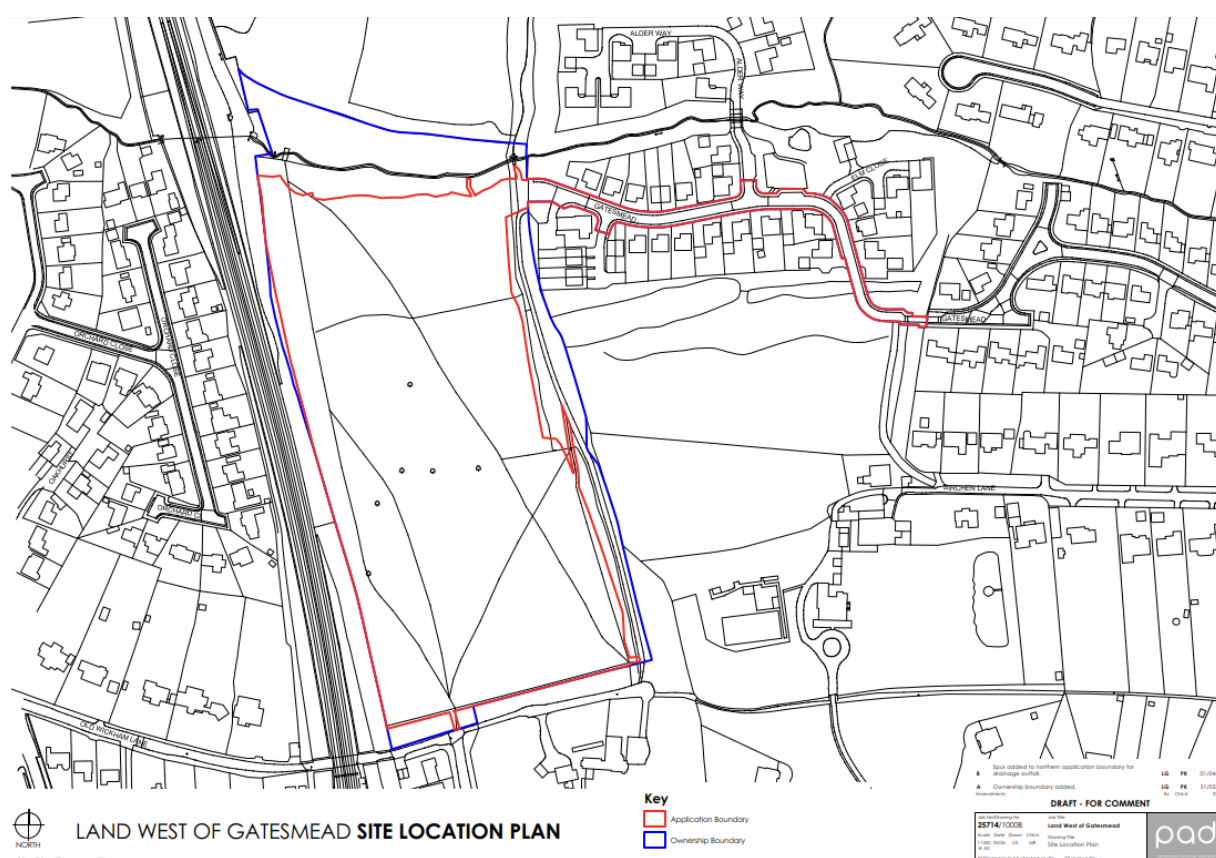


Figure 2.1: Site red line boundary (Source: pad Design Ltd)

- 2.4 The proposed development will comprise the construction of 49 new homes, together with open space and associated infrastructure. The proposed housing mix complies with the requirements set out in draft Policy DPH7 of the Emerging Mid Sussex District Local Plan (2021–2039). Details of the

housing mix percentages specified in Policy DPH7 are provided in Table 2.1. The layout and distribution of dwellings across the site are illustrated in Figure 2.2: Proposed Site Masterplan.



Figure 2.2: Proposed Site Masterplan (Source: pad Design Ltd)

Category	Units
Open Market	34
Affordable – Shared Ownership	4
Affordable – Social/Affordable Rented	11
Grand Total	49

Table 2.1: Housing mix

2.5 This report details information gathered from consultation with the design team.

Unit Sampling and Layouts

2.6 A targeted sample of occupied spaces was selected for this study. This sample includes spaces identified as being at the highest risk of overheating. The risk analysis for these spaces was based on the following criteria:

- Those with large glazing areas
- Those on the topmost floor
- Those having less shading
- Those having large, sun-facing windows
- Those having a single aspect
- Those with limited opening windows

2.7 Based on the assessment criteria outlined above, all residential dwellings located on the western side, which are subject to potential noise constraints, have been included within the scope of this assessment.

2.8 The software generated images of the site, below, show the location of the selected, assessed spaces within the development.

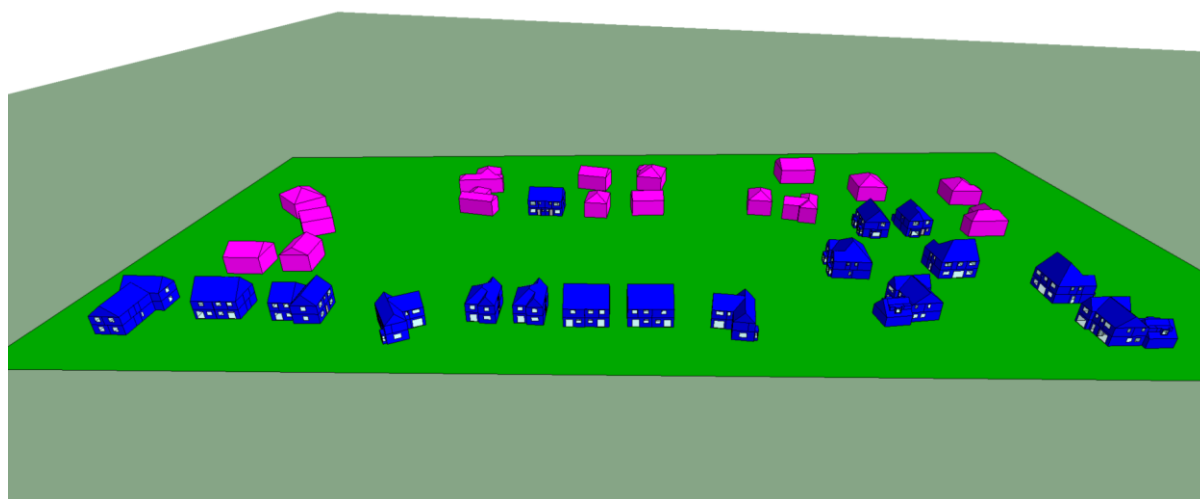


Figure 2.3: IES VE generated model, west view (blue areas represent modelled spaces)

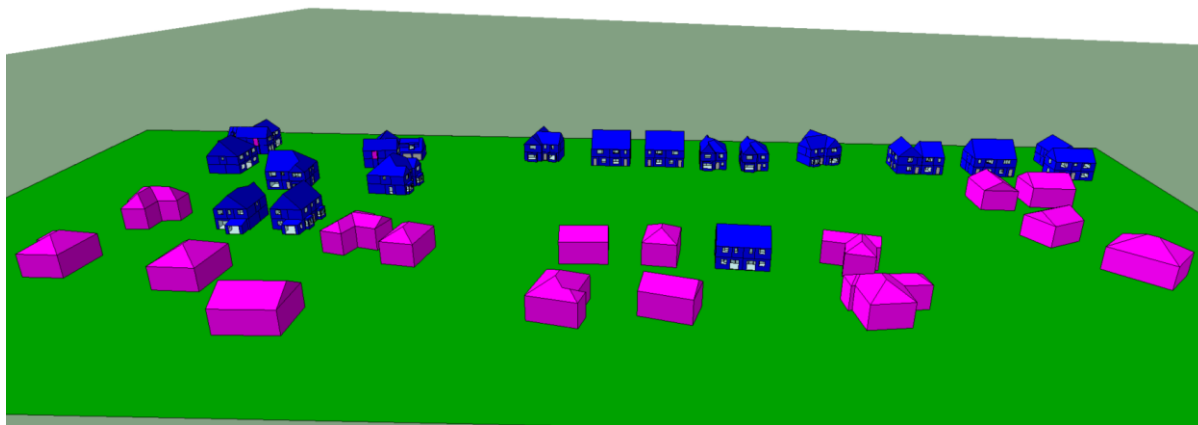


Figure 2.4: IES VE generated model, east view (blue areas represent modelled spaces)

Approved Document O: Overheating Mitigation

- 2.9 The overheating assessment has been carried out in accordance with Approved Document O and follows the methodology set out in CIBSE TM59: Design methodology for the assessment of overheating risk in homes, the industry standard for dynamic thermal modelling.
- 2.10 The analysis uses standard assumptions for occupancy, internal heat gains, and ventilation to ensure consistency with industry practice. Compliance has been assessed using the DSY1 2020 high-emissions scenario, which represents the minimum requirement for evaluating overheating risk.
- 2.11 For completeness, additional modelling using DSY2 and DSY3 weather files has been undertaken to understand performance under more extreme summer conditions; compliance against these weather scenarios is not mandatory. This approach supports a robust assessment of overheating risk and demonstrates compliance with Part O requirements.

CIBSE TM59: Overheating Criteria

- 2.12 In accordance with CIBSE TM59, all domestic spaces, including kitchens, living rooms, bedrooms, bathrooms, and halls, should be included in the assessment, although bathrooms and halls are not required to meet compliance criteria.
- 2.13 The criteria for TM59, for naturally ventilated dwellings, are as follows:
- *“For living rooms, kitchens and bedrooms: the number of hours during which ΔT is greater than or equal to one degree (K) during the period May to September inclusive shall not be more than 3% of occupied hours.” This is CIBSE TM52 Criterion 1”.*
 - *“For bedrooms only: The operative temperature in the bedroom from 22:00 – 07:00 shall not exceed 26°C for more than 1% of annual hours” (i.e., 33 hours and over is a failure)”.*
- 2.14 TM59 also requires that where an operative temperature of 28°C occurs within a corridor for more than 3% of total annual hours, this should be flagged as a significant risk. If any such occurrences exist, these will be flagged in Section 3 of this report.
- 2.15 Corridors are defined as any public areas from which bedrooms are accessed.

2.16 The non-domestic spaces within the development will be assessed against TM52. TM52 has three criteria, two of which must be passed to reach compliance:

- Criterion 1: Hours of Exceedance
 - The number of hours during which ΔT is greater than or equal to one degree (K) during the period May to September inclusive shall not be more than 3% of occupied hours.
- Criterion 2: Daily Weighted Exceedance
 - The weighted exceedance shall be less than or equal to 6 in any one day. This criteria deals with the severity of overheating within any one day and is a function of both magnitude and duration.
- Criterion 3: Upper Limit Temperature
 - The value of ΔT shall not exceed 4K. This criteria sets an absolute limit for the indoor operative temperature.

2.17 CIBSE TM59 overheating criteria for predominantly mechanically ventilated habitable rooms with restricted window openings due to noise constraints:

- *"For homes with restricted window openings, the CIBSE fixed temperature test must be followed, i.e. all occupied rooms should not exceed an operative temperature of 26 °C for more than 3% of the annual occupied hours."*

Construction Elements and Thermal Mass

2.18 All construction elements/materials in the model have been created according to information agreed with the client and the design team. The following U-Values and design parameters have been used:

Building Element/Characteristic	U- values
External Wall - U value (W/m ² K)	0.16
Ground/Exposed upper floor	0.10
Flat Roof - U value (W/m ² K)	0.10
	1.10
Windows - U value (W/m ² K)	g- 0.40
Doors - U value (W/m ² K)	1.10

Table 2.2: Construction Element Information

2.19 Thermal mass calculations have also been included in the model as they are automatically calculated by IES VE. The thermal mass is incorporated into the construction on the basis of the elements/materials information calculated by IES VE.

Ventilation Strategy

2.20 It is proposed that all residential units will be equipped with operable windows to support natural ventilation, allowing occupants to open them as needed.

2.21 According to TM59 requirements, internal doors of bedrooms are assumed to be left open during the daytime and closed at night. Living rooms are proposed to remain open both day and night to enhance air movement and reduce the risks of overheating.

- 2.22 It is proposed that mechanical ventilation be provided to support natural ventilation for all residential units. All residential units in the development will have operable windows.
- 2.23 Occupancy profiles prescribed by TM59 assume that dwellings are occupied at 75% throughout the day. All residential units in the proposed development will be fitted with operable windows. The Noise Assessment Report (Ref: 23230-1-R1) prepared for the proposed scheme confirms that dwellings located on the western side are expected to experience elevated noise levels during the night. As a result, windows in these dwellings are restricted from opening overnight.
- 2.24 Accordingly, for thermal modelling purposes, west-facing façade windows in these units have been assumed to be open during the daytime to facilitate natural ventilation and closed during nighttime hours in response to the identified noise constraints.
- 2.25 Dwellings situated further away from the affected area are not subject to the same limitations and have therefore been modelled with windows open during both daytime and overnight periods.
- 2.26 It is noted that Approved Document Part O of Building Regulations does not specify noise limits for daytime periods. Therefore, it is deemed acceptable for occupants to open windows during the day to facilitate purge ventilation in warmer conditions. To mitigate noise impacts, occupants may choose to keep windows closed during nighttime hours.
- 2.27 Details of the window opening assumptions and infiltration rates are assumed to be found in Appendices A and B.

Plans and Elevations

- 2.28 All plans and elevations have been taken from files received from Crest Nicholson Operations Limited in March 2026, and the masterplan layout has been taken from drawings issued by PAD Design Ltd dated May 2026.

Weather Files and Thermal Comfort Category

- 2.29 As the development is situated within an urban context, the London Heathrow weather file has been adopted for the overheating analysis, as it provides the most representative climatic conditions for the site.
- 2.30 In accordance with the TM49, the following files have been used:
- DSY 1 for 2020s, high emissions, 50% percentile scenario
 - DSY 2 –1989 London Heathrow Airport (Lower density urban and suburban areas)
 - DSY 3 –2003 London Heathrow Airport (Lower density urban and suburban areas)
- 2.31 The thermal comfort category defined for this project is: Category II, as defined by TM52, Table 2.2.

Occupancy and Gain Profiles

- 2.32 All occupancy and gain profiles for domestic spaces have been modelled according to TM59.
- 2.33 The TM59 prescribed weekly profiles for occupancy, heating, and internal gains have been used.

- 2.34 The temperature setpoints, activity metabolic levels, and clothing levels of the occupied spaces in the hospital have been estimated based on CIBSE Guide A; Table 1.5 "Recommended Comfort Criteria for Specific Applications".

Exposure Type

- 2.35 The model has been set up to 'semi-exposed wall' type for the purposes of determining wind pressure coefficient as per IES VE guidance.

Modelling Assumptions

- 2.36 To complete the modelling and to achieve robust and meaningful results, certain assumptions had to be made. These, along with the information detailed in section 2, form the basis of the overheating analysis carried out for the development.
- Adjacent buildings were modelled to create shading.
 - Windows/Doors opening profiles for the habitable rooms are as per Appendix B.

3.0 RESULTS OF THE ASSESSMENT

Residential – CIBSE TM59 Compliance

- 3.1 The TM59 methodology necessitates that units meet the overheating criteria using the DSY1 weather file. While other files, including the more extreme DSY2 and DSY3 files, can be utilized to further assess designs, achieving a pass against these alternative weather files is not obligatory for TM59 compliance.

Overheating Risk Mitigation Strategy 1:

- 3.2 The proposed development has been assessed to evaluate its potential risk of overheating by modelling all typical dwellings within the scheme. Dwellings located on the western façade, where potential noise constraints have been identified, were assessed under conditions that allow for natural ventilation through openable windows during daytime hours only. Windows in these dwellings were assumed to remain closed during nighttime periods due to elevated external noise levels.
- 3.3 Dwellings situated away from the affected western façade are not subject to the same noise constraints and were therefore modelled with windows open for natural ventilation during both daytime and nighttime periods.
- 3.4 Passive design measures incorporated into the development include:
- Natural ventilation through operable windows,
 - Cross ventilation through internal doors,
 - Glazing with a low solar g-value of 0.4,
 - 250mm deep window reveal to provide external shading, and
 - Localised shading provided by adjacent buildings, which were modelled to reflect their shading effect.
- 3.5 A summary of the overheating assessment results for Mitigation Strategy 1 is presented in Table 3.1, with detailed results provided in Appendix C.

Weather File	CIBSE TM59 Criterion	Total Rooms Assessed	Pass	Fail
DSY1_2020H50	Criterion (a) <i>$\Delta T \geq 1K$ should not exceed 3% of occupied hours (May–September)</i>	133 (Kitchens, Living Rooms, and Bedrooms)	84	49
	Criterion (b) <i>Bedroom operative temperature should not exceed 26°C for more than 1% of annual hours</i>	79 (Bedrooms)	09	70

Table 3.1: Overheating Assessment Results – Mitigation Strategy 1

- 3.6 As mentioned in Section 2.13 above, for domestic kitchens, living rooms, and bedrooms to comply, they are only required to meet TM52 Criterion 1.

- 3.7 During the analysis, it was observed that most of the occupied spaces failed the overheating check due to high internal heat gains and solar gains, as indicated in the graph below from IES.

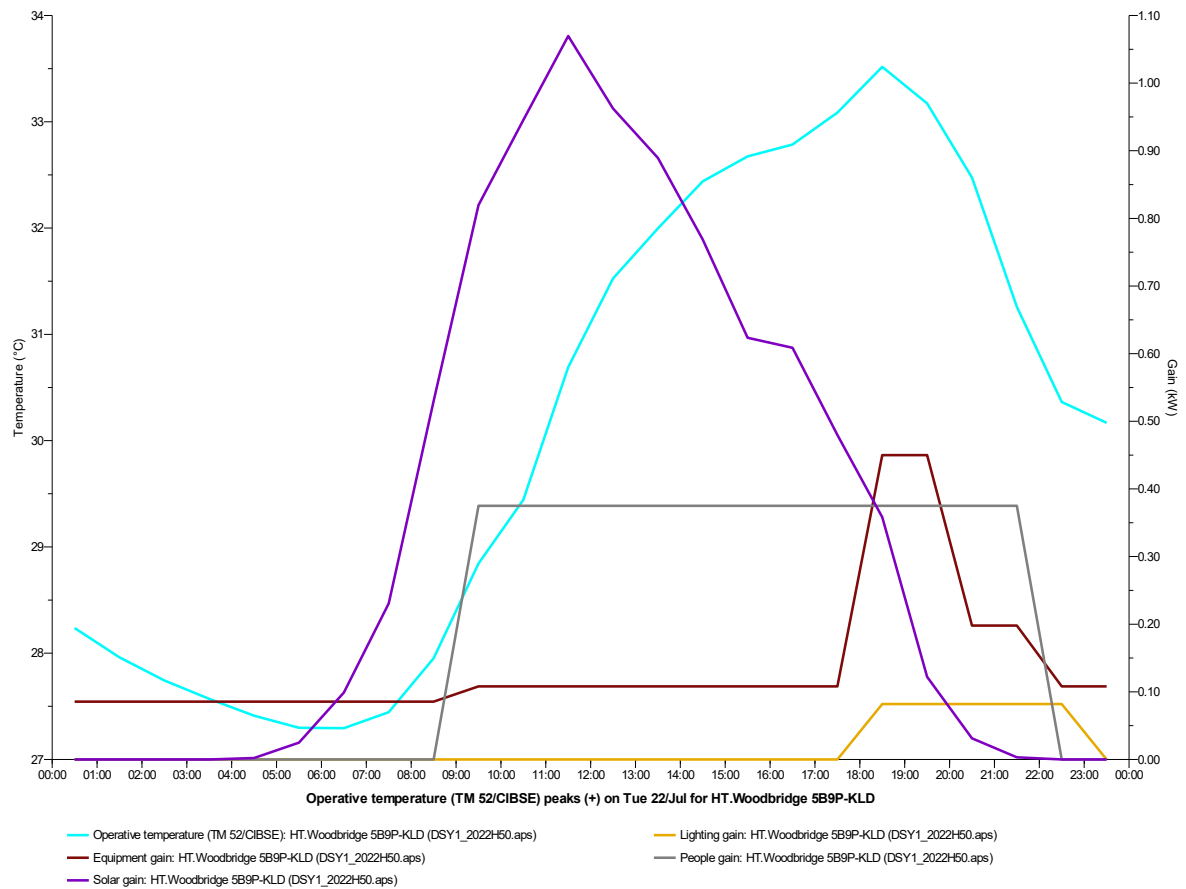


Figure 3.1: Peak Day Internal Gains- Plot 26-HT. Woodbridge- Kitchen Living Dining (DSY1_2020H50)

Overheating Risk Mitigation Strategy 2:

- 3.8 Due to the high solar gains observed in Mitigation Strategy 1, most of the habitable rooms failed the overheating criteria. As an additional passive measure, internal blinds have been considered to reduce the impact of solar gains.
- 3.9 Table 3.2 below presents the results for Mitigation Strategy 2, which includes the use of internal blinds.

Weather File	CIBSE TM59 Criterion	Total Rooms Assessed	Pass	Fail
DSY1_2020H50	Criterion (a) $\Delta T \geq 1K$ should not exceed 3% of occupied hours (May–September)	133	109	24
	Criterion (b) Bedroom operative temperature should not exceed 26°C for more than 1% of annual hours	79	12	67

Table 3.2: Overheating Assessment Results – Mitigation Strategy 2

- 3.10 The overheating assessment demonstrates that, with the implementation of passive design measures—including natural ventilation via operable windows, cross ventilation, low g-value glazing ($g = 0.4$), local shading from adjacent buildings, and the use of internal blinds, 111 out of 136 habitable rooms comply with Criterion (a). However, 70 out of 82 bedrooms fail to meet the requirements of Criterion (b). Detailed results are provided in Appendix D.
- 3.11 Given that full compliance with the overheating criteria cannot be achieved through passive measures alone, it is unlikely that the design will meet the requirements without additional intervention. Therefore, active measures, such as the implementation of MVHR, will be considered in the next stage of the mitigation strategy.
- 3.12 The use of internal blinds can help limit solar gains; however, to comply with Part O of the Building Regulations, they are excluded from Mitigation Strategy 3.

Overheating Risk Mitigation Strategy 3:

- 3.13 It can be noted that, following the implementation of Overheating Risk Mitigation Strategy 2, the majority of rooms do not comply with the overheating assessment criteria. With the use of passive measures alone, it is unlikely that all habitable spaces will achieve satisfactory level of thermal comfort. To ensure that all habitable rooms within the proposed development maintain comfortable internal temperatures, the revised mitigation strategy incorporates the use of MVHR systems. These systems will provide adequate night-time ventilation in situations where windows must remain closed due to external noise constraints and will also help reduce the risk of overheating during extreme weather conditions.
- 3.14 It is proposed that all habitable spaces will be equipped with MVHR units featuring a summer bypass mode. The summer bypass is designed to operate when internal temperatures exceed a predefined setpoint (typically around 25–26°C), and the external air temperature is lower than the internal temperature. In this mode, the heat recovery process is bypassed, allowing cooler external air to be supplied directly to the dwelling. This assists in reducing internal temperatures and contributes to the mitigation of overheating risk during warmer periods.
- 3.15 The MEP design team has proposed the installation of Vent-Axia Lo-Carbon Sentinel Kinetic Plus B units in all dwellings. These MVHR systems are capable of delivering a maximum ventilation rate of 200 L/s, ensuring sufficient airflow to meet the ventilation requirements of all habitable spaces while maintaining energy efficiency.
- 3.16 Table 3.3 presents the results of the overheating assessment following the implementation of the proposed mitigation strategy. The strategy combines natural ventilation during the daytime, facilitated through operable windows based on temperature variation profiles from ADO, with night-time mechanical ventilation using MVHR units in summer bypass mode.

Weather File	CIBSE TM59 Criterion	Total Rooms Assessed	Pass	Fail
DSY1_2020H50	Criterion (a) <i>$\Delta T \geq 1K$ should not exceed 3% of occupied hours (May–September)</i>	133 (Kitchens, Living Rooms, and Bedrooms)	133	00
	Criterion (b) <i>Bedroom operative temperature should not exceed 26°C for more than 1% of annual hours</i>	79 (Bedrooms)	79	00

Table 3.3: Overheating Assessment Results – Mitigation Strategy 3

- 3.17 The overheating assessment confirms that, with the integration of passive design measures, including natural ventilation through operable windows, cross ventilation, low g-value glazing ($g = 0.4$), window recesses, internal blinds and local shading from adjacent buildings (modelled to account for their shading effects), combined with active measures such as MVHR systems in all habitable rooms, the development achieves full compliance with CIBSE TM59 Criterion (a). Furthermore, all bedrooms meet Criterion (b) under the current weather file conditions. For detailed modelling results and analysis, please refer to Appendix E. This approach thereby meets both CIBSE TM59 and Part O requirements
- 3.18 The overheating modelling results demonstrate that achieving compliance with DSY2 and DSY3, as well as the more extreme weather files, is more challenging. These weather files represent rarer events occurring only every 7.7 and 11.1 years, respectively. A summary of the modelling results for DSY2 and DSY3, representing more extreme and future weather scenarios, is provided in Tables 3.4 to 3.5 for reference only. Detailed modelling results using these extreme and future weather files are presented in Appendices F to G.

Weather File	CIBSE TM59 Criterion	Total Rooms Assessed	Pass	Fail
DSY2	Criterion (a) <i>$\Delta T \geq 1K$ should not exceed 3% of occupied hours (May–September)</i>	133	133	00
	Criterion (b) <i>Bedroom operative temperature should not exceed 26°C for more than 1% of annual hours</i>	79	79	00

Table 3.4: Results DSY2– Proposed Residential development

Weather File	CIBSE TM59 Criterion	Total Rooms Assessed	Pass	Fail
DSY3	Criterion (a) <i>$\Delta T \geq 1K$ should not exceed 3% of occupied hours (May–September)</i>	133	133	00
	Criterion (b) <i>Bedroom operative temperature should not exceed 26°C for more than 1% of annual hours</i>	79	79	00

Table 3.5: Results DSY3– Proposed Residential development

- 3.19 During extreme weather conditions, it is recommended that occupants be educated on heat-reducing measures, such as keeping windows closed during peak heat hours. Cooling devices, like portable fans, should be used to cool the room. Energy-efficient lighting should be chosen to reduce heat emission from artificial sources. The use of heat-generating appliances should be minimised during peak hours.

Summary

- 3.20 The improved building fabric for overheating modelling has been used after discussion with the design team. To reduce the risk of overheating, all the residential units were assigned with lower g-value to meet all overheating criteria according to CIBSE TM59.
- 3.21 A summary of the overheating results for the residential development is presented in the table below.

Weather File	CIBSE TM59 Criterion	Total Rooms Assessed	Pass	Fail
DSY1_2020H50	Criterion (a) <i>$\Delta T \geq 1K$ should not exceed 3% of occupied hours (May–September)</i>	133	133	00
	Criterion (b) <i>Bedroom operative temperature should not exceed 26°C for more than 1% of annual hours</i>	79	79	00

Table 3.6: Overheating Assessment

- 3.22 Compliance with the overheating criteria has been achieved through the incorporation of key design features and measures presented in the table below.

Key Measure	Mitigation Strategy
Orientation	<i>Strategy 1:</i> The orientation of the development is constrained by site boundaries; however, the facades have been optimized to balance thermal control and access to daylight, both internally and externally.
Thermal Mass	<i>Strategy 1:</i> Thermal mass has been incorporated into the building design, with calculations performed using IES VE software, considering the properties of the materials and construction elements.

Key Measure	Mitigation Strategy
Solar Control Glazing	<i>Strategy 1:</i> Low g-value of 0.40
Solar control through insulation	<i>Strategy 1:</i> Proper insulation to regulate indoor temperatures and reduce heat gain
External Shading	<i>Strategy 1:</i> 250mm deep window reveal and Local shading from adjacent buildings
Natural Ventilation	<i>Strategy 1:</i> The use of windows for natural ventilation may be limited due to external noise constraints. However, occupants still have the option to open windows as needed during warm weather conditions to maintain thermal comfort.
Shading Device	<i>Strategy 2:</i> Internal blinds to limit solar gains
Mechanical Ventilation	<i>Strategy 3:</i> All dwellings to be equipped with active ventilation systems using Mechanical Ventilation with Heat Recovery (MVHR) featuring a summer bypass mode.

Table 3.7: Proposed Overheating Mitigation Measures

4.0 COOLING HIERARCHY

- 4.1 The cooling hierarchy has been thoroughly considered to justify the proposal. The strategies mentioned below for the cooling hierarchy are in line with the Local Plan.

Reduction of External Heat Gain

- a. The cooling hierarchy prioritises the reduction of external heat gain, specifically, the amount of heat entering the building during summer. This can be achieved through orientation, shading, light-coloured roofs, fenestration, insulation, green roofs, and green walls. However, due to certain constraints, not all of these measures are feasible.
- Orientation: The dwellings have been carefully oriented to ensure that all spaces receive adequate levels of natural daylight while avoiding excessive solar gains. This balanced approach supports occupant comfort and reduces reliance on artificial lighting without increasing overheating risk.
 - Shading: Shading has been incorporated into both the design and the thermal model as a key passive strategy to reduce solar gains (refer to Sections 3.4 and 3.8 above). This includes features such as adjacent buildings that provide localised shading effects and internal blinds to limit solar gains.
 - Light-coloured Roof: The use of a light-coloured roof is a viable design option and could be implemented to reflect solar radiation and reduce roof surface temperatures.
 - Fenestration: The building design incorporates glazed window openings on all elevations to support daylighting and natural ventilation. Glazing performance has been carefully specified to balance solar control with adequate daylight transmittance.
 - Insulation: High-performance insulation has been specified as part of the building fabric. During summer, insulation acts as a thermal barrier, limiting external heat ingress into internal spaces. The insulation has been selected to strike an effective balance between thermal comfort and energy efficiency.
 - Green Roof, Green Walls and Green landscape features: Although the installation of a green wall and green roof is not feasible, the design incorporates alternative green infrastructure elements that enhance the development's environmental performance and contribute to improved microclimatic conditions. These features include landscaped private gardens and ground-level amenity spaces.

Minimizing Internal Heat Generation

- b. Internal heat generation has been minimized through energy-efficient design. To enhance this further, it is recommended that the pipe network to be insulated to reduce internal heat gain and minimize thermal losses. The proposed development could include energy-efficient lighting, such as LED fixtures controlled by a passive infrared (PIR) system, which automatically switches off lights after 30 minutes of inactivity. These measures contribute significantly to reducing internal heat loads.

Managing Heat Through Thermal Mass, and High Ceilings

- c. Thermal Mass: The dwellings, where possible, will incorporate thermal mass as a passive design strategy, using dense materials such as concrete slab, bricks and masonry walls. These materials absorb and store heat in the daytime and release heat during the night, reducing the indoor temperatures. They help in regulating temperature by slowing heat transfer, keeping the interior warm in winter and cool in summer by storing solar gain and absorbing internal heat. Pairing thermal mass with nighttime natural ventilation, the thermal mass has the potential to flush out stored heat during the night.
- d. Thermal mass has been integrated into the building design, with performance modelled using IES VE software, considering the material and construction properties. Additionally, ceiling heights have been raised to enhance internal air volume and thermal buffering capacity. For some of the dwellings, the average floor-to-ceiling height exceeds the typical 2.4 metres found in most new-build homes in the UK.

Passive Ventilation

- e. Passive ventilation measures have been incorporated into the design wherever feasible. These include operable windows for natural ventilation and cross-ventilation facilitated through internal doors. These features are reflected in the thermal model (refer to Sections 2.20–2.26).

Mechanical Ventilation and Free Cooling

- f. The Mechanical ventilation has been proposed for the dwellings, as passive measures alone are not sufficient to maintain thermal comfort. Sections 3.13–3.15 confirm that all habitable rooms will be provided with MVHR systems with summer bypass mode, ensuring continuous ventilation when windows are kept closed overnight due to high external noise levels.

Avoidance of Active Cooling Systems

- g. No active cooling systems are required for the residential dwellings, as all units within the proposed development comply with overheating criteria under both current and extreme weather conditions.

5.0 DISCLAIMER

- 5.1 Create Consulting Engineers Ltd disclaims any responsibility to the Client, Crest Nicholson Operations Limited and others in respect of any matters outside the scope of this report.
- 5.2 This modelling activity and report has been written based on a number of assumptions which are detailed in the main body of the report and the associated appendices. This data is assumed to be correct at the time of writing, and every effort has been made to ensure this is the case. If, however, any of this data is found to be incorrect, the results and recommendations contained therein may no longer hold true.
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APPENDIX A

Ventilation Rates

Ventilation			
Infiltration rate			
	Space Type/Name:	assumed	
1	New build	0.15	ach

Auxiliary Ventilation			
assumed			
Rate		Variation profile	Space
30	l/s	on continuously	Kitchen Living Dining/Living/Study
10	l/s	on continuously	Bed
10	l/s	on continuously	Single Bed

APPENDIX B

Operable Windows

(elevation drawings and assumptions)

Appendix B- Operable Windows (elevation drawings and assumptions)
Land West of Gateshead

Window Type:

Ref. ID	Description	Exposure Type	Opening	Openable Area %	Max Angle Open °	Proportions	Equivalent Orifice Area (% of Gross)	Crack Flow Co-efficient (l/(s·m·Pa ^{0.6}))	Crack Length (% of Opening Perimeter)	Opening Threshold (°C)	Degree of Opening
XTRN0001	Window Bed (50%)	05. 1:1 semi-exposed wall	Window / door - side hung	50	30	Length/Height < 0.5	29.032	0.15	0	0	ADO.Section_26ab
XTRN0002	Window KLD (50%)	05. 1:1 semi-exposed wall	Window / door - side hung	50	30	Length/Height < 0.5	29.032	0.15	0	0	ADO.Section_26ab
XTRN0003	Window Bed (50%)_Night Closed	05. 1:1 semi-exposed wall	Window / door - side hung	50	30	Length/Height < 0.5	29.032	0.15	0	0	ADO.Section_26a
XTRN0004	Window KLD (50%)_Night Closed	05. 1:1 semi-exposed wall	Window / door - side hung	50	30	Length/Height < 0.5	29.032	0.15	0	0	ADO.Section_26a
XTRN0005	Window KLD (70%)_Night Closed	05. 1:1 semi-exposed wall	Window / door - side hung	50	30	Length/Height < 0.5	29.032	0.15	0	0	ADO.Section_26a
XTRN0006	Window Bed (70%)_Night Closed	05. 1:1 semi-exposed wall	Window / door - side hung	50	30	Length/Height < 0.5	29.032	0.15	0	0	ADO.Section_26a

Appendix B- Operable Windows (elevation drawings and assumptions)

Land West of Gateshead

Ref. ID	Description	Exposure Type	Opening	Openable Area %	Max Angle Open °	Proportions	Equivalent Orifice Area (% of Gross)	Crack Flow Co-efficient (I/(s·m·Pa ^{0.6}))	Crack Length (% of Opening Perimeter)	Opening Threshold (°C)	Degree of Opening
XTRN0007	Window KLD (70%)	05. 1:1 semi-exposed wall	Window/door - side hung	50	30	Length/Height < 0.5	29.032	0.15	0	0	ADO.Section_26ab
XTRN0008	Window Bed (70%)	05. 1:1 semi-exposed wall	Window/door - side hung	50	30	Length/Height < 0.5	29.032	0.15	0	0	ADO.Section_26ab
XTRN0009	Internal Door Bed	05. 1:1 semi-exposed wall	Window/door - side hung	90	90	Length/Height < 0.5	92.903	0.15	0	0	Internal Bedroom Door
XTRN0010	Internal Door KLD	05. 1:1 semi-exposed wall	Window/door - side hung	90	90	Length/Height < 0.5	92.903	0.15	0	0	on continuously
XTRN0011	Window Door Closed	05. 1:1 semi-exposed wall	Window/door - side hung	90	90	Length/Height < 0.5	92.9	0.15	0	0	off continuously

Appendix B- Operable Windows (elevation drawings and assumptions)

Land West of Gateshead

Window Operating Profiles:

Profile Type	Profile Operation
ADO.Section_26ab	2.6 a. When a room is occupied during the day (8am to 11pm), openings modelled to do all the following: i. Start to open when the internal temperature exceeds 22°C. ii. Be fully open when the internal temperature exceeds 26°C. iii. Start to close when the internal temperature falls below 26°C. iv. Be fully closed when the internal temperature falls below 22°C. 2.6 b. At night (11pm to 8am), openings should be modelled as fully open if both of the following apply: i. The opening is on the first floor or above and not easily accessible. ii. The internal temperature exceeds 23°C at 11pm.
ADO.Section_26a	2.6 a. When a room is occupied during the day (8am to 11pm), openings modelled to do all the following: i. Start to open when the internal temperature exceeds 22°C. ii. Be fully open when the internal temperature exceeds 26°C. iii. Start to close when the internal temperature falls below 26°C. iv. Be fully closed when the internal temperature falls below 22°C. v. Window remain closed during the nighttime
Internal Door 07:00–23:00	The following actions are modelled for all internal doors of bedrooms: i. Be fully open during the day (07:00–23:00) ii. Be closed during the night (23:00–07:00)

Appendix B- Operable Windows (elevation drawings and assumptions)
Land West of Gateshead

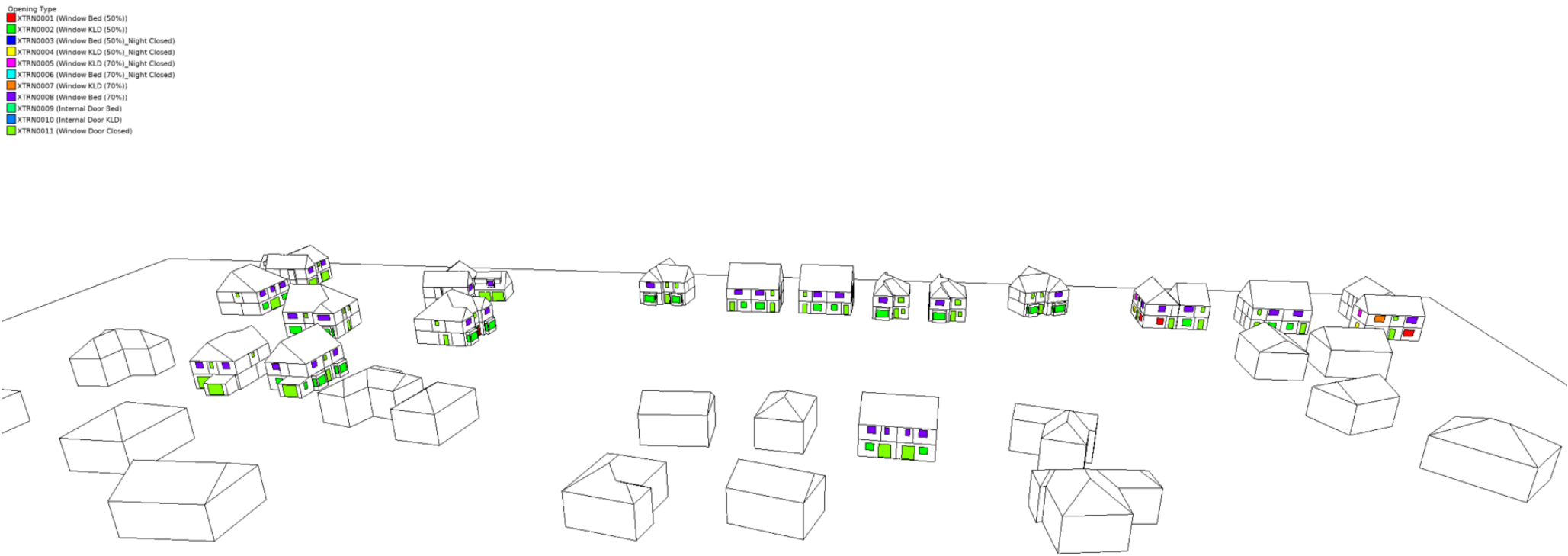


Figure B1: Assigned Window Opening Type on East Elevation

Appendix B- Operable Windows (elevation drawings and assumptions)
Land West of Gateshead

- Opening Type
- XTRN0001 (Window Bed (50%))
 - XTRN0002 (Window KLD (50%))
 - XTRN0003 (Window Bed (50%_Night Closed))
 - XTRN0004 (Window KLD (50%_Night Closed))
 - XTRN0005 (Window KLD (70%_Night Closed))
 - XTRN0006 (Window Bed (70%_Night Closed))
 - XTRN0007 (Window KLD (70%))
 - XTRN0008 (Window Bed (70%))
 - XTRN0009 (Internal Door Bed)
 - XTRN0010 (Internal Door KLD)
 - XTRN0011 (Window Door Closed)



Figure B2: Assigned Window Opening Type on West Elevation

Appendix B- Operable Windows (elevation drawings and assumptions)
Land West of Gateshead

- Opening Type
- XTRN0001 (Window Bed (50%))
 - XTRN0002 (Window KLD (50%))
 - XTRN0003 (Window Bed (50%)_Night Closed)
 - XTRN0004 (Window KLD (50%)_Night Closed)
 - XTRN0005 (Window KLD (70%)_Night Closed)
 - XTRN0006 (Window Bed (70%)_Night Closed)
 - XTRN0007 (Window KLD (70%))
 - XTRN0008 (Window Bed (70%))
 - XTRN0009 (Internal Door Bed)
 - XTRN0010 (Internal Door KLD)
 - XTRN0011 (Window Door Closed)

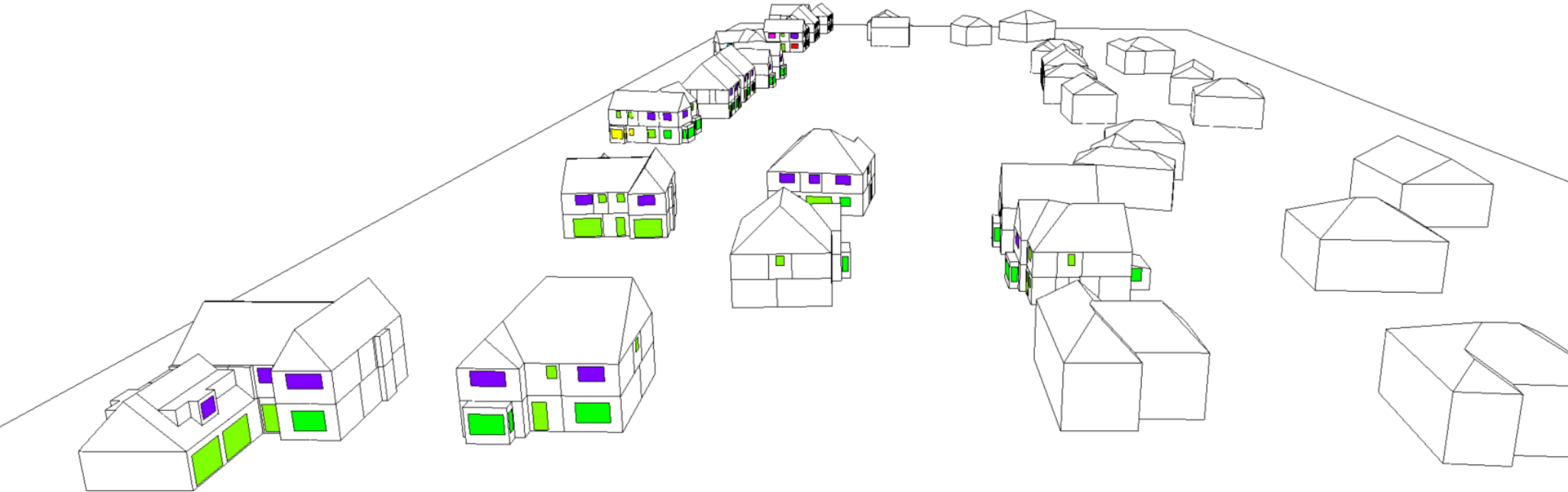


Figure B3: Assigned Window Opening Type on North Elevation

Appendix B- Operable Windows (elevation drawings and assumptions)
Land West of Gateshead

- Opening Type
- XTRN0001 (Window Bed (50%))
 - XTRN0002 (Window KLD (50%))
 - XTRN0003 (Window Bed (50%)_Night Closed)
 - XTRN0004 (Window KLD (50%)_Night Closed)
 - XTRN0005 (Window KLD (70%)_Night Closed)
 - XTRN0006 (Window Bed (70%)_Night Closed)
 - XTRN0007 (Window KLD (70%))
 - XTRN0008 (Window Bed (70%))
 - XTRN0009 (Internal Door Bed)
 - XTRN0010 (Internal Door KLD)
 - XTRN0011 (Window Door Closed)

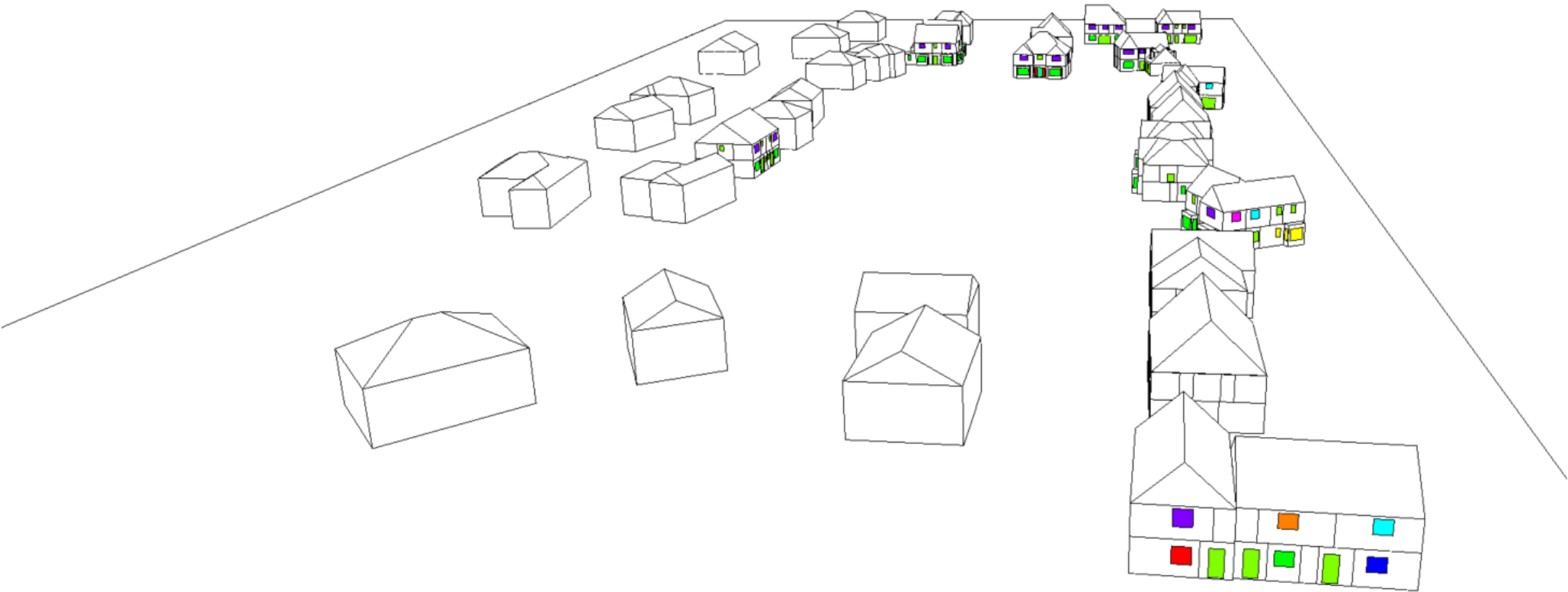


Figure B4: Assigned Window Opening Type on South Elevation

APPENDIX C

CIBSE TM59 Overheating Compliance Check –
Strategy 1 (DSY1_2020H50)

Overall

Passed: 84 rooms:

Failed: 49 rooms:

Unoccupied: 0 rooms:

Data:

Building category: **Category II (new builds.)**

Weather file: **London_LHR_DSY1_2020High50.epw**

Days data= 365 01-Jan 31-Dec

Days (summer)= 153 01-May 30-Sep

Data OK? OK Full summer

Occupancy:

Note: This report assesses occupied periods only. Please be aware that TM52 should be conducted for occupied and/or “available hours”.

Use of educational NCM profiles may be seen as inappropriate due to prolonged unoccupied periods during summer months.

See Section 6.1.2 (a) of TM52 for further information.

Passed: 84 rooms:

Room Name	Room ID	Occupied days (%)	Criteria 1 (%Hrs Top-Tmax>=1K)	Criteria 2 (Max. Daily Deg.Hrs)	Criteria 3 (Max. DeltaT)	Criteria failing	CIBSE TM59 Criterion (a) Check
HT.Aire 1B2P-Bed	HT000006	100	1	25	4	2	Pass
HT.Aire 1B2P-KLD	HT000007	100	2.3	24	4	2	Pass
HT.Aire 1B2P-Bed	HT000001	100	0.8	21	4	2	Pass
HT.Aire 1B2P-KLD	HT00000D	100	1.9	20	4	2	Pass
HT.Beaconsfield 3B5P-Bed	HT000016	100	2	23	4	2	Pass
HT.Beaconsfield 3B5P-S Bed	HT000018	100	1.9	29	4	2	Pass
HT.Beaconsfield 3B5P-Bed	HT00001A	100	1.2	25	4	2	Pass
HT.Beaconsfield 3B5P-Bed	HT000021	100	2	25	4	2	Pass
HT.Beaconsfield 3B5P-S Bed	HT000026	100	2	29	4	2	Pass
HT.Beaconsfield 3B5P-Bed	HT000027	100	1.3	26	4	2	Pass
HT.Harrogate 3B6P-Bed	HT000029	100	1.9	23	4	2	Pass
HT.Harrogate 3B6P-Bed	HT00002D	100	1.7	22	3	2	Pass
HT.Harrogate 3B6P-Bed	HT00002F	100	1.1	25	4	2	Pass
HT.Lavenham 3B6P-Bed	HT000053	100	0.7	19	3	2	Pass
HT.Lavenham 3B6P-Bed	HT000051	100	1.3	19	4	2	Pass
HT.Lavenham 3B6P-Bed	HT000049	100	1	23	3	2	Pass
HT. Stour 3B5P-S Bed	HT000090	100	2.8	29	4	2	Pass
HT. Stour 3B5P-Bed	HT00008E	100	2.3	26	4	2	Pass
HT. Stour 3B5P-Bed	HT000091	100	1.4	27	4	2	Pass
HT.Itchen 2B4P-Bed	HT00010F	100	2.5	29	4	2	Pass
HT.Itchen 2B4P-KLD	HT00011I	100	1.7	16	3	2	Pass
HT.Itchen 2B4P-Bed	HT000113	100	2.4	28	4	2	Pass
HT.Itchen 2B4P-Bed	HT000119	100	1.8	22	4	2	Pass
HT.Itchen 2B4P-Bed	HT00011B	100	1.8	25	4	2	Pass
HT.Itchen 2B4P-KLD	HT00011C	100	0.8	10	2	2	Pass
HT.Stowmarket 4B8P-Bed	HT0000FF	100	1.6	28	4	2	Pass
HT.Stowmarket 4B8P-Bed	HT000100	100	1.7	22	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT000101	100	1.9	23	3	2	Pass

HT.Stowmarket 4B8P-Bed	HT000103	100	1.3	23	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT000040	100	1.6	23	4	2	Pass
HT.Woodbridge 5B9P-Bed	HT000043	100	1.3	22	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT000045	100	1.3	22	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT00007A	100	0.6	16	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT00007B	100	1.4	23	4	2	Pass
HT.Harrogate 3B6P-Bed	HT00007D	100	2	24	4	2	Pass
HT.Harrogate 3B6P-Bed	HT000080	100	1.8	22	3	2	Pass
HT.Harrogate 3B6P-Bed	HT000082	100	1.1	25	4	2	Pass
HT.Aire 1B2P-Bed	HT0000E9	100	1.4	28	4	2	Pass
HT.Aire 1B2P-Bed	HT0000EE	100	1.1	24	4	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012A	100	1.5	28	4	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012B	100	1.5	23	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012C	100	1.6	22	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012E	100	1.4	22	4	2	Pass
HT.Woodbridge 5B9P-Bed	HT000144	100	1.1	20	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT000147	100	1.4	21	4	2	Pass
HT.Woodbridge 5B9P-Bed	HT000149	100	1.3	21	4	2	Pass
HT.Woodbridge 5B9P-Bed	HT00014B	100	0.6	16	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT00014C	100	0.9	18	3	2	Pass
HT.Whitchurch 5B9P-Study	HT0000F5	100	2.8	28	4	2	Pass
HT.Whitchurch 5B9P-Bed	HT0000F9	100	1.2	26	4	2	Pass
HT.Whitchurch 5B9P-Bed	HT00011D	100	1.9	25	4	2	Pass
HT.Whitchurch 5B9P-Bed	HT00011E	100	1.9	25	4	2	Pass
HT.Whitchurch 5B9P-Bed	HT000122	100	1.6	21	4	2	Pass
HT.Whitchurch 5B9P-Bed	HT000137	100	1.1	26	4	2	Pass
HT.Whitchurch 5B9P-KLD	HT000150	100	2.9	27	4	2	Pass
HT.Whitchurch 5B9P-Bed	HT000152	100	1.4	21	4	2	Pass
HT.Whitchurch 5B9P-Bed	HT000154	100	1.2	22	3	2	Pass
HT.Whitchurch 5B9P-Bed	HT000155	100	1.2	22	3	2	Pass
HT.Whitchurch 5B9P-Bed	HT000159	100	1.1	22	3	2	Pass
HT.Whitchurch 5B9P-Bed	HT00015D	100	1.2	22	4	2	Pass
HT.Woodstock 5B10P-Bed	HT0000D3	100	0.8	17	3	2	Pass
HT.Woodstock 5B10P-Bed	HT0000D4	100	0.9	19	3	2	Pass
HT.Woodstock 5B10P-Bed	HT0000D8	100	1	16	3	2	Pass
HT.Woodstock 5B10P-SBed	HT0000D9	100	1.6	23	4	2	Pass
HT.Woodstock 5B10P-Bed	HT0000DD	100	1.3	18	3	2	Pass
HT.Woodstock 5B10P-S Bed	HT0000E4	100	1.8	31	4	2	Pass
HT.Severn 2B4P-Bed	HT000177	100	1.7	17	3	2	Pass
HT.Severn 2B4P-Bed	HT000179	100	0.6	14	2	2	Pass
HT.Midhurst 4B8P-Bed	HT000097	100	0.8	17	3	2	Pass
HT.Midhurst 4B8P-Bed	HT000099	100	0.6	16	3	2	Pass
HT.Midhurst 4B8P-Bed	HT00009A	100	1.1	18	3	2	Pass
HT.Midhurst 4B8P-S Bed	HT00009D	100	1	26	4	2	Pass
HT. Stour 3B5P-Bed	HT00005A	100	2.8	28	4	2	Pass
HT. Stour 3B5P-Bed	HT00005B	100	1.6	30	4	2	Pass
HT. Stour 3B5P-S Bed	HT000064	100	2.8	29	4	2	Pass
HT. Stour 3B5P-Bed	HT000065	100	2.3	26	4	2	Pass
HT. Stour 3B5P-Bed	HT000066	100	1.4	27	4	2	Pass
HT.Severn 2B4P-Bed	HT000070	100	1.6	17	3	2	Pass
HT.Severn 2B4P-Bed	HT000072	100	0.5	14	2	2	Pass

HT. Stour 3B5P-S Bed	HT0000A2	100	2.6	28	4	2	Pass
HT. Stour 3B5P-Bed	HT0000A3	100	2.3	26	4	2	Pass
HT. Stour 3B5P-Bed	HT0000A4	100	1.4	27	4	2	Pass
HT.Severn 2B4P-Bed	HT0000AE	100	1.8	18	3	2	Pass
HT.Severn 2B4P-Bed	HT0000B0	100	0.6	14	2	2	Pass
HT. Stour 3B5P-Bed	HT0000C2	100	1.4	28	4	2	Pass
HT. Trent 4B6P-Bed	HT0000CD	100	2.4	28	4	2	Pass
HT. Trent 4B6P-Bed	HT0000D0	100	1.6	28	4	2	Pass
HT. Trent 4B6P-SBed	HT0000D1	100	2.6	28	4	2	Pass
HT. Trent 4B6P-SBed	HT000162	100	1.4	22	3	2	Pass

Failed: 49 rooms:

Room Name	Room ID	Occupied days (%)	Criteria 1 (%Hrs Top-Tmax>=1K)	Criteria 2 (Max. Daily Deg.Hrs)	Criteria 3 (Max. DeltaT)	Criteria failing	CIBSE TM59 Criterion (a) Check
HT.Beaconsfield 3B5P-Living	HT000010	100	4.6	27	4	1 & 2	Fail
HT.Beaconsfield 3B5P-KLD	HT000011	100	5.5	37	5	1 & 2 & 3	Fail
HT.Beaconsfield 3B5P-Living	HT00001B	100	4.7	27	4	1 & 2	Fail
HT.Beaconsfield 3B5P-KLD	HT00001F	100	5.7	37	5	1 & 2 & 3	Fail
HT.Harrogate 3B6P-Living	HT000033	100	3.4	32	5	1 & 2 & 3	Fail
HT.Harrogate 3B6P-KLD	HT000028	100	5.4	28	5	1 & 2 & 3	Fail
HT.Lavenham 3B6P-Living	HT000047	100	3.9	27	4	1 & 2	Fail
HT.Lavenham 3B6P-KLD	HT000056	100	4.5	29	4	1 & 2	Fail
HT. Stour 3B5P-Living	HT000095	100	5.3	34	5	1 & 2 & 3	Fail
HT. Stour 3B5P-KLD	HT00008B	100	9.3	37	5	1 & 2 & 3	Fail
HT.Stowmarket 4B8P-Living	HT000105	100	6.9	41	5	1 & 2 & 3	Fail
HT.Stowmarket 4B8P-Study	HT000108	100	3.5	32	5	1 & 2 & 3	Fail
HT.Stowmarket 4B8P-KLD	HT000109	100	5.3	36	5	1 & 2 & 3	Fail
HT.Woodbridge 5B9P-Study	HT000037	100	5.1	32	4	1 & 2	Fail
HT.Woodbridge 5B9P-KLD	HT00003A	100	8	35	4	1 & 2	Fail
HT.Woodbridge 5B9P-Living	HT00003B	100	27.4	53	5	1 & 2 & 3	Fail
HT.Harrogate 3B6P-Living	HT000086	100	3.5	32	5	1 & 2 & 3	Fail
HT.Harrogate 3B6P-KLD	HT000087	100	5.9	30	5	1 & 2 & 3	Fail
HT.Aire 1B2P-KLD	HT0000EB	100	4	26	4	1 & 2	Fail
HT.Aire 1B2P-KLD	HT0000F2	100	3.2	20	3	1 & 2	Fail
HT.Stowmarket 4B8P-Living	HT000130	100	4.6	36	5	1 & 2 & 3	Fail
HT.Stowmarket 4B8P-Study	HT000133	100	3.2	32	5	1 & 2 & 3	Fail
HT.Stowmarket 4B8P-KLD	HT000134	100	5.2	36	5	1 & 2 & 3	Fail
HT.Woodbridge 5B9P-Study	HT00013B	100	4.2	28	4	1 & 2	Fail
HT.Woodbridge 5B9P-KLD	HT00013E	100	4.7	22	3	1 & 2	Fail
HT.Woodbridge 5B9P-Living	HT00013F	100	10.3	32	4	1 & 2	Fail
HT.Whitchurch 5B9P-Living	HT0000F3	100	3.2	27	4	1 & 2	Fail
HT.Whitchurch 5B9P-KLD	HT0000F7	100	4.8	28	5	1 & 2 & 3	Fail
HT.Whitchurch 5B9P-KLD	HT0000F7	100	4.8	28	5	1 & 2 & 3	Fail
HT.Whitchurch 5B9P-Study	HT00014E	100	3.4	31	4	1 & 2	Fail
HT.Woodstock 5B10P-Study	HT0000E2	100	3.3	30	5	1 & 2 & 3	Fail
HT.Woodstock 5B10P-Living	HT0000E3	100	4	32	5	1 & 2 & 3	Fail
HT.Woodstock 5B10P-KLD	HT00015E	100	6.5	35	4	1 & 2	Fail
HT.Severn 2B4P-KLD	HT00017B	100	9.5	37	5	1 & 2 & 3	Fail
HT.Severn 2B4P-Living	HT00017C	100	4.9	29	4	1 & 2	Fail
HT.Midhurst 4B8P-Study	HT00009F	100	3.4	31	5	1 & 2 & 3	Fail

HT.Midhurst 4B8P-Living	HT0000A0	100	4.4	32	5	1 & 2 & 3	Fail
HT.Midhurst 4B8P-KLD	HT0000BD	100	3.2	30	4	1 & 2	Fail
HT. Stour 3B5P-S Bed	HT000059	100	3.1	31	4	1 & 2	Fail
HT. Stour 3B5P-Living	HT00005F	100	4.8	30	4	1 & 2	Fail
HT. Stour 3B5P-KLD	HT000060	100	8.8	36	5	1 & 2 & 3	Fail
HT. Stour 3B5P-Living	HT00006A	100	5.3	34	5	1 & 2 & 3	Fail
HT. Stour 3B5P-KLD	HT00006B	100	9.3	37	5	1 & 2 & 3	Fail
HT.Severn 2B4P-KLD	HT000074	100	9.4	37	5	1 & 2 & 3	Fail
HT.Severn 2B4P-Living	HT000075	100	4.7	29	4	1 & 2	Fail
HT. Stour 3B5P-Living	HT0000A8	100	5.3	34	5	1 & 2 & 3	Fail
HT. Stour 3B5P-KLD	HT0000A9	100	9.1	37	5	1 & 2 & 3	Fail
HT.Severn 2B4P-KLD	HT0000B2	100	9.9	38	5	1 & 2 & 3	Fail
HT.Severn 2B4P-Living	HT0000B3	100	5	29	4	1 & 2	Fail

Unoccupied:

0 rooms:

		Occupied	Criteria 1 (%Hrs	Criteria 2	Criteria 3	Criteria
Room Name	Room ID	days (%)	Top-	(Max. Daily	(Max. DeltaT)	failing

Note:

A TM 52 2013 analysis provides an assessment of comfort compliance based on bulk air modelling i.e. each space is considered idealised and the air in the space perfectly mixed. The assessment does not assess placement of space features e.g. windows & openings, airflow patterns or discomfort issues. The user should assess these design aspects outside of the TM52 analysis.

Weather File	Location	Operative temperature (TM52/CIBSE) (°C) – hours above 26°C			
		22:00–24:00	00:00–07:00	Total hours >	CIBSE TM59 Criterion(b) check
		No. hours > 26°C	No. hours > 26°C	26°C	
	HT.Aire 1B2P-Bed	16	8	24	Pass
	HT.Aire 1B2P-Bed	15	7	22	Pass
	HT.Beaconsfield 3B5P-Bed	22	19	41	Fail
	HT.Beaconsfield 3B5P-S Bed	38	38	76	Fail
	HT.Beaconsfield 3B5P-Bed	31	34	65	Fail
	HT.Beaconsfield 3B5P-Bed	22	19	41	Fail
	HT.Beaconsfield 3B5P-S Bed	39	38	77	Fail
	HT.Beaconsfield 3B5P-Bed	31	34	65	Fail
	HT.Harrogate 3B6P-Bed	50	210	260	Fail
	HT.Harrogate 3B6P-Bed	52	203	255	Fail
	HT.Harrogate 3B6P-Bed	29	26	55	Fail
	HT.Lavenham 3B6P-Bed	27	35	62	Fail
	HT.Lavenham 3B6P-Bed	20	22	42	Fail
	HT.Lavenham 3B6P-Bed	28	35	63	Fail
	HT. Stour 3B5P-S Bed	49	221	270	Fail
	HT. Stour 3B5P-Bed	53	260	313	Fail
	HT. Stour 3B5P-Bed	29	26	55	Fail
	HT.Itchen 2B4P-Bed	47	227	274	Fail
	HT.Itchen 2B4P-Bed	64	298	362	Fail
	HT.Itchen 2B4P-Bed	55	219	274	Fail
	HT.Itchen 2B4P-Bed	38	141	179	Fail
	HT.Stowmarket 4B8P-Bed	20	8	28	Pass
	HT.Stowmarket 4B8P-Bed	30	29	59	Fail
	HT.Stowmarket 4B8P-Bed	36	168	204	Fail
	HT.Stowmarket 4B8P-Bed	48	188	236	Fail
	HT.Woodbridge 5B9P-Bed	22	29	51	Fail
	HT.Woodbridge 5B9P-Bed	27	32	59	Fail
	HT.Woodbridge 5B9P-Bed	22	18	40	Fail
	HT.Woodbridge 5B9P-Bed	14	10	24	Pass
	HT.Woodbridge 5B9P-Bed	27	30	57	Fail
	HT.Harrogate 3B6P-Bed	51	225	276	Fail
	HT.Harrogate 3B6P-Bed	52	218	270	Fail
	HT.Harrogate 3B6P-Bed	30	27	57	Fail
	HT.Aire 1B2P-Bed	21	8	29	Pass
	HT.Aire 1B2P-Bed	18	8	26	Pass
	HT.Stowmarket 4B8P-Bed	22	24	46	Fail
	HT.Stowmarket 4B8P-Bed	40	170	210	Fail
	HT.Stowmarket 4B8P-Bed	31	124	155	Fail

HT.Stowmarket 4B8P-Bed	43	189	232	Fail
HT.Woodbridge 5B9P-Bed	20	8	28	Pass
HT.Woodbridge 5B9P-Bed	24	25	49	Fail
HT.Woodbridge 5B9P-Bed	22	17	39	Fail
HT.Woodbridge 5B9P-Bed	10	5	15	Pass
HT.Woodbridge 5B9P-Bed	23	23	46	Fail
HT.Whitchurch 5B9P-Bed	22	16	38	Fail
HT.Whitchurch 5B9P-Bed	21	20	41	Fail
HT.Whitchurch 5B9P-Bed	23	26	49	Fail
HT.Whitchurch 5B9P-Bed	21	21	42	Fail
HT.Whitchurch 5B9P-Bed	24	20	44	Fail
HT.Whitchurch 5B9P-Bed	23	17	40	Fail
HT.Whitchurch 5B9P-Bed	23	19	42	Fail
HT.Whitchurch 5B9P-Bed	27	25	52	Fail
HT.Whitchurch 5B9P-Bed	23	20	43	Fail
HT.Whitchurch 5B9P-Bed	23	22	45	Fail
HT.Woodstock 5B10P-Bed	23	21	44	Fail
HT.Woodstock 5B10P-Bed	23	21	44	Fail
HT.Woodstock 5B10P-Bed	25	23	48	Fail
HT.Woodstock 5B10P-SBed	24	19	43	Fail
HT.Woodstock 5B10P-Bed	26	24	50	Fail
HT.Woodstock 5B10P-S Bed	18	9	27	Pass
HT.Severn 2B4P-Bed	84	274	358	Fail
HT.Severn 2B4P-Bed	34	25	59	Fail
HT.Midhurst 4B8P-Bed	29	27	56	Fail
HT.Midhurst 4B8P-Bed	29	27	56	Fail
HT.Midhurst 4B8P-Bed	24	31	55	Fail
HT.Midhurst 4B8P-S Bed	28	20	48	Fail
HT. Stour 3B5P-S Bed	55	274	329	Fail
HT. Stour 3B5P-Bed	57	281	338	Fail
HT. Stour 3B5P-Bed	34	41	75	Fail
HT. Stour 3B5P-S Bed	49	221	270	Fail
HT. Stour 3B5P-Bed	53	260	313	Fail
HT. Stour 3B5P-Bed	29	24	53	Fail
HT.Severn 2B4P-Bed	83	272	355	Fail
HT.Severn 2B4P-Bed	34	24	58	Fail
HT. Stour 3B5P-S Bed	47	219	266	Fail
HT. Stour 3B5P-Bed	53	260	313	Fail
HT. Stour 3B5P-Bed	29	26	55	Fail
HT.Severn 2B4P-Bed	86	283	369	Fail
HT.Severn 2B4P-Bed	34	25	59	Fail

APPENDIX D

CIBSE TM59 Overheating Compliance Check –
Strategy 2 (DSY1_2020H50)

Overall

Passed: 109 rooms:

Failed: 24 rooms:

Unoccupied: 0 rooms:

Data:

Building category: **Category II (new builds.)**

Weather file: **London_LHR_DSY1_2020High50.epw**

Days data= 365 01-Jan 31-Dec

Days (summer)= 153 01-May 30-Sep

Data OK? OK Full summer

Occupancy:

Note:

This report assesses occupied periods only. Please be aware that TM52 should be conducted for occupied and/or “available hours”.

Use of educational NCM profiles may be seen as inappropriate due to prolonged unoccupied periods during summer months.

See Section 6.1.2 (a) of TM52 for further information.

Passed: 109 rooms:

Room Name	Room ID	Occupied days (%)	Criteria 1 (%Hrs Top-Tmax>=1K)	Criteria 2 (Max. Daily Deg.Hrs)	Criteria 3 (Max. DeltaT)	Criteria failing	CIBSE TM59 Criterion (a) Check
HT.Aire 1B2P-Bed	HT000006	100	0.7	19	3	2	Pass
HT.Aire 1B2P-KLD	HT000007	100	1.4	20	4	2	Pass
HT.Aire 1B2P-Bed	HT000001	100	0.6	17	3	2	Pass
HT.Aire 1B2P-KLD	HT00000D	100	1.3	18	4	2	Pass
HT.Beaconsfield 3B5P-Living	HT000010	100	2.8	21	4	2	Pass
HT.Beaconsfield 3B5P-Bed	HT000016	100	1.2	18	3	2	Pass
HT.Beaconsfield 3B5P-S Bed	HT000018	100	1.4	28	4	2	Pass
HT.Beaconsfield 3B5P-Bed	HT00001A	100	0.9	22	4	2	Pass
HT.Beaconsfield 3B5P-Bed	HT000021	100	1.3	19	3	2	Pass
HT.Beaconsfield 3B5P-S Bed	HT000026	100	1.4	28	4	2	Pass
HT.Beaconsfield 3B5P-Bed	HT000027	100	0.9	24	4	2	Pass
HT.Harrogate 3B6P-Bed	HT000029	100	1.1	18	3	2	Pass
HT.Harrogate 3B6P-Bed	HT00002D	100	1	14	3	2	Pass
HT.Harrogate 3B6P-Bed	HT00002F	100	0.8	23	4	2	Pass
HT.Harrogate 3B6P-Living	HT000033	100	2.2	27	4	2	Pass
HT.Lavenham 3B6P-Living	HT000047	100	1.9	20	3	2	Pass
HT.Lavenham 3B6P-Bed	HT000053	100	0.5	15	3	2	Pass
HT.Lavenham 3B6P-Bed	HT000051	100	0.8	17	3	2	Pass
HT.Lavenham 3B6P-Bed	HT000049	100	0.7	19	3	2	Pass
HT.Lavenham 3B6P-KLD	HT000056	100	1.5	13	3	2	Pass
HT. Stour 3B5P-S Bed	HT000090	100	1.9	24	4	2	Pass
HT. Stour 3B5P-Bed	HT00008E	100	1.4	21	3	2	Pass
HT. Stour 3B5P-Bed	HT000091	100	1	25	4	2	Pass
HT.Itchen 2B4P-Bed	HT00010F	100	1.5	24	3	2	Pass
HT.Itchen 2B4P-KLD	HT000111	100	1.5	14	2	2	Pass
HT.Itchen 2B4P-Bed	HT000113	100	1.6	21	3	2	Pass
HT.Itchen 2B4P-Bed	HT000119	100	1.1	18	3	2	Pass
HT.Itchen 2B4P-Bed	HT00011B	100	1.1	18	3	2	Pass
HT.Itchen 2B4P-KLD	HT00011C	100	0.6	7	2	2	Pass
HT.Stowmarket 4B8P-Bed	HT0000FF	100	1	23	4	2	Pass
HT.Stowmarket 4B8P-Bed	HT000100	100	1	16	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT000101	100	1.1	16	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT000103	100	0.9	19	3	2	Pass
HT.Stowmarket 4B8P-Study	HT000108	100	2.1	28	4	2	Pass
HT.Woodbridge 5B9P-Study	HT000037	100	2.7	22	3	2	Pass

HT.Woodbridge 5B9P-Bed	HT000040	100	1.1	17	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT000043	100	1	19	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT000045	100	0.9	16	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT00007A	100	0.4	12	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT00007B	100	0.9	15	3	2	Pass
HT.Harrogate 3B6P-Bed	HT00007D	100	1.1	19	3	2	Pass
HT.Harrogate 3B6P-Bed	HT000080	100	1	16	3	2	Pass
HT.Harrogate 3B6P-Bed	HT000082	100	0.8	24	4	2	Pass
HT.Harrogate 3B6P-Living	HT000086	100	2.2	27	4	2	Pass
HT.Aire 1B2P-Bed	HT0000E9	100	0.9	22	4	2	Pass
HT.Aire 1B2P-KLD	HT0000EB	100	2.5	20	3	2	Pass
HT.Aire 1B2P-Bed	HT0000EE	100	0.7	20	4	2	Pass
HT.Aire 1B2P-KLD	HT0000F2	100	1.9	16	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012A	100	1	26	4	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012B	100	1.2	20	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012C	100	1.1	15	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012E	100	1	20	3	2	Pass
HT.Stowmarket 4B8P-Study	HT000133	100	2.2	27	4	2	Pass
HT.Woodbridge 5B9P-Study	HT00013B	100	2.5	20	4	2	Pass
HT.Woodbridge 5B9P-KLD	HT00013E	100	2.1	14	2	2	Pass
HT.Woodbridge 5B9P-Bed	HT000144	100	0.7	15	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT000147	100	1	16	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT000149	100	0.9	15	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT00014B	100	0.4	11	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT00014C	100	0.7	14	2	2	Pass
HT.Whitchurch 5B9P-Living	HT0000F3	100	1.9	26	4	2	Pass
HT.Whitchurch 5B9P-Study	HT0000F5	100	1.9	26	4	2	Pass
HT.Whitchurch 5B9P-Bed	HT0000F9	100	0.8	23	4	2	Pass
HT.Whitchurch 5B9P-Bed	HT00011D	100	1.3	20	4	2	Pass
HT.Whitchurch 5B9P-Bed	HT00011E	100	1.3	21	4	2	Pass
HT.Whitchurch 5B9P-Bed	HT000122	100	1.1	17	3	2	Pass
HT.Whitchurch 5B9P-Bed	HT000137	100	0.9	25	4	2	Pass
HT.Whitchurch 5B9P-Living	HT000138	100	2.8	24	4	2	Pass
HT.Whitchurch 5B9P-Study	HT00014E	100	2.2	25	4	2	Pass
HT.Whitchurch 5B9P-KLD	HT000150	100	2	22	3	2	Pass
HT.Whitchurch 5B9P-Bed	HT000152	100	0.9	16	3	2	Pass
HT.Whitchurch 5B9P-Bed	HT000154	100	0.8	18	3	2	Pass
HT.Whitchurch 5B9P-Bed	HT000155	100	0.9	20	3	2	Pass
HT.Whitchurch 5B9P-Bed	HT000159	100	0.7	15	3	2	Pass
HT.Whitchurch 5B9P-Bed	HT00015D	100	0.8	15	3	2	Pass
HT.Woodstock 5B10P-Bed	HT0000D3	100	0.6	15	3	2	Pass
HT.Woodstock 5B10P-Bed	HT0000D4	100	0.7	15	3	2	Pass
HT.Woodstock 5B10P-Bed	HT0000D8	100	0.7	12	3	2	Pass
HT.Woodstock 5B10P-SBed	HT0000D9	100	1	16	3	2	Pass
HT.Woodstock 5B10P-Bed	HT0000DD	100	0.8	14	3	2	Pass
HT.Woodstock 5B10P-Study	HT0000E2	100	2	25	4	2	Pass
HT.Woodstock 5B10P-Living	HT0000E3	100	2.5	26	4	2	Pass
HT.Woodstock 5B10P-S Bed	HT0000E4	100	1	24	4	2	Pass
HT.Woodstock 5B10P-KLD	HT00015E	100	2.1	19	3	2	Pass
HT.Severn 2B4P-Bed	HT000177	100	0.7	13	2	2	Pass
HT.Severn 2B4P-Bed	HT000179	100	0.4	12	2	2	Pass
HT.Severn 2B4P-Living	HT00017C	100	2.8	26	4	2	Pass
HT.Midhurst 4B8P-Bed	HT000097	100	0.5	13	3	2	Pass
HT.Midhurst 4B8P-Bed	HT000099	100	0.4	12	2	2	Pass
HT.Midhurst 4B8P-Bed	HT00009A	100	0.7	13	3	2	Pass
HT.Midhurst 4B8P-S Bed	HT00009D	100	0.8	25	4	2	Pass
HT.Midhurst 4B8P-Study	HT00009F	100	2.4	27	4	2	Pass
HT.Midhurst 4B8P-KLD	HT0000BD	100	2.1	26	4	2	Pass

HT. Stour 3B5P-S Bed	HT000059	100	2.3	28	4	2	Pass
HT. Stour 3B5P-Bed	HT00005A	100	2	24	4	2	Pass
HT. Stour 3B5P-Bed	HT00005B	100	1.1	27	4	2	Pass
HT. Stour 3B5P-Living	HT00005F	100	2.9	28	4	2	Pass
HT. Stour 3B5P-S Bed	HT000064	100	1.9	24	4	2	Pass
HT. Stour 3B5P-Bed	HT000065	100	1.4	21	3	2	Pass
HT. Stour 3B5P-Bed	HT000066	100	1	25	4	2	Pass
HT. Severn 2B4P-Bed	HT000070	100	0.7	13	2	2	Pass
HT. Severn 2B4P-Bed	HT000072	100	0.4	11	2	2	Pass
HT. Severn 2B4P-Living	HT000075	100	2.8	26	4	2	Pass
HT. Stour 3B5P-S Bed	HT0000A2	100	1.9	24	4	2	Pass
HT. Stour 3B5P-Bed	HT0000A3	100	1.4	21	3	2	Pass
HT. Stour 3B5P-Bed	HT0000A4	100	1	25	4	2	Pass
HT. Severn 2B4P-Bed	HT0000AE	100	0.7	13	2	2	Pass
HT. Severn 2B4P-Bed	HT0000B0	100	0.4	12	2	2	Pass
HT. Severn 2B4P-Living	HT0000B3	100	3	27	4	2	Pass

Failed:

24 rooms:

Room Name	Room ID	Occupied days (%)	Criteria 1 (%Hrs Top-Tmax>=1K)	Criteria 2 (Max. Daily Deg.Hrs)	Criteria 3 (Max. DeltaT)	Criteria failing	CIBSE TM59 Criterion (a) Check
HT.Beaconsfield 3B5P-KLD	HT000011	100	3.1	28	5	1 & 2 & 3	Fail
HT.Beaconsfield 3B5P-Living	HT00001B	100	3	22	4	1 & 2	Fail
HT.Beaconsfield 3B5P-KLD	HT00001F	100	3.2	29	5	1 & 2 & 3	Fail
HT.Harrogate 3B6P-KLD	HT000028	100	3.2	22	4	1 & 2	Fail
HT. Stour 3B5P-Living	HT000095	100	3.3	28	4	1 & 2	Fail
HT. Stour 3B5P-KLD	HT00008B	100	4.7	26	4	1 & 2	Fail
HT.Stowmarket 4B8P-Living	HT000105	100	4.3	33	5	1 & 2 & 3	Fail
HT.Stowmarket 4B8P-KLD	HT000109	100	3.5	28	4	1 & 2	Fail
HT.Woodbridge 5B9P-KLD	HT00003A	100	3.1	22	3	1 & 2	Fail
HT.Woodbridge 5B9P-Living	HT00003B	100	8.2	31	4	1 & 2	Fail
HT.Harrogate 3B6P-KLD	HT000087	100	3.7	23	4	1 & 2	Fail
HT.Stowmarket 4B8P-Living	HT000130	100	3.4	30	4	1 & 2	Fail
HT.Stowmarket 4B8P-KLD	HT000134	100	3.4	27	4	1 & 2	Fail
HT.Woodbridge 5B9P-Living	HT00013F	100	4.5	20	3	1 & 2	Fail
HT.Whitchurch 5B9P-KLD	HT0000F7	100	3	21	4	1 & 2	Fail
HT. Severn 2B4P-KLD	HT00017B	100	4.8	26	4	1 & 2	Fail
HT.Midhurst 4B8P-Living	HT0000A0	100	3.1	26	4	1 & 2	Fail
HT. Stour 3B5P-KLD	HT000060	100	4.6	25	4	1 & 2	Fail
HT. Stour 3B5P-Living	HT00006A	100	3.3	28	4	1 & 2	Fail
HT. Stour 3B5P-KLD	HT00006B	100	4.7	26	4	1 & 2	Fail
HT. Severn 2B4P-KLD	HT000074	100	4.8	26	4	1 & 2	Fail
HT. Stour 3B5P-Living	HT0000A8	100	3.2	28	4	1 & 2	Fail
HT. Stour 3B5P-KLD	HT0000A9	100	4.7	26	4	1 & 2	Fail
HT. Severn 2B4P-KLD	HT0000B2	100	4.9	26	4	1 & 2	Fail

Unoccupied:

0 rooms:

Room Name	Room ID	Occupied days (%)	Criteria 1 (%Hrs Top-Tmax>=1K)	Criteria 2 (Max. Daily Deg.Hrs)	Criteria 3 (Max. DeltaT)	Criteria failing	CIBSE TM59 Criterion (a)
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Note:

A TM 52 2013 analysis provides an assessment of comfort compliance based on bulk air modelling i.e. each space is considered idealised and the air in the space perfectly mixed. The assessment does not assess placement of space features e.g. windows & openings, airflow patterns or discomfort issues. The user should assess these design aspects outside of the TM52 analysis.

Weather File	Location	Operative temperature (TM52/CIBSE) (°C) – hours above 26°C			
		22:00–24:00	00:00–07:00	Total hours > 26°C	CIBSE TM59 Criterion(b) check
		No. hours >	No. hours >		
		26°C	26°C		
	HT.Aire 1B2P-Bed	15	7	22	Pass
	HT.Aire 1B2P-Bed	14	7	21	Pass
	HT.Beaconsfield 3B5P-Bed	20	16	36	Fail
	HT.Beaconsfield 3B5P-S Bed	29	33	62	Fail
	HT.Beaconsfield 3B5P-Bed	27	30	57	Fail
	HT.Beaconsfield 3B5P-Bed	20	16	36	Fail
	HT.Beaconsfield 3B5P-S Bed	30	33	63	Fail
	HT.Beaconsfield 3B5P-Bed	27	31	58	Fail
	HT.Harrogate 3B6P-Bed	34	134	168	Fail
	HT.Harrogate 3B6P-Bed	34	123	157	Fail
	HT.Harrogate 3B6P-Bed	25	19	44	Fail
	HT.Lavenham 3B6P-Bed	22	27	49	Fail
	HT.Lavenham 3B6P-Bed	18	17	35	Fail
	HT.Lavenham 3B6P-Bed	22	26	48	Fail
	HT. Stour 3B5P-S Bed	33	168	201	Fail
	HT. Stour 3B5P-Bed	37	206	243	Fail
	HT. Stour 3B5P-Bed	26	21	47	Fail
	HT.Itchen 2B4P-Bed	38	187	225	Fail
	HT.Itchen 2B4P-Bed	53	222	275	Fail
	HT.Itchen 2B4P-Bed	44	175	219	Fail
	HT.Itchen 2B4P-Bed	32	100	132	Fail
	HT.Stowmarket 4B8P-Bed	17	8	25	Pass
	HT.Stowmarket 4B8P-Bed	24	25	49	Fail
	HT.Stowmarket 4B8P-Bed	30	96	126	Fail
	HT.Stowmarket 4B8P-Bed	39	124	163	Fail
	HT.Woodbridge 5B9P-Bed	20	20	40	Fail
	HT.Woodbridge 5B9P-Bed	23	28	51	Fail
	HT.Woodbridge 5B9P-Bed	19	14	33	Fail
	HT.Woodbridge 5B9P-Bed	12	10	22	Pass
	HT.Woodbridge 5B9P-Bed	23	24	47	Fail
	HT.Harrogate 3B6P-Bed	36	171	207	Fail
	HT.Harrogate 3B6P-Bed	37	149	186	Fail
	HT.Harrogate 3B6P-Bed	26	20	46	Fail
	HT.Aire 1B2P-Bed	17	8	25	Pass
	HT.Aire 1B2P-Bed	16	7	23	Pass
	HT.Stowmarket 4B8P-Bed	21	20	41	Fail
	HT.Stowmarket 4B8P-Bed	31	101	132	Fail
	HT.Stowmarket 4B8P-Bed	26	83	109	Fail
	HT.Stowmarket 4B8P-Bed	33	123	156	Fail
	HT.Woodbridge 5B9P-Bed	18	7	25	Pass

HT.Woodbridge 5B9P-Bed	22	23	45	Fail
HT.Woodbridge 5B9P-Bed	19	13	32	Pass
HT.Woodbridge 5B9P-Bed	10	4	14	Pass
HT.Woodbridge 5B9P-Bed	19	20	39	Fail
HT.Whitchurch 5B9P-Bed	17	10	27	Pass
HT.Whitchurch 5B9P-Bed	20	17	37	Fail
HT.Whitchurch 5B9P-Bed	20	24	44	Fail
HT.Whitchurch 5B9P-Bed	20	18	38	Fail
HT.Whitchurch 5B9P-Bed	20	17	37	Fail
HT.Whitchurch 5B9P-Bed	19	11	30	Pass
HT.Whitchurch 5B9P-Bed	21	19	40	Fail
HT.Whitchurch 5B9P-Bed	23	21	44	Fail
HT.Whitchurch 5B9P-Bed	21	19	40	Fail
HT.Whitchurch 5B9P-Bed	20	19	39	Fail
HT.Woodstock 5B10P-Bed	18	17	35	Fail
HT.Woodstock 5B10P-Bed	20	18	38	Fail
HT.Woodstock 5B10P-Bed	23	19	42	Fail
HT.Woodstock 5B10P-SBed	23	16	39	Fail
HT.Woodstock 5B10P-Bed	24	19	43	Fail
HT.Woodstock 5B10P-S Bed	17	7	24	Pass
HT.Severn 2B4P-Bed	64	204	268	Fail
HT.Severn 2B4P-Bed	29	21	50	Fail
HT.Midhurst 4B8P-Bed	24	24	48	Fail
HT.Midhurst 4B8P-Bed	24	24	48	Fail
HT.Midhurst 4B8P-Bed	20	26	46	Fail
HT.Midhurst 4B8P-S Bed	24	17	41	Fail
HT. Stour 3B5P-S Bed	39	221	260	Fail
HT. Stour 3B5P-Bed	43	228	271	Fail
HT. Stour 3B5P-Bed	30	28	58	Fail
HT. Stour 3B5P-S Bed	33	167	200	Fail
HT. Stour 3B5P-Bed	37	205	242	Fail
HT. Stour 3B5P-Bed	26	20	46	Fail
HT.Severn 2B4P-Bed	64	203	267	Fail
HT.Severn 2B4P-Bed	29	21	50	Fail
HT. Stour 3B5P-S Bed	33	167	200	Fail
HT. Stour 3B5P-Bed	38	206	244	Fail
HT. Stour 3B5P-Bed	26	20	46	Fail
HT.Severn 2B4P-Bed	68	215	283	Fail
HT.Severn 2B4P-Bed	30	21	51	Fail

APPENDIX E

CIBSE TM59 Overheating Compliance Check –
Strategy 3 (DSY1_2020H50)

Overall

Passed: 133 rooms:

Failed: 0 rooms:

Unoccupied: 0 rooms:

Data:

Building category: **Category II (new builds.)**

Weather file: **London_LHR_DSY1_2020High50.epw**

Days data= 365 01-Jan 31-Dec

Days (summer)= 153 01-May 30-Sep

Data OK? OK Full summer

Occupancy:

This report assesses occupied periods only. Please be aware that TM52 should

Note: be conducted for occupied and/or "available hours".

Use of educational NCM profiles may be seen as inappropriate due to prolonged unoccupied periods during summer months.

See Section 6.1.2 (a) of TM52 for further information.

Passed: 133 rooms:

Room Name	Room ID	Occupied days (%)	Criteria 1 (%Hrs Top-Tmax>=1K)	Criteria 2 (Max. Daily Deg.Hrs)	Criteria 3 (Max. DeltaT)	Criteria failing	CIBSE TM59 Criterion (a) Check
HT.Aire 1B2P-Bed	HT000006	100	0	0	0	-	Pass
HT.Aire 1B2P-KLD	HT000007	100	0	0	0	-	Pass
HT.Aire 1B2P-Bed	HT000001	100	0	0	0	-	Pass
HT.Aire 1B2P-KLD	HT00000D	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Living	HT000010	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-KLD	HT000011	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Bed	HT000016	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-S Bed	HT000018	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Bed	HT00001A	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Living	HT00001B	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-KLD	HT00001F	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Bed	HT000021	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-S Bed	HT000026	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Bed	HT000027	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Bed	HT000029	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Bed	HT00002D	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Bed	HT00002F	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Living	HT000033	100	0	0	0	-	Pass
HT.Harrogate 3B6P-KLD	HT000028	100	0	0	0	-	Pass
HT.Lavenham 3B6P-Living	HT000047	100	0	0	0	-	Pass
HT.Lavenham 3B6P-Bed	HT000053	100	0.1	2	1	-	Pass

HT.Lavenham 3B6P-Bed	HT000051	100	0.4	6	2	-	Pass
HT.Lavenham 3B6P-Bed	HT000049	100	0.1	3	1	-	Pass
HT.Lavenham 3B6P-KLD	HT000056	100	0	0	0	-	Pass
HT. Stour 3B5P-S Bed	HT000090	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT00008E	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT000091	100	0	0	0	-	Pass
HT. Stour 3B5P-Living	HT000095	100	0	0	0	-	Pass
HT. Stour 3B5P-KLD	HT00008B	100	0	0	0	-	Pass
HT.Itchen 2B4P-Bed	HT00010F	100	0	0	0	-	Pass
HT.Itchen 2B4P-KLD	HT00011I	100	0	0	0	-	Pass
HT.Itchen 2B4P-Bed	HT000113	100	0	0	0	-	Pass
HT.Itchen 2B4P-Bed	HT000119	100	0	0	0	-	Pass
HT.Itchen 2B4P-Bed	HT00011B	100	0	0	0	-	Pass
HT.Itchen 2B4P-KLD	HT00011C	100	0	0	0	-	Pass
HT.Stowmarket 4B8P-Bed	HT0000FF	100	0.4	17	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT000100	100	0.2	5	1	-	Pass
HT.Stowmarket 4B8P-Bed	HT000101	100	0.3	4	1	-	Pass
HT.Stowmarket 4B8P-Bed	HT000103	100	0.1	2	1	-	Pass
HT.Stowmarket 4B8P-Living	HT000105	100	1	20	4	2	Pass
HT.Stowmarket 4B8P-Study	HT000108	100	0.6	17	3	2	Pass
HT.Stowmarket 4B8P-KLD	HT000109	100	1	12	3	2	Pass
HT.Woodbridge 5B9P-Study	HT000037	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-KLD	HT00003A	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Living	HT00003B	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT000040	100	0.2	4	2	-	Pass
HT.Woodbridge 5B9P-Bed	HT000043	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT000045	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT00007A	100	0.1	4	2	-	Pass
HT.Woodbridge 5B9P-Bed	HT00007B	100	0.1	1	1	-	Pass
HT.Harrogate 3B6P-Bed	HT00007D	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Bed	HT000080	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Bed	HT000082	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Living	HT000086	100	0	0	0	-	Pass
HT.Harrogate 3B6P-KLD	HT000087	100	0	0	0	-	Pass
HT.Aire 1B2P-Bed	HT0000E9	100	0	0	0	-	Pass
HT.Aire 1B2P-KLD	HT0000EB	100	0	0	0	-	Pass
HT.Aire 1B2P-Bed	HT0000EE	100	0	0	0	-	Pass
HT.Aire 1B2P-KLD	HT0000F2	100	0	0	0	-	Pass
HT.Stowmarket 4B8P-Bed	HT00012A	100	0.3	15	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012B	100	0.1	2	1	-	Pass
HT.Stowmarket 4B8P-Bed	HT00012C	100	0.1	2	1	-	Pass
HT.Stowmarket 4B8P-Bed	HT00012E	100	0.2	6	2	-	Pass
HT.Stowmarket 4B8P-Living	HT000130	100	1.1	21	4	2	Pass
HT.Stowmarket 4B8P-Study	HT000133	100	0.6	15	3	2	Pass

HT.Stowmarket 4B8P-KLD	HT000134	100	0.9	11	3	2	Pass
HT.Woodbridge 5B9P-Study	HT00013B	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-KLD	HT00013E	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Living	HT00013F	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT000144	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT000147	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT000149	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT00014B	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT00014C	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Living	HT0000F3	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Study	HT0000F5	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-KLD	HT0000F7	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT0000F9	100	0.1	10	3	2	Pass
HT.Whitchurch 5B9P-Bed	HT00011D	100	0.2	4	1	-	Pass
HT.Whitchurch 5B9P-Bed	HT00011E	100	0.1	3	1	-	Pass
HT.Whitchurch 5B9P-Bed	HT000122	100	0.2	3	1	-	Pass
HT.Whitchurch 5B9P-Bed	HT000137	100	0.1	8	2	2	Pass
HT.Whitchurch 5B9P-Living	HT000138	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Study	HT00014E	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-KLD	HT000150	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT000152	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT000154	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT000155	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT000159	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT00015D	100	0	0	0	-	Pass
HT.Woodstock 5B10P-Bed	HT0000D3	100	0	1	1	-	Pass
HT.Woodstock 5B10P-Bed	HT0000D4	100	0	1	1	-	Pass
HT.Woodstock 5B10P-Bed	HT0000D8	100	0	1	1	-	Pass
HT.Woodstock 5B10P-SBed	HT0000D9	100	0.1	2	1	-	Pass
HT.Woodstock 5B10P-Bed	HT0000DD	100	0.1	2	1	-	Pass
HT.Woodstock 5B10P-Study	HT0000E2	100	0.3	7	2	2	Pass
HT.Woodstock 5B10P-Living	HT0000E3	100	0.5	9	2	2	Pass
HT.Woodstock 5B10P-S Bed	HT0000E4	100	0.1	5	2	-	Pass
HT.Woodstock 5B10P-KLD	HT00015E	100	0.1	1	1	-	Pass
HT.Severn 2B4P-Bed	HT000177	100	0	0	0	-	Pass
HT.Severn 2B4P-Bed	HT000179	100	0	0	0	-	Pass
HT.Severn 2B4P-KLD	HT00017B	100	0	0	0	-	Pass
HT.Severn 2B4P-Living	HT00017C	100	0.1	2	1	-	Pass
HT.Midhurst 4B8P-Bed	HT000097	100	0	0	0	-	Pass
HT.Midhurst 4B8P-Bed	HT000099	100	0	0	0	-	Pass
HT.Midhurst 4B8P-Bed	HT00009A	100	0	0	0	-	Pass
HT.Midhurst 4B8P-S Bed	HT00009D	100	0	0	0	-	Pass
HT.Midhurst 4B8P-Study	HT00009F	100	0	0	0	-	Pass
HT.Midhurst 4B8P-Living	HT0000A0	100	0	0	0	-	Pass

HT.Midhurst 4B8P-KLD	HT0000BD	100	0	0	0	-	Pass
HT. Stour 3B5P-S Bed	HT000059	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT00005A	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT00005B	100	0	0	0	-	Pass
HT. Stour 3B5P-Living	HT00005F	100	0	0	0	-	Pass
HT. Stour 3B5P-KLD	HT000060	100	0	0	0	-	Pass
HT. Stour 3B5P-S Bed	HT000064	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT000065	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT000066	100	0	0	0	-	Pass
HT. Stour 3B5P-Living	HT00006A	100	0	0	0	-	Pass
HT. Stour 3B5P-KLD	HT00006B	100	0	0	0	-	Pass
HT.Severn 2B4P-Bed	HT000070	100	0	0	0	-	Pass
HT.Severn 2B4P-Bed	HT000072	100	0	0	0	-	Pass
HT.Severn 2B4P-KLD	HT000074	100	0	0	0	-	Pass
HT.Severn 2B4P-Living	HT000075	100	0.1	2	1	-	Pass
HT. Stour 3B5P-S Bed	HT0000A2	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT0000A3	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT0000A4	100	0	0	0	-	Pass
HT. Stour 3B5P-Living	HT0000A8	100	0	0	0	-	Pass
HT. Stour 3B5P-KLD	HT0000A9	100	0	0	0	-	Pass
HT.Severn 2B4P-Bed	HT0000AE	100	0	0	0	-	Pass
HT.Severn 2B4P-Bed	HT0000B0	100	0	0	0	-	Pass
HT.Severn 2B4P-KLD	HT0000B2	100	0	0	0	-	Pass
HT.Severn 2B4P-Living	HT0000B3	100	0.1	4	2	-	Pass

Failed:

0 rooms:

Room Name

Room ID

Occupied Criteria 1 (%) Criteria 2 (M) Criteria 3 Criteria failing

Unoccupied:

0 rooms:

Room Name

Room ID

Occupied Criteria 1 (%) Criteria 2 (M) Criteria 3 Criteria failing

Note:

A TM 52 2013 analysis provides an assessment of comfort compliance based on bulk air modelling

i.e. each space is considered idealised and the air in the space perfectly mixed. The assessment does not assess placement of space features e.g. windows & openings, airflow patterns or discomfort issues.

The user should assess these design aspects outside of the TM52 analysis.

Weather File	Location	Operative temperature (TM52/CIBSE) (°C) –			
		22:00–	00:00–	Total hours > 26°C	CIBSE TM59 Criterion(b) check
		24:00	07:00		
		No. hours > 26°C	No. hours > 26°C		
	HT.Aire 1B2P-Bed	0	0	0	Pass
	HT.Aire 1B2P-Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-S Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-S Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-Bed	0	0	0	Pass
	HT.Harrogate 3B6P-Bed	0	0	0	Pass
	HT.Harrogate 3B6P-Bed	0	0	0	Pass
	HT.Harrogate 3B6P-Bed	0	0	0	Pass
	HT.Lavenham 3B6P-Bed	2	0	2	Pass
	HT.Lavenham 3B6P-Bed	5	0	5	Pass
	HT.Lavenham 3B6P-Bed	4	0	4	Pass
	HT. Stour 3B5P-S Bed	0	0	0	Pass
	HT. Stour 3B5P-Bed	0	0	0	Pass
	HT. Stour 3B5P-Bed	0	0	0	Pass
	HT.Itchen 2B4P-Bed	0	0	0	Pass
	HT.Itchen 2B4P-Bed	0	0	0	Pass
	HT.Itchen 2B4P-Bed	0	0	0	Pass
	HT.Itchen 2B4P-Bed	0	0	0	Pass
	HT.Stowmarket 4B8P-Bed	5	2	7	Pass
	HT.Stowmarket 4B8P-Bed	5	0	5	Pass
	HT.Stowmarket 4B8P-Bed	5	0	5	Pass
	HT.Stowmarket 4B8P-Bed	7	1	8	Pass
	HT.Woodbridge 5B9P-Bed	5	0	5	Pass
	HT.Woodbridge 5B9P-Bed	3	0	3	Pass
	HT.Woodbridge 5B9P-Bed	3	0	3	Pass
	HT.Woodbridge 5B9P-Bed	2	0	2	Pass

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HT.Woodbridge 5B9P-Bed	3	0	3	Pass
HT.Harrogate 3B6P-Bed	0	0	0	Pass
HT.Harrogate 3B6P-Bed	0	0	0	Pass
HT.Harrogate 3B6P-Bed	0	0	0	Pass
HT.Aire 1B2P-Bed	0	0	0	Pass
HT.Aire 1B2P-Bed	0	0	0	Pass
HT.Stowmarket 4B8P-Bed	6	1	7	Pass
HT.Stowmarket 4B8P-Bed	5	0	5	Pass
HT.Stowmarket 4B8P-Bed	5	0	5	Pass
HT.Stowmarket 4B8P-Bed	5	0	5	Pass
HT.Woodbridge 5B9P-Bed	3	0	3	Pass
HT.Woodbridge 5B9P-Bed	2	0	2	Pass
HT.Woodbridge 5B9P-Bed	3	0	3	Pass
HT.Woodbridge 5B9P-Bed	2	0	2	Pass
HT.Woodbridge 5B9P-Bed	2	0	2	Pass
HT.Whitchurch 5B9P-Bed	4	0	4	Pass
HT.Whitchurch 5B9P-Bed	5	0	5	Pass
HT.Whitchurch 5B9P-Bed	3	0	3	Pass
HT.Whitchurch 5B9P-Bed	3	0	3	Pass
HT.Whitchurch 5B9P-Bed	2	0	2	Pass
HT.Whitchurch 5B9P-Bed	0	0	0	Pass
HT.Whitchurch 5B9P-Bed	0	0	0	Pass
HT.Whitchurch 5B9P-Bed	0	0	0	Pass
HT.Whitchurch 5B9P-Bed	0	0	0	Pass
HT.Woodstock 5B10P-Bed	4	0	4	Pass
HT.Woodstock 5B10P-Bed	5	0	5	Pass
HT.Woodstock 5B10P-Bed	5	0	5	Pass
HT.Woodstock 5B10P-SBed	3	0	3	Pass
HT.Woodstock 5B10P-Bed	5	0	5	Pass
HT.Woodstock 5B10P-S Bed	3	1	4	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT.Midhurst 4B8P-Bed	0	0	0	Pass
HT.Midhurst 4B8P-Bed	0	0	0	Pass
HT.Midhurst 4B8P-Bed	0	0	0	Pass
HT.Midhurst 4B8P-S Bed	0	0	0	Pass

HT. Stour 3B5P-S Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT. Stour 3B5P-S Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT. Stour 3B5P-S Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass

APPENDIX F

CIBSE TM59 Overheating Compliance Check –
Strategy 3 (DSY2)

Overall

Passed: 122 rooms:
Failed: 11 rooms:
Unoccupied: 0 rooms:

Data:

Building category: **Category II (new builds.)**
Weather file: **London_LHR_DSY2.epw**
Days data= 365 01-Jan 31-Dec
Days (summer)= 153 01-May 30-Sep
Data OK? OK Full summer

Occupancy:

This report assesses occupied periods only. Please be aware that TM52 should be conducted for occupied and/or “available hours”.
Use of educational NCM profiles may be seen as inappropriate due to prolonged unoccupied periods during summer months.
See Section 6.1.2 (a) of TM52 for further information.

Note:

Passed: 122 rooms:

Room Name	Room ID	Occupied days (%)	Criteria 1 (%Hrs Top-Tmax>=1K)	Criteria 2 (Max. Daily Deg.Hrs)	Criteria 3 (Max. DeltaT)	Criteria failing	CIBSE TM59 Criterion (a) Check
HT.Aire 1B2P-Bed	HT000006	100	0	0	0	-	Pass
HT.Aire 1B2P-KLD	HT000007	100	0	0	0	-	Pass
HT.Aire 1B2P-Bed	HT000001	100	0	0	0	-	Pass
HT.Aire 1B2P-KLD	HT00000D	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Living	HT000010	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-KLD	HT000011	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Bed	HT000016	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-S Bed	HT000018	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Bed	HT00001A	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Living	HT00001B	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-KLD	HT00001F	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Bed	HT000021	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-S Bed	HT000026	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Bed	HT000027	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Bed	HT000029	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Bed	HT00002D	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Bed	HT00002F	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Living	HT000033	100	0	0	0	-	Pass
HT.Harrogate 3B6P-KLD	HT000028	100	0	0	0	-	Pass
HT.Lavenham 3B6P-Living	HT000047	100	0.2	6	2	-	Pass
HT.Lavenham 3B6P-Bed	HT000053	100	0.1	5	1	-	Pass
HT.Lavenham 3B6P-Bed	HT000051	100	0.6	19	4	2	Pass
HT.Lavenham 3B6P-Bed	HT000049	100	0.2	8	2	2	Pass
HT.Lavenham 3B6P-KLD	HT000056	100	0.3	8	2	2	Pass
HT. Stour 3B5P-S Bed	HT000090	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT00008E	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT000091	100	0	0	0	-	Pass
HT. Stour 3B5P-Living	HT000095	100	0	0	0	-	Pass
HT. Stour 3B5P-KLD	HT00008B	100	0	0	0	-	Pass
HT.Itchen 2B4P-Bed	HT00010F	100	0	0	0	-	Pass
HT.Itchen 2B4P-KLD	HT000111	100	0	0	0	-	Pass
HT.Itchen 2B4P-Bed	HT000113	100	0	0	0	-	Pass
HT.Itchen 2B4P-Bed	HT000119	100	0	0	0	-	Pass

HT.Itchen 2B4P-Bed	HT00011B	100	0	0	0	-	Pass
HT.Itchen 2B4P-KLD	HT00011C	100	0	0	0	-	Pass
HT.Stowmarket 4B8P-Bed	HT000101	100	0.4	15	4	2	Pass
HT.Stowmarket 4B8P-Bed	HT000103	100	0.1	10	2	2	Pass
HT.Stowmarket 4B8P-Living	HT000105	100	1.4	21	4	2	Pass
HT.Woodbridge 5B9P-Study	HT000037	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-KLD	HT00003A	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Living	HT00003B	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT000043	100	0.1	8	2	2	Pass
HT.Woodbridge 5B9P-Bed	HT000045	100	0.1	11	3	2	Pass
HT.Woodbridge 5B9P-Bed	HT00007A	100	0.1	8	2	2	Pass
HT.Woodbridge 5B9P-Bed	HT00007B	100	0.4	22	4	2	Pass
HT.Harrogate 3B6P-Bed	HT00007D	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Bed	HT000080	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Bed	HT000082	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Living	HT000086	100	0	0	0	-	Pass
HT.Harrogate 3B6P-KLD	HT000087	100	0	0	0	-	Pass
HT.Aire 1B2P-Bed	HT0000E9	100	0.1	13	3	2	Pass
HT.Aire 1B2P-KLD	HT0000EB	100	0.2	3	1	-	Pass
HT.Aire 1B2P-Bed	HT0000EE	100	0.1	11	3	2	Pass
HT.Aire 1B2P-KLD	HT0000F2	100	0.2	3	1	-	Pass
HT.Stowmarket 4B8P-Bed	HT00012A	100	0.2	12	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012B	100	0.1	8	2	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012C	100	0.4	13	4	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012E	100	0.4	21	4	2	Pass
HT.Stowmarket 4B8P-Study	HT000133	100	0.8	18	4	2	Pass
HT.Woodbridge 5B9P-Study	HT00013B	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-KLD	HT00013E	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Living	HT00013F	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT000144	100	0.1	8	2	2	Pass
HT.Woodbridge 5B9P-Bed	HT000147	100	0.2	20	4	2	Pass
HT.Woodbridge 5B9P-Bed	HT00014B	100	0.1	6	2	-	Pass
HT.Woodbridge 5B9P-Bed	HT00014C	100	0.1	6	2	-	Pass
HT.Whitchurch 5B9P-Living	HT0000F3	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Study	HT0000F5	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-KLD	HT0000F7	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT0000F9	100	0.1	7	2	2	Pass
HT.Whitchurch 5B9P-Bed	HT00011D	100	0.1	6	3	-	Pass
HT.Whitchurch 5B9P-Bed	HT00011E	100	0.1	5	3	-	Pass
HT.Whitchurch 5B9P-Bed	HT000122	100	0.1	5	3	-	Pass
HT.Whitchurch 5B9P-Bed	HT000137	100	0.1	2	1	-	Pass
HT.Whitchurch 5B9P-Living	HT000138	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Study	HT00014E	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-KLD	HT000150	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT000152	100	0.2	17	4	2	Pass
HT.Whitchurch 5B9P-Bed	HT000154	100	0.1	7	2	2	Pass
HT.Whitchurch 5B9P-Bed	HT000155	100	0.1	7	2	2	Pass
HT.Whitchurch 5B9P-Bed	HT000159	100	0.1	7	2	2	Pass
HT.Whitchurch 5B9P-Bed	HT00015D	100	0.2	16	4	2	Pass
HT.Woodstock 5B10P-Bed	HT0000D3	100	0.2	14	3	2	Pass
HT.Woodstock 5B10P-Bed	HT0000D4	100	0.2	14	3	2	Pass
HT.Woodstock 5B10P-Study	HT0000E2	100	0.6	11	2	2	Pass
HT.Woodstock 5B10P-Living	HT0000E3	100	1	14	3	2	Pass
HT.Woodstock 5B10P-S Bed	HT0000E4	100	0.4	18	4	2	Pass
HT.Woodstock 5B10P-KLD	HT00015E	100	1	24	4	2	Pass
HT.Severn 2B4P-Bed	HT000177	100	0	0	0	-	Pass
HT.Severn 2B4P-Bed	HT000179	100	0	0	0	-	Pass

HT.Severn 2B4P-KLD	HT00017B	100	0	0	0	-	Pass
HT.Severn 2B4P-Living	HT00017C	100	0.1	1	1	-	Pass
HT.Midhurst 4B8P-Bed	HT000097	100	0	0	0	-	Pass
HT.Midhurst 4B8P-Bed	HT000099	100	0	0	0	-	Pass
HT.Midhurst 4B8P-Bed	HT00009A	100	0	0	0	-	Pass
HT.Midhurst 4B8P-S Bed	HT00009D	100	0	0	0	-	Pass
HT.Midhurst 4B8P-Study	HT00009F	100	0	0	0	-	Pass
HT.Midhurst 4B8P-Living	HT0000A0	100	0	0	0	-	Pass
HT.Midhurst 4B8P-KLD	HT0000BD	100	0	0	0	-	Pass
HT. Stour 3B5P-S Bed	HT000059	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT00005A	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT00005B	100	0	0	0	-	Pass
HT. Stour 3B5P-Living	HT00005F	100	0	0	0	-	Pass
HT. Stour 3B5P-KLD	HT000060	100	0	0	0	-	Pass
HT. Stour 3B5P-S Bed	HT000064	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT000065	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT000066	100	0	0	0	-	Pass
HT. Stour 3B5P-Living	HT00006A	100	0	0	0	-	Pass
HT. Stour 3B5P-KLD	HT00006B	100	0	0	0	-	Pass
HT.Severn 2B4P-Bed	HT000070	100	0	0	0	-	Pass
HT.Severn 2B4P-Bed	HT000072	100	0	0	0	-	Pass
HT.Severn 2B4P-KLD	HT000074	100	0	0	0	-	Pass
HT.Severn 2B4P-Living	HT000075	100	0.1	1	1	-	Pass
HT. Stour 3B5P-S Bed	HT0000A2	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT0000A3	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT0000A4	100	0	0	0	-	Pass
HT. Stour 3B5P-Living	HT0000A8	100	0	0	0	-	Pass
HT. Stour 3B5P-KLD	HT0000A9	100	0	0	0	-	Pass
HT.Severn 2B4P-Bed	HT0000AE	100	0	0	0	-	Pass
HT.Severn 2B4P-Bed	HT0000B0	100	0	0	0	-	Pass
HT.Severn 2B4P-KLD	HT0000B2	100	0	0	0	-	Pass
HT.Severn 2B4P-Living	HT0000B3	100	0.1	1	1	-	Pass

Failed:

11 rooms:

Room Name	Room ID	Occupied days (%)	Criteria 1 (%Hrs Top-Tmax>=1K)	Criteria 2 (Max. Daily Deg.Hrs)	Criteria 3 (Max. DeltaT)	Criteria failing	CIBSE TM59 Criterion (a) Check
HT.Stowmarket 4B8P-Bed	HT0000FF	100	0.7	27	5	2 & 3	Pass
HT.Stowmarket 4B8P-Bed	HT000100	100	0.5	27	5	2 & 3	Pass
HT.Stowmarket 4B8P-Study	HT000108	100	1.4	25	5	2 & 3	Pass
HT.Stowmarket 4B8P-KLD	HT000109	100	1.6	28	5	2 & 3	Pass
HT.Woodbridge 5B9P-Bed	HT000040	100	0.5	24	5	2 & 3	Pass
HT.Stowmarket 4B8P-Living	HT000130	100	1.7	28	6	2 & 3	Pass
HT.Stowmarket 4B8P-KLD	HT000134	100	1.3	22	5	2 & 3	Pass
HT.Woodbridge 5B9P-Bed	HT000149	100	0.3	23	5	2 & 3	Pass
HT.Woodstock 5B10P-Bed	HT0000D8	100	0.5	23	5	2 & 3	Pass
HT.Woodstock 5B10P-SBed	HT0000D9	100	0.5	26	5	2 & 3	Pass
HT.Woodstock 5B10P-Bed	HT0000DD	100	0.5	25	5	2 & 3	Pass

Unoccupied:

0 rooms:

Room Name

Room ID

Occupied

Criteria 1

Criteria 2

Criteria 3

Criteria failing

Note:

A TM 52 2013 analysis provides an assessment of comfort compliance based on bulk air modelling i.e. each space is considered idealised and the air in the space perfectly mixed. The assessment does not assess placement of space features e.g. windows & openings, airflow patterns or discomfort issues. The user should assess these design aspects outside of the TM52 analysis.

Weather File	Location	Operative temperature (TM52/CIBSE) (°C) –			
		22:00–	00:00–	Total hours > 26°C	CIBSE TM59 Criterion(b) check
		24:00	07:00		
		No. hours > 26°C	No. hours > 26°C		
	HT.Aire 1B2P-Bed	0	0	0	Pass
	HT.Aire 1B2P-Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-S Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-S Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-Bed	0	0	0	Pass
	HT.Harrogate 3B6P-Bed	1	0	1	Pass
	HT.Harrogate 3B6P-Bed	1	0	1	Pass
	HT.Harrogate 3B6P-Bed	2	0	2	Pass
	HT.Lavenham 3B6P-Bed	5	0	5	Pass
	HT.Lavenham 3B6P-Bed	7	0	7	Pass
	HT.Lavenham 3B6P-Bed	5	0	5	Pass
	HT. Stour 3B5P-S Bed	0	0	0	Pass
	HT. Stour 3B5P-Bed	0	0	0	Pass
	HT. Stour 3B5P-Bed	0	0	0	Pass
	HT.Itchen 2B4P-Bed	0	0	0	Pass
	HT.Itchen 2B4P-Bed	0	0	0	Pass
	HT.Itchen 2B4P-Bed	0	0	0	Pass
	HT.Itchen 2B4P-Bed	0	0	0	Pass
	HT.Stowmarket 4B8P-Bed	7	1	8	Pass
	HT.Stowmarket 4B8P-Bed	7	0	7	Pass
	HT.Stowmarket 4B8P-Bed	8	2	10	Pass
	HT.Stowmarket 4B8P-Bed	8	2	10	Pass

DSY2.aps

HT.Woodbridge 5B9P-Bed	4	0	4	Pass
HT.Woodbridge 5B9P-Bed	3	0	3	Pass
HT.Woodbridge 5B9P-Bed	3	0	3	Pass
HT.Woodbridge 5B9P-Bed	3	0	3	Pass
HT.Woodbridge 5B9P-Bed	3	0	3	Pass
HT.Harrogate 3B6P-Bed	1	0	1	Pass
HT.Harrogate 3B6P-Bed	1	0	1	Pass
HT.Harrogate 3B6P-Bed	0	0	0	Pass
HT.Aire 1B2P-Bed	2	0	2	Pass
HT.Aire 1B2P-Bed	2	0	2	Pass
HT.Stowmarket 4B8P-Bed	5	0	5	Pass
HT.Stowmarket 4B8P-Bed	3	0	3	Pass
HT.Stowmarket 4B8P-Bed	6	1	7	Pass
HT.Stowmarket 4B8P-Bed	6	2	8	Pass
HT.Woodbridge 5B9P-Bed	3	0	3	Pass
HT.Woodbridge 5B9P-Bed	3	0	3	Pass
HT.Woodbridge 5B9P-Bed	3	0	3	Pass
HT.Woodbridge 5B9P-Bed	3	0	3	Pass
HT.Woodbridge 5B9P-Bed	3	0	3	Pass
HT.Whitchurch 5B9P-Bed	3	0	3	Pass
HT.Whitchurch 5B9P-Bed	3	0	3	Pass
HT.Whitchurch 5B9P-Bed	3	0	3	Pass
HT.Whitchurch 5B9P-Bed	3	0	3	Pass
HT.Whitchurch 5B9P-Bed	3	0	3	Pass
HT.Whitchurch 5B9P-Bed	2	0	2	Pass
HT.Whitchurch 5B9P-Bed	2	0	2	Pass
HT.Whitchurch 5B9P-Bed	2	0	2	Pass
HT.Whitchurch 5B9P-Bed	2	0	2	Pass
HT.Whitchurch 5B9P-Bed	2	0	2	Pass
HT.Woodstock 5B10P-Bed	6	0	6	Pass
HT.Woodstock 5B10P-Bed	7	0	7	Pass
HT.Woodstock 5B10P-Bed	6	1	7	Pass
HT.Woodstock 5B10P-SBed	5	0	5	Pass

HT.Woodstock 5BI0P-Bed	6	0	6	Pass
HT.Woodstock 5BI0P-S Bed	5	0	5	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT.Midhurst 4B8P-Bed	0	0	0	Pass
HT.Midhurst 4B8P-Bed	0	0	0	Pass
HT.Midhurst 4B8P-Bed	0	0	0	Pass
HT.Midhurst 4B8P-S Bed	0	0	0	Pass
HT. Stour 3B5P-S Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT. Stour 3B5P-S Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT. Stour 3B5P-S Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass

APPENDIX G

CIBSE TM59 Overheating Compliance Check –
Strategy 3 (DSY3)

Overall

Passed: 133 rooms:

Failed: 0 rooms:

Unoccupied: 0 rooms:

Data:

Building category: **Category II (new builds.)**

Weather file: **London_LHR_DSY3.epw**

Days data= 365 01-Jan 31-Dec

Days (summer)= 153 01-May 30-Sep

Data OK? OK Full summer

Occupancy:

This report assesses occupied periods only. Please be aware that TM52 should be conducted for occupied and/or “available hours”.

Note:

Use of educational NCM profiles may be seen as inappropriate due to prolonged unoccupied periods during summer months.

See Section 6.1.2 (a) of TM52 for further information.

Passed: 133 rooms:

Room Name	Room ID	Occupied days (%)	Criteria 1 (%Hrs Top-Tmax>=1 K)	Criteria 2 (Max. Daily Deg.Hrs)	Criteria 3 (Max. DeltaT)	Criteria failing	CIBSE TM59 Criterion (a) Check
HT.Aire 1B2P-Bed	HT000006	100	0	0	0	-	Pass
HT.Aire 1B2P-KLD	HT000007	100	0	0	0	-	Pass
HT.Aire 1B2P-Bed	HT000001	100	0	0	0	-	Pass
HT.Aire 1B2P-KLD	HT00000D	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Living	HT000010	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-KLD	HT000011	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Bed	HT000016	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-S Bed	HT000018	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Bed	HT00001A	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Living	HT00001B	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-KLD	HT00001F	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Bed	HT000021	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-S Bed	HT000026	100	0	0	0	-	Pass
HT.Beaconsfield 3B5P-Bed	HT000027	100	0	0	0	-	Pass
HT.Harrogate 3B6P-Bed	HT000029	100	0.1	2	1	-	Pass
HT.Harrogate 3B6P-Bed	HT00002D	100	0	1	1	-	Pass
HT.Harrogate 3B6P-Bed	HT00002F	100	0.3	4	1	-	Pass
HT.Harrogate 3B6P-Living	HT000033	100	0.4	4	1	-	Pass
HT.Harrogate 3B6P-KLD	HT000028	100	0.1	1	1	-	Pass
HT.Lavenham 3B6P-Living	HT000047	100	0	0	0	-	Pass

HT.Lavenham 3B6P-Bed	HT000053	100	0	0	0	-	Pass
HT.Lavenham 3B6P-Bed	HT000051	100	0.9	15	3	2	Pass
HT.Lavenham 3B6P-Bed	HT000049	100	0	0	0	-	Pass
HT.Lavenham 3B6P-KLD	HT000056	100	0	0	0	-	Pass
HT. Stour 3B5P-S Bed	HT000090	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT00008E	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT000091	100	0	0	0	-	Pass
HT. Stour 3B5P-Living	HT000095	100	0	0	0	-	Pass
HT. Stour 3B5P-KLD	HT00008B	100	0	0	0	-	Pass
HT.Itchen 2B4P-Bed	HT00010F	100	0	0	0	-	Pass
HT.Itchen 2B4P-KLD	HT00011I	100	0	0	0	-	Pass
HT.Itchen 2B4P-Bed	HT000113	100	0	0	0	-	Pass
HT.Itchen 2B4P-Bed	HT000119	100	0	0	0	-	Pass
HT.Itchen 2B4P-Bed	HT00011B	100	0	0	0	-	Pass
HT.Itchen 2B4P-KLD	HT00011C	100	0	0	0	-	Pass
HT.Stowmarket 4B8P-Bed	HT0000FF	100	0.8	13	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT000100	100	0.2	4	1	-	Pass
HT.Stowmarket 4B8P-Bed	HT000101	100	0.5	15	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT000103	100	0.4	9	2	2	Pass
HT.Stowmarket 4B8P-Living	HT000105	100	2.5	17	3	2	Pass
HT.Stowmarket 4B8P-Study	HT000108	100	1.8	13	3	2	Pass
HT.Stowmarket 4B8P-KLD	HT000109	100	2.3	23	4	2	Pass
HT.Woodbridge 5B9P-Study	HT000037	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-KLD	HT00003A	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Living	HT00003B	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT000040	100	0.2	8	2	2	Pass
HT.Woodbridge 5B9P-Bed	HT000043	100	0.2	3	1	-	Pass
HT.Woodbridge 5B9P-Bed	HT000045	100	0.3	7	2	2	Pass
HT.Woodbridge 5B9P-Bed	HT00007A	100	0.1	4	1	-	Pass
HT.Woodbridge 5B9P-Bed	HT00007B	100	0.1	5	1	-	Pass
HT.Harrogate 3B6P-Bed	HT00007D	100	0.1	2	1	-	Pass
HT.Harrogate 3B6P-Bed	HT000080	100	0	1	1	-	Pass
HT.Harrogate 3B6P-Bed	HT000082	100	0.3	4	1	-	Pass
HT.Harrogate 3B6P-Living	HT000086	100	0.4	4	1	-	Pass
HT.Harrogate 3B6P-KLD	HT000087	100	0.1	1	1	-	Pass
HT.Aire 1B2P-Bed	HT0000E9	100	0	0	0	-	Pass
HT.Aire 1B2P-KLD	HT0000EB	100	0	0	0	-	Pass
HT.Aire 1B2P-Bed	HT0000EE	100	0	0	0	-	Pass
HT.Aire 1B2P-KLD	HT0000F2	100	0	0	0	-	Pass
HT.Stowmarket 4B8P-Bed	HT00012A	100	0.7	14	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012B	100	0.3	13	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012C	100	0.4	12	3	2	Pass
HT.Stowmarket 4B8P-Bed	HT00012E	100	0.1	4	1	-	Pass
HT.Stowmarket 4B8P-Living	HT000130	100	2.7	27	4	2	Pass
HT.Stowmarket 4B8P-Study	HT000133	100	1.8	15	3	2	Pass

HT.Stowmarket 4B8P-KLD	HT000134	100	2.2	25	4	2	Pass
HT.Woodbridge 5B9P-Study	HT00013B	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-KLD	HT00013E	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Living	HT00013F	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT000144	100	0.1	2	1	-	Pass
HT.Woodbridge 5B9P-Bed	HT000147	100	0.1	4	1	-	Pass
HT.Woodbridge 5B9P-Bed	HT000149	100	0.2	6	1	-	Pass
HT.Woodbridge 5B9P-Bed	HT00014B	100	0	0	0	-	Pass
HT.Woodbridge 5B9P-Bed	HT00014C	100	0.1	2	1	-	Pass
HT.Whitchurch 5B9P-Living	HT0000F3	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Study	HT0000F5	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-KLD	HT0000F7	100	0.2	4	2	-	Pass
HT.Whitchurch 5B9P-Bed	HT0000F9	100	0.5	11	2	2	Pass
HT.Whitchurch 5B9P-Bed	HT00011D	100	0.3	5	2	-	Pass
HT.Whitchurch 5B9P-Bed	HT00011E	100	0.2	4	2	-	Pass
HT.Whitchurch 5B9P-Bed	HT000122	100	0.2	4	2	-	Pass
HT.Whitchurch 5B9P-Bed	HT000137	100	0.4	9	2	2	Pass
HT.Whitchurch 5B9P-Living	HT000138	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Study	HT00014E	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-KLD	HT000150	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT000152	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT000154	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT000155	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT000159	100	0	0	0	-	Pass
HT.Whitchurch 5B9P-Bed	HT00015D	100	0	0	0	-	Pass
HT.Woodstock 5B10P-Bed	HT0000D3	100	0.4	7	2	2	Pass
HT.Woodstock 5B10P-Bed	HT0000D4	100	0.4	9	2	2	Pass
HT.Woodstock 5B10P-Bed	HT0000D8	100	0.1	4	1	-	Pass
HT.Woodstock 5B10P-SBed	HT0000D9	100	0.2	6	1	-	Pass
HT.Woodstock 5B10P-Bed	HT0000DD	100	0.2	6	1	-	Pass
HT.Woodstock 5B10P-Study	HT0000E2	100	0.9	12	2	2	Pass
HT.Woodstock 5B10P-Living	HT0000E3	100	1.3	17	3	2	Pass
HT.Woodstock 5B10P-S Bed	HT0000E4	100	0.5	14	3	2	Pass
HT.Woodstock 5B10P-KLD	HT00015E	100	0.4	3	1	-	Pass
HT.Severn 2B4P-Bed	HT000177	100	0	0	0	-	Pass
HT.Severn 2B4P-Bed	HT000179	100	0	0	0	-	Pass
HT.Severn 2B4P-KLD	HT00017B	100	0	0	0	-	Pass
HT.Severn 2B4P-Living	HT00017C	100	0.2	3	1	-	Pass
HT.Midhurst 4B8P-Bed	HT000097	100	0	0	0	-	Pass
HT.Midhurst 4B8P-Bed	HT000099	100	0	0	0	-	Pass
HT.Midhurst 4B8P-Bed	HT00009A	100	0.1	2	1	-	Pass
HT.Midhurst 4B8P-S Bed	HT00009D	100	0.2	2	1	-	Pass
HT.Midhurst 4B8P-Study	HT00009F	100	0.4	4	1	-	Pass
HT.Midhurst 4B8P-Living	HT0000A0	100	0.4	7	2	2	Pass
HT.Midhurst 4B8P-KLD	HT0000BD	100	0.9	8	2	2	Pass

HT. Stour 3B5P-S Bed	HT000059	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT00005A	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT00005B	100	0	0	0	-	Pass
HT. Stour 3B5P-Living	HT00005F	100	0	0	0	-	Pass
HT. Stour 3B5P-KLD	HT000060	100	0	0	0	-	Pass
HT. Stour 3B5P-S Bed	HT000064	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT000065	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT000066	100	0	0	0	-	Pass
HT. Stour 3B5P-Living	HT00006A	100	0	0	0	-	Pass
HT. Stour 3B5P-KLD	HT00006B	100	0	0	0	-	Pass
HT. Severn 2B4P-Bed	HT000070	100	0	0	0	-	Pass
HT. Severn 2B4P-Bed	HT000072	100	0	0	0	-	Pass
HT. Severn 2B4P-KLD	HT000074	100	0	0	0	-	Pass
HT. Severn 2B4P-Living	HT000075	100	0.1	2	1	-	Pass
HT. Stour 3B5P-S Bed	HT0000A2	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT0000A3	100	0	0	0	-	Pass
HT. Stour 3B5P-Bed	HT0000A4	100	0	0	0	-	Pass
HT. Stour 3B5P-Living	HT0000A8	100	0	0	0	-	Pass
HT. Stour 3B5P-KLD	HT0000A9	100	0	0	0	-	Pass
HT. Severn 2B4P-Bed	HT0000AE	100	0	0	0	-	Pass
HT. Severn 2B4P-Bed	HT0000B0	100	0	0	0	-	Pass
HT. Severn 2B4P-KLD	HT0000B2	100	0.1	1	1	-	Pass
HT. Severn 2B4P-Living	HT0000B3	100	0.2	4	1	-	Pass

Failed:

0 rooms:

Room Name

Room ID Occupied Criteria 1 (Criteria 2 | Criteria 3 | Criteria failing

Unoccupied:

0 rooms:

Room Name

Room ID Occupied Criteria 1 (Criteria 2 | Criteria 3 | Criteria failing

Note:

A TM 52 2013 analysis provides an assessment of comfort compliance based on bulk air modelling

i.e. each space is considered idealised and the air in the space perfectly mixed. The assessment does

not assess placement of space features e.g. windows & openings, airflow patterns or discomfort issues.

The user should assess these design aspects outside of the TM52 analysis.

Weather File	Location	Operative temperature (TM52/CIBSE) (°C) –			
		22:00–	00:00–	Total hours > 26°C	CIBSE TM59 Criterion(b) check
		24:00	07:00		
		No. hours > 26°C	No. hours > 26°C		
	HT.Aire 1B2P-Bed	0	0	0	Pass
	HT.Aire 1B2P-Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-S Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-S Bed	0	0	0	Pass
	HT.Beaconsfield 3B5P-Bed	0	0	0	Pass
	HT.Harrogate 3B6P-Bed	7	0	7	Pass
	HT.Harrogate 3B6P-Bed	7	0	7	Pass
	HT.Harrogate 3B6P-Bed	8	0	8	Pass
	HT.Lavenham 3B6P-Bed	11	0	11	Pass
	HT.Lavenham 3B6P-Bed	12	1	13	Pass
	HT.Lavenham 3B6P-Bed	11	0	11	Pass
	HT. Stour 3B5P-S Bed	1	0	1	Pass
	HT. Stour 3B5P-Bed	1	0	1	Pass
	HT. Stour 3B5P-Bed	2	0	2	Pass
	HT.Itchen 2B4P-Bed	0	0	0	Pass
	HT.Itchen 2B4P-Bed	0	0	0	Pass
	HT.Itchen 2B4P-Bed	0	0	0	Pass
	HT.Itchen 2B4P-Bed	0	0	0	Pass
	HT.Stowmarket 4B8P-Bed	13	4	17	Pass
	HT.Stowmarket 4B8P-Bed	12	1	13	Pass
	HT.Stowmarket 4B8P-Bed	12	2	14	Pass
	HT.Stowmarket 4B8P-Bed	11	2	13	Pass
	HT.Woodbridge 5B9P-Bed	9	0	9	Pass
	HT.Woodbridge 5B9P-Bed	7	0	7	Pass
	HT.Woodbridge 5B9P-Bed	8	0	8	Pass
	HT.Woodbridge 5B9P-Bed	6	0	6	Pass

DSY3.aps

HT.Woodbridge 5B9P-Bed	8	0	8	Pass
HT.Harrogate 3B6P-Bed	7	0	7	Pass
HT.Harrogate 3B6P-Bed	7	0	7	Pass
HT.Harrogate 3B6P-Bed	8	0	8	Pass
HT.Aire 1B2P-Bed	0	0	0	Pass
HT.Aire 1B2P-Bed	0	0	0	Pass
HT.Stowmarket 4B8P-Bed	13	2	15	Pass
HT.Stowmarket 4B8P-Bed	11	0	11	Pass
HT.Stowmarket 4B8P-Bed	13	1	14	Pass
HT.Stowmarket 4B8P-Bed	13	1	14	Pass
HT.Woodbridge 5B9P-Bed	5	0	5	Pass
HT.Woodbridge 5B9P-Bed	5	0	5	Pass
HT.Woodbridge 5B9P-Bed	5	0	5	Pass
HT.Woodbridge 5B9P-Bed	5	0	5	Pass
HT.Woodbridge 5B9P-Bed	4	0	4	Pass
HT.Whitchurch 5B9P-Bed	10	0	10	Pass
HT.Whitchurch 5B9P-Bed	9	0	9	Pass
HT.Whitchurch 5B9P-Bed	7	0	7	Pass
HT.Whitchurch 5B9P-Bed	9	0	9	Pass
HT.Whitchurch 5B9P-Bed	8	0	8	Pass
HT.Whitchurch 5B9P-Bed	2	0	2	Pass
HT.Whitchurch 5B9P-Bed	0	0	0	Pass
HT.Whitchurch 5B9P-Bed	0	0	0	Pass
HT.Whitchurch 5B9P-Bed	0	0	0	Pass
HT.Whitchurch 5B9P-Bed	2	0	2	Pass
HT.Woodstock 5B10P-Bed	10	1	11	Pass
HT.Woodstock 5B10P-Bed	11	2	13	Pass
HT.Woodstock 5B10P-Bed	11	0	11	Pass
HT.Woodstock 5B10P-SBed	9	0	9	Pass
HT.Woodstock 5B10P-Bed	11	0	11	Pass
HT.Woodstock 5B10P-S Bed	7	2	9	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	1	0	1	Pass
HT.Midhurst 4B8P-Bed	4	0	4	Pass

HT.Midhurst 4B8P-Bed	4	0	4	Pass
HT.Midhurst 4B8P-Bed	4	0	4	Pass
HT.Midhurst 4B8P-S Bed	5	0	5	Pass
HT. Stour 3B5P-S Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT. Stour 3B5P-Bed	0	0	0	Pass
HT. Stour 3B5P-S Bed	1	0	1	Pass
HT. Stour 3B5P-Bed	1	0	1	Pass
HT. Stour 3B5P-Bed	2	0	2	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	1	0	1	Pass
HT. Stour 3B5P-S Bed	1	0	1	Pass
HT. Stour 3B5P-Bed	1	0	1	Pass
HT. Stour 3B5P-Bed	2	0	2	Pass
HT.Severn 2B4P-Bed	0	0	0	Pass
HT.Severn 2B4P-Bed	1	0	1	Pass

Crest Nicholson Operations Limited

LAND WEST OF GATESMEAD

Overheating Assessment

The information contained within this report and any appendices or supporting information provided are to be treated as confidential.



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