

Overheating Statement

Miller Homes Limited

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Former Manchester College,
Moss Hey Drive,
Northenden

REV A 17/11/2022



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1.0 Introduction

1.1 Context

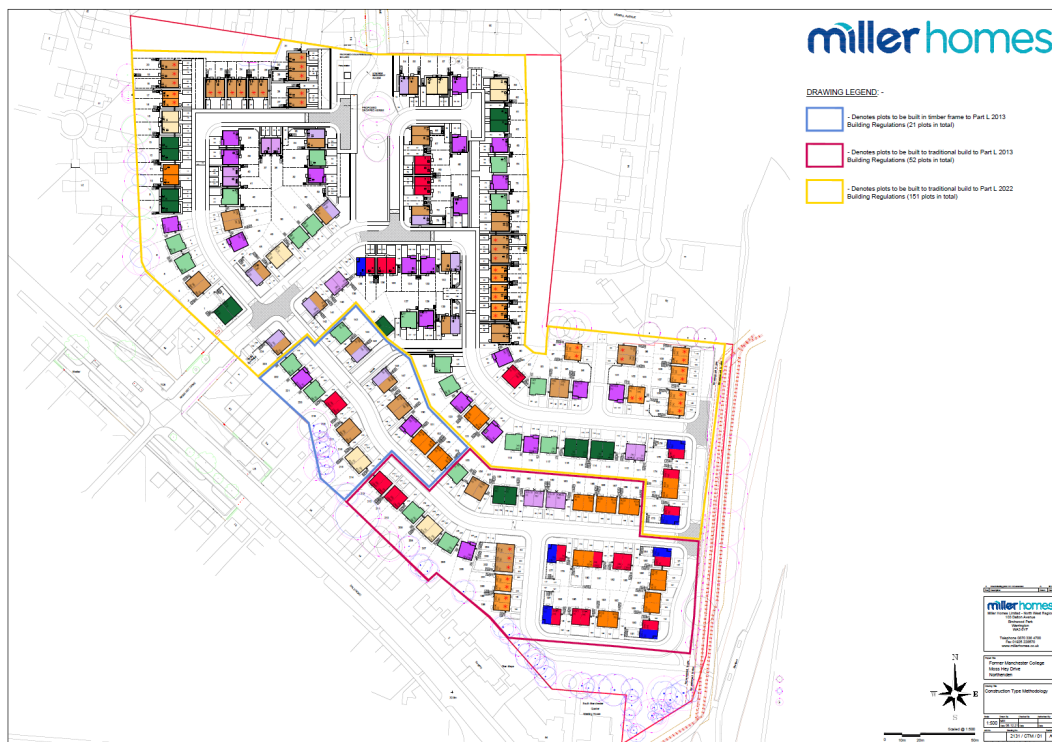
This Statement was prepared by Energy & Design Ltd on behalf of Miller Homes Limited to support a planning application for the proposed 224 dwelling development at Former Manchester College, Moss Hey Drive, Northenden.

This overheating statement shows that the requirement will be met to comply with part L, F and O of the building regulations.

1.2. Description of Development

The site at Former Manchester College, Moss Hey Drive, Northenden, Landgate site proposes 224 plots. These plots comprise of a range of detached, semi-detached, and terraced housing.

The current site is shown below.



1.3. Project Brief

For the purpose of this report the development is being split into two separate parts

The first part will be 73 plots which are being designed to comply with part L1a2013 & F2010 of the Building regulations only 14 of these plots have been deemed to be at risk of overheating these will be **plots 184-197** and shown above.

The second part will be the remaining 151 plots, only 14 of these plots have been deemed to be at risk of overheating these will be **plots 104-110 and 170-176 these will be assessed under Part O 2021** separately to this report as will the remaining plots built to L2021.

2.0 Methodology

2.1 Assessment Methodology (L1a2013)

Energy & Design Ltd have modelled each plot using SAP 2012 methodology to calculate the overheating category in SAP under criterion 3 and to comply with the ventilation requirements of Part F.

3.0 Results

3.1 SAP Criterion 3 (Part L building regulations)

All plots have been modelled in SAP 2012 software and show not significant for all months of the year. This is shown in the following extract from the plot 184 regulations compliance report.

Criterion 3 – Limiting the effects of heat gains in summer		
9 Summertime temperature		
Overheating risk (West Pennines (England))	Not significant	Pass
Based on:		
Overshading	Average	
Windows facing North	4.38 m ² , No overhang	
Windows facing East	5.95 m ² , No overhang	
Windows facing West	11.55 m ² , No overhang	
Air change rate	8.00 ach	
Blinds/curtains	Dark-coloured curtain or roller blind, closed 100% of daylight hours	

3.2 Ventilation (Part F building Regulations)

All plots have been designed to comply with Part F as a minimum.

All the plots comply under part F by using system 1 (background ventilators and intermittent extract fans) with an air permeability of 5.01, this means that trickle ventilators are required **to table B** (Page 23 of Approved Document F 2010).

B – Alternative guidance on total equivalent ventilator area ^a (mm²) for a dwelling with a designed air permeability leakier than (>) 5 m³/(h.m²) at 50 Pa.

Total floor area (m ²)	Number of bedrooms ^b				
	1	2	3	4	5
≤50	25000	35000	45000	45000	55000
51–60	25000	30000	40000	45000	55000
61–70	30000	30000	30000	45000	55000
71–80	35000	35000	35000	45000	55000
81–90	40000	40000	40000	45000	55000
91–100	45000	45000	45000	45000	55000
> 100	Add 5000 mm ² for every additional 10 m ² floor area				

Notes:

- The **equivalent area** of a **background ventilator** should be determined at 1 Pa pressure difference, using the appropriate test method given in Table 5.3.
- This is based on two occupants in the main bedroom and a single occupant in all other bedrooms. For a greater level of occupancy, assume a greater number of bedrooms (i.e. assume an extra bedroom per additional person). For more than five bedrooms, add an additional 10000 mm² per bedroom.

All plots will be air tested so the air permeability levels can be ensured will be in accordance with part F of the building regulations, the actual as built air test needs to 3.01 or higher to comply with the requirements of Part F 2010 5.10 as the below extract.

5.10 In addition to this guidance, for each system alternative guidance is provided for dwellings with as-built **air permeabilities** leakier than (>) 3 m³/(h.m²) at 50 Pa. It is recommended that this option is selected only if designing to an **air permeability** leakier than (>) 5 m³/(h.m²) at 50 Pa and if the person carrying out the building work has previous experience of closely matching design with as-built **air permeability** levels. If the alternative guidance is followed, and it is subsequently found that either

- the tested **air permeability** for that dwelling is tighter than or equal to (≤) 3 m³/(h.m²) at 50 Pa, or
- if the dwelling is not tested, but another dwelling of the same dwelling type tested under regulation 20B is tighter than or equal to (≤) 3 m³/(h.m²) at 50 Pa,

it may be necessary for the **BCB** to ask for more **air permeability** testing to be carried out to ensure all dwellings in the sample are provided with adequate ventilation.

The sound report confirms windows should not be sealed to allow for purge ventilation, the building regulations Part F confirm under point 4.15 Purge ventilation can be used to improve thermal comfort (overheating).

- **Purge ventilation** throughout the building to aid removal of high concentrations of pollutants and water vapour released from occasional activities such as painting and decorating or accidental releases such as smoke from burnt food or spillage of water. **Purge ventilation** is intermittent, i.e. required only when such occasional activities occur. **Purge ventilation** provisions may also be used to improve thermal comfort, although this is not controlled under the Building Regulations.

4.0 Conclusion

4.1 Summary

All the L1a2013 plots comply under the overheating category in SAP under criterion 3 (Part L) and part F.

Using the system as follows.

- System 1 (background ventilators and intermittent extract fans)
- Designed with an air permeability of 5.01, and all plots air tested.
- Background ventilation to be designed to Table B (page 23 of the approved document F 2010)