

Environmental Standards Report

Land Adjacent To 3 Slaithwaite Drive

Manchester, M11 4BA

Date of Report 08/08/2024

Author Charlie Ball

Our Reference: P0322
Client Name: Plans Drawn

Proposal: Erection of Pair of Two-Storey Semi-Detached Dwellinghouses (Class C3)

Location: Land Adjacent To 3 Slaithwaite Drive, Manchester, M11 4BA

Date of Application: 18 July 2023

Application Number: 136702/FO/2023

1. Introduction

This Environmental Standards Statement is submitted in compliance with Condition 12 of the planning decision notice for the proposal mentioned above. The statement outlines the energy efficiency measures incorporated into the design and construction of the development, consistent with the requirements of Manchester's Core Strategy, Regional Spatial Strategy for the North West (RSS), and the National Planning Policy Framework (NPPF).

2. Energy Efficiency Measures

2.1 Target and Dwelling Emission Rates

- **Target Carbon Dioxide Emission Rate (TER):** 9.87 kgCO₂/m²
- **Dwelling Carbon Dioxide Emission Rate (DER):** 8.63 kgCO₂/m²
The development achieves a 12.5% reduction in CO₂ emissions relative to the target.

2.2 Target and Dwelling Primary Energy Consumption

- **Target Primary Energy Rate:** 51.54 kWhPE/m²
- **Dwelling Primary Energy Rate:** 49.58 kWhPE/m²
The development's energy consumption is 3.8% lower than the target.

2.3 Target and Dwelling Fabric Energy Efficiency

- **Target Fabric Energy Efficiency (TFEE):** 33.4 kWh/m²
 - **Dwelling Fabric Energy Efficiency (DFEE):** 33.3 kWh/m²
The development's fabric energy efficiency meets the target.
-

3. Fabric and Insulation Measures

3.1 U-Values of Building Elements

- **External Walls:** U-Value of 0.16 W/m²K (well below the maximum permitted 0.26 W/m²K).
- **Party Walls:** U-Value of 0.00 W/m²K (fully insulated, exceeding standard requirements).
- **Floors:** U-Value of 0.11 W/m²K (well below the maximum permitted 0.18 W/m²K).
- **Roofs:** U-Value of 0.13 W/m²K (well below the maximum permitted 0.16 W/m²K).
- **Windows and Doors:** U-Values of 1.4 W/m²K for windows and 1.6 W/m²K for doors, which comply with and surpass the required standards.

3.2 Thermal Bridging

Thermal bridging is minimized through careful detailing. Key junctions include:

- **Lintels (E2):** Psi value of 0.05 W/mK
- **Sills (E3):** Psi value of 0.04 W/mK
- **Jambs (E4):** Psi value of 0.05 W/mK

3.3 Air Permeability

- **Design Air Permeability:** 5 m³/hm² at 50 Pa, well below the maximum permitted 8 m³/hm², enhancing overall energy efficiency.
-

4. Heating, Hot Water, and Lighting Systems

4.1 Heating Systems

- **Main Heating:** A gas-fired Baxi Assure 536 Combi boiler with radiators, operating at an efficiency of 83.8%, with a flow temperature of 55°C, contributing to lower energy consumption.
- **Secondary Heating:** A closed room heater using wood logs with a minimum efficiency of 60%.

4.2 Hot Water Systems

- **Hot Water:** Integrated with the combi boiler, providing efficient hot water delivery without the need for a separate cylinder.

4.3 Lighting

- **Lighting:** All internal lighting is provided by energy-efficient LED lights with a minimum efficacy of 75 lm/W.
-

5. Renewable Energy Generation

- **Photovoltaic System:** The development includes a 4 kWp photovoltaic system installed on a west-facing roof at a 30° pitch with minimal overshading, contributing to renewable energy generation on-site.
-

6. Post-Construction Review

Prior to the occupation of the dwellings, a post-construction As Built SAP Report will be submitted to the City Council, confirming the implementation of the measures outlined in this statement. The post-construction review will ensure that the development meets or exceeds the design stage predictions in terms of energy efficiency and environmental impact.

7. Conclusion

The proposed development incorporates a comprehensive range of energy efficiency and environmental impact reduction measures, ensuring compliance with the relevant policies and contributing to Manchester's goals of sustainable development and reduced carbon emissions.