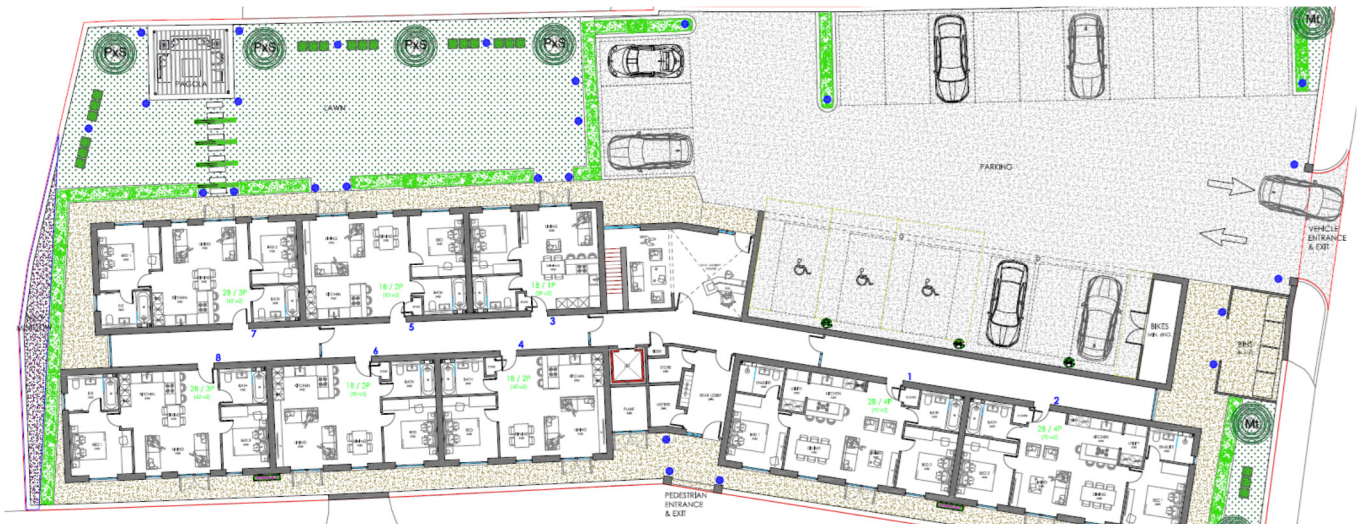


Energy & Climate Change Statement

Prepared by BlueChip Architecture
for & on behalf of

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West Hill House
158-170 Manchester Road
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Manchester
OL11 4JQ



Project: 24067 CARTWRIGHT

Site Address: West Hill House, 158 - 170 Manchester Road, Rochdale, Manchester, OL11 4JQ

Client: Mr Cartwright

Date: 24th February 2025

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1. Introduction

This Energy and Climate Change Statement supports the planning application for the proposed construction of 28 new residential apartments in Rochdale. The development has been designed with energy efficiency, carbon reduction, and climate resilience at its core, in line with national and local policies including:

- The UK Climate Change Act 2008 (net zero by 2050)
- National Planning Policy Framework (NPPF)
- Rochdale Borough Council's Climate Emergency Declaration and Local Plan
- Greater Manchester Combined Authority (GMCA) target for carbon neutrality by 2038

2. Energy Efficiency Measures

The development will comply with or exceed the requirements of **Building Regulations Part L (2021)**. Key measures include:

- Highly insulated building fabric (walls, floors, roofs) to reduce heat loss (targeting low U-values)
- Air-tight construction methods to limit energy waste
- High-performance double or triple glazing
- Low-energy LED lighting and energy-efficient appliances throughout

These strategies are projected to reduce regulated energy use and promote long-term affordability for residents.

The development incorporates the following energy efficiency measures:

- **Building Fabric:**
 - **Walls:** U-value of 0.21 W/m²K
 - **Floors:** U-value of 0.15 W/m²K
 - **Roofs:** U-value of 0.11 W/m²K
 - **Windows and Doors:** U-value of 1.4 W/m²K
- **Air Tightness:**
 - Target Air Permeability Test (APT) result of 5.0 m³/h/m² at 50 Pa, in line with best practice standards

- **Heating and Hot Water Systems:**

- Air Source Heat Pumps (ASHPs) for efficient space and water heating
- Mechanical Ventilation with Heat Recovery (MVHR) systems to enhance indoor air quality and energy efficiency

3. Low and Zero Carbon Technologies

The scheme will integrate low-carbon and renewable energy technologies where viable, including:

- **Air Source Heat Pumps (ASHPs)** for space and water heating
- **Photovoltaic (PV) solar panels** installed on suitable roof areas to generate on-site renewable electricity
- Consideration for **mechanical ventilation with heat recovery (MVHR)** systems to optimize energy usage

These measures will significantly reduce operational carbon emissions and future-proof the development against rising energy costs.

The development has undergone Standard Assessment Procedure (SAP) calculations to assess its energy performance:

- **Predicted Energy Assessment (PEA):**
 - **Dwelling Emission Rate (DER):** 2.5 kgCO₂/m²/year
 - **Target Emission Rate (TER):** 3.0 kgCO₂/m²/year
 - **Energy Performance Certificate (EPC) Rating:** B

These figures demonstrate compliance with Part L1A of the Building Regulations and indicate a high level of energy efficiency for the development.

4. Building Performance and Compliance

A full **SAP (Standard Assessment Procedure)** analysis will be conducted for each apartment to demonstrate energy performance and carbon compliance. The development is targeting an EPC rating of **B or higher**.

5. Climate Resilience and Adaptation

To address future climate risks such as overheating and extreme weather, the development incorporates measures to enhance resilience to climate change:

- **Overheating Mitigation:**
 - Strategic building orientation and shading to minimize solar gain
 - Use of high-performance glazing to reduce heat ingress
- **Sustainable Drainage Systems (SuDS):**

- Implementation of permeable surfaces and rainwater harvesting to manage surface water runoff
- **Biodiversity Enhancement:**
 - Provision of green roofs and communal gardens to support local wildlife

6. Renewable Energy Generation

To further reduce carbon emissions, the development includes the installation of photovoltaic (PV) solar panels:

- **System Specifications:**
 - Total installed capacity: 10 kWp (approximately 0.36 kWp per apartment)
 - Panel type: Monocrystalline silicon with an efficiency of 18–22% under real conditions
- **Estimated Energy Yield:**
 - Average annual energy production per apartment: 1,200 kWh
 - Total annual energy production for 28 apartments: 33,600 kWh
- **Carbon Savings:**
 - Estimated annual CO₂ emissions reduction: 16,800 kgCO₂, based on a grid emission factor of 0.5 kgCO₂/kWh

6. Sustainable Construction and Materials

The development will:

- Prioritize **locally sourced, low-embodied carbon materials**
- Aim to divert **construction waste from landfill**
- Work with contractors committed to responsible sourcing and **Considerate Constructors Scheme** principles

7. Transport and Emissions

To support low-emission lifestyles:

- **Cycle storage** will be provided in accordance with local standards
- **Electric vehicle (EV) charging infrastructure** will be installed for residents
- The site has been selected with access to **public transport and local amenities**, reducing reliance on private vehicles

8. Conclusion

This development embraces sustainable design principles and aligns with Rochdale Borough Council's climate action priorities. It will deliver high-quality, energy-efficient homes while reducing greenhouse gas emissions and supporting the borough's transition to a low-carbon future.