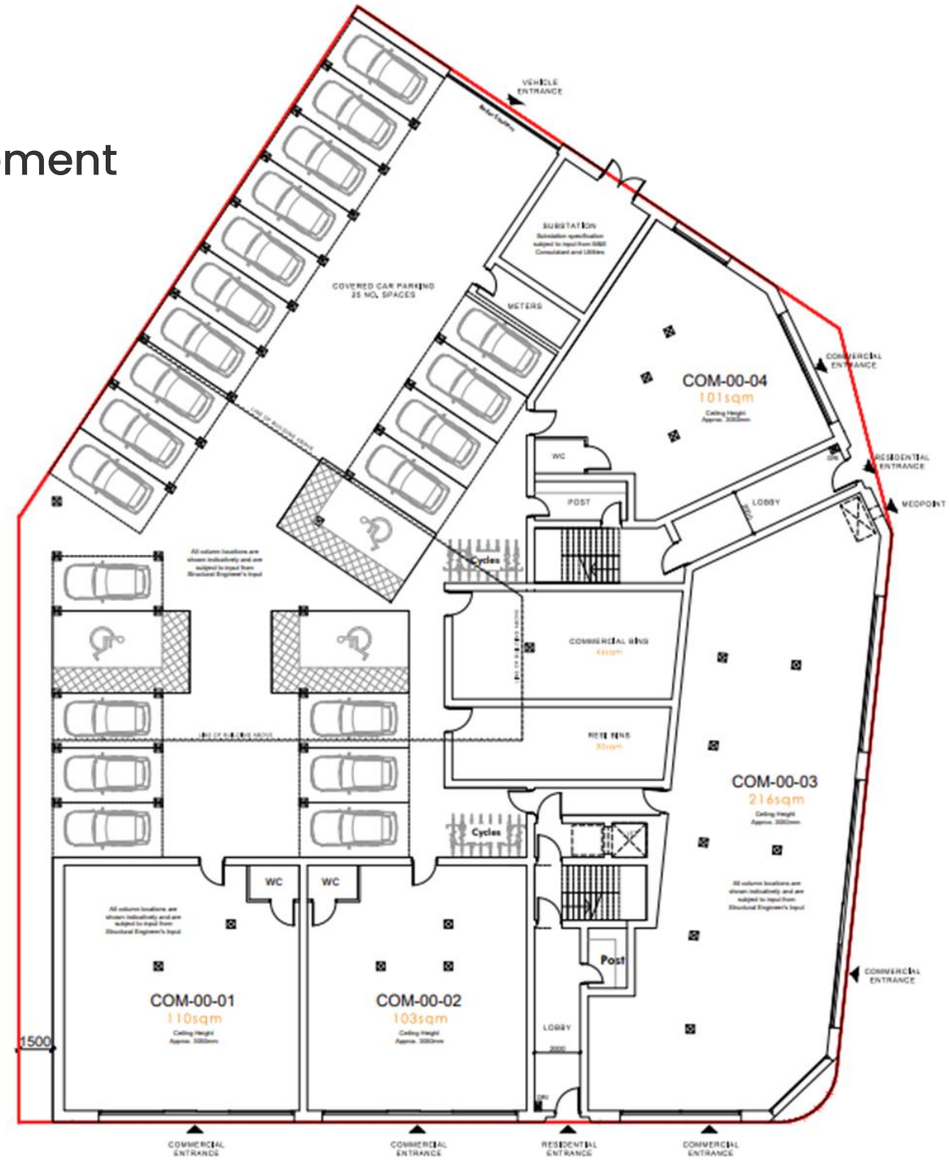
Lane End Road Mixed-Use Development,
Burnage,
Manchester,

Environmental Standards Statement

33089



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Drainage Strategy Report (undertaken by HBL) - Separate Submission

Ecology Scoping and BNG Assessment (undertaken by Mulberry) – Separate Submission

Prepared by:	[redacted]	Date
Ben Dibb-Fuller		10.06.25

Revision Record			
Rev	Date	By	Summary of Changes
-	10.06.25	BDF	-
1	03.02.26	BDF	Updated scheme

1 INTRODUCTION

This This Environmental Standards Statement has been prepared in support of a **full planning application** for the proposed mixed-use development at Lane End Road, Burnage, Manchester.

The purpose of this Statement is to:

- Summarise relevant national and local policy requirements;
- Demonstrate how the proposed scheme addresses environmental and sustainability objectives;
- Present the approach adopted by the project team to reduce the environmental impact of the development.

This document complements a separate Energy Statement by focusing on broader sustainability and environmental issues such as water use, waste management, biodiversity, pollution mitigation, and site resilience. The Energy Statement provides technical detail and modelling of predicted energy performance. This ESS focuses on demonstrating the wider environmental credentials and policy compliance of the scheme.

All proposals within this statement are specific to this site and align with the current planning application submission.



Figure 1: Site plan of the proposed development

2 PROJECT SCOPE

2.1 BRIEF

Complete Sustainability Solutions has prepared this ESS to evidence policy compliance and best-practice sustainability for the planning submission.

2.2 DEVELOPMENT PROPOSALS

- Demolition of existing structures.
- Construction of a **four-storey mixed-use building**:
  - **Ground floor:** 4no. retail units (Use Class E) plus internal refuse, cycle and plant areas.
  - **Upper floors:** 56 apartments (Use Class C3) with shared rooftop amenity terrace(s).
- On-site car parking spaces (including EV-ready bays) and secure long-stay cycle storage.
- Soft and hard landscaping and new boundary treatments.

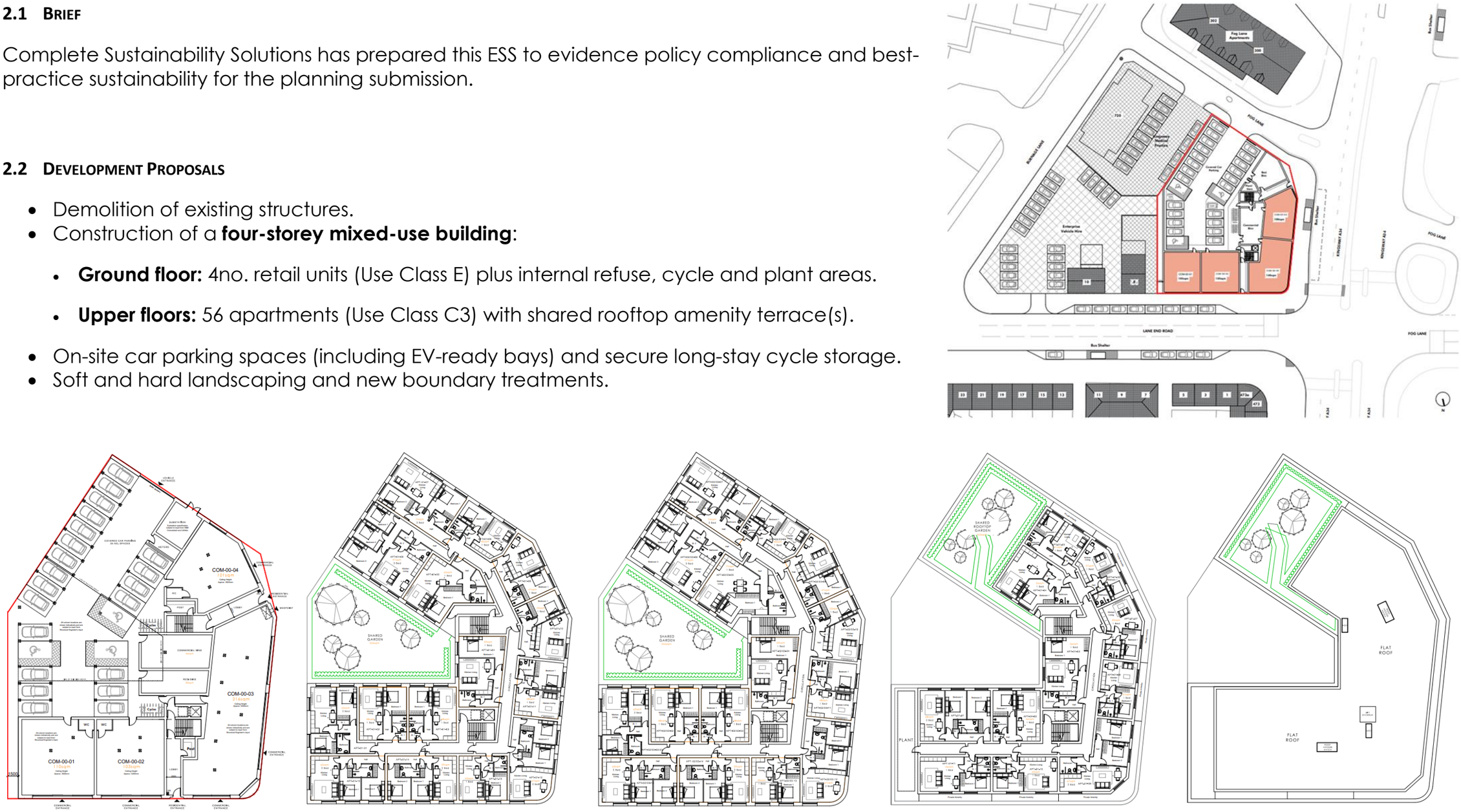


Figure 2: Proposed development plan (top) and floorplans (bottom)

2.3 Site Location

The site is located within the Burnage area of Manchester, approximately 4 miles south of the city centre. It benefits from proximity to local shops, services, public transport (Burnage Railway Station, Didsbury Village Metrolink, and local bus routes) and established residential neighbourhoods. The final Site Location Plan, with red line boundary, is provided in the submitted planning application pack.



Figure 3: Location of proposed site

3 Policy Context

Within this section of the report we will review both local and national policy, establishing key principles that can be taken forward and applied across the development.

3.1 Manchester Core Strategy (2012, as amended by PfE 2024)

Policy Reference	Core Strategy Policy	Relevance to Scheme
DM1	Development Principles	High-quality design, environmental performance, residential amenity
EN4	Low & Zero Carbon Development	Follow Energy Hierarchy and integrate LZC technologies.
EN6	Target Framework for CO_2 Reduction	Minimum 9 % CO_2 improvement over Part L 2013 for residential.

3.2 Places for Everyone Plan (Adopted March 2024)

Policy Reference	Core Strategy Policy	Requirement	Relevance to Scheme
JP-S2	Carbon and Energy	*Zero-net-carbon from 2028*; follow Energy Hierarchy; offset any residual carbon.	Fabric-first, heat-pump and PV strategy achieves 71% regulated CO_2 reduction. Remaining emissions offset via MCC fund.
JP-S3	Heat and Energy Networks	Connect to existing networks or be "network-ready".	No district network within 500 m; building designed with central plant room and oversize risers for future connection.
JP-S4	Resilience	climate-resilient design, SuDS and green-blue infrastructure.	On-site attenuation tanks, green roof zones, drought-resilient planting.

3.3 Local Policy Context – Guide to Development in Manchester, Supplementary Planning Document

The Core Strategy requires that all new residential developments should accord with the design guidance set out in the Supplementary Planning Documents (SPD). The Guide to Development in Manchester SPD was adopted on 11thApril 2007 and supports and enhances the ongoing shaping of the City by providing a set of reasoned principles which will guide developers, designers and residents. These principles include a number of environmental standards, and includes the following categories which are identified in the SPD:

- Energy efficiency;
- Renewable energy;
- Environmental design;
- Water management and weather resilience;
- Waste management;
- Construction management;
- Biodiversity; and,
- Waterways

3.4 Local Policy Context – Manchester Residential Quality Guidance

This document provides guidance for building new build dwellings in Manchester. The residential quality guidance demands design excellence in all new housing built in the city, sets minimum space standards, and ensures high environmental standards. The guidance includes nine components:

Make it Manchester – developers must understand the city's unique character, heritage old and new, density and scale in various parts of the city and appreciate how new homes will fit in to what's already there.

Make it bring people together – new homes must encourage a sense of community and neighbourliness, offering a mix of tenures to promote a mix of people. Make it animate streets and spaces – understand the relationship between new homes and its environment and create public space.

Make it easy to get around – make sure developments have good transport links, along with good walking and cycling provision.

Make it work with the landscape – development should improve the connection with the local environment with improved biodiversity, as well as greening and water schemes.

Make it practical – dealing with waste, car parking, bike storage and visitors should be made as easy as possible.

Make it future proof – design must anticipate the impacts of climate change and extreme weather with efficient design and adaptability.

Make it a home – sufficient space, natural light, privacy and storage are essential for people to settle down and flourish. Make it happen – ensuring proposals are delivered to a high quality, with high design standards and high sustainability.

3.5 Local Policy Context – Manchester's Great Outdoors

A Green and Blue Infrastructure Strategy for Manchester aims to invest in the city's Green and Blue infrastructure over the next 10 years (by 2025). Four objectives have been established to enable the vision to be achieved:

1. Improve the quality and function of existing green and blue Infrastructure, to maximise the benefits it delivers.

2. Use appropriate green and blue infrastructure as a key component of new developments to help create successful neighbourhoods and support the city's growth.

3. Improve connectivity and accessibility to green and blue infrastructure within the city and beyond.

4. Improve and promote a wider understanding and awareness of the benefits that green and blue infrastructure provides to residents, the economy and the local environment.

3.6 Local Policy Context – Climate Emergency

A Climate Emergency was declared by Manchester City Council on the 10th July 2019 in response to the findings of the Intergovernmental Panel on Climate Change (IPCC) report. The City Council believe that there is serious risk to Manchester's people of climate change affecting economic, social and environmental well-being, supply chains – including food security, financial systems and local weather, among many others. Therefore, the target for becoming a zero-carbon city has been accelerated by 12 years, setting 2038 as the new target for the city.

Manchester Climate change Framework 2020 – 25 is Manchester's high-level strategy for meeting their commitment on climate change that builds on the Draft Manchester Zero Carbon Framework 2020-38, which was published in February 2019, and Manchester City Council's declaration of a climate emergency in July 2019. This was endorsed by MCC at the Executive meeting in March 2020 and will develop over the next five years, in line with changes in policy, climate science, rate of progress and other factors. The framework contains the following relevant objectives:

Objective 2 – Climate adaptation and resilience will require the adaption of the city's buildings, infrastructure and natural environment to the changing climate and increasing the climate resilience of our residents and organisations. This includes:

- Increase the amount of urban green infrastructure cover, aiming for a 10% increase by 2038 from 2018 levels, in line with the Greater Manchester aim.

Objective 3 – Health and wellbeing aims to improve the health and wellbeing of everyone in Manchester through actions that also contribute to objectives for CO2 reduction and adaption and resilience:

- Adapt the city's built and natural environment and prepare residents to become more resilient to these changes. Increasing the amount and quality of green space to enable residents to benefit from the improved physical and mental health that will come as a result.
- Improving the energy efficiency of the city's homes and providing access to affordable, secure supplies of renewable energy, which are essential to help get 38,000 Manchester households out of fuel poverty.

Objective 4 – Inclusive, zero carbon and climate resilient economy looks to ensure that Manchester establishes an inclusive, zero carbon and climate resilient economy where everyone can benefit from playing an active role in decarbonising and adapting the city to the changing climate.

Priority Areas

Six priority areas have been established in order to help meet the above objectives and include:

1. Buildings (existing and new)
2. Renewable energy
3. Transport and flying
4. Food
5. The things we buy and throw away
6. Green infrastructure and nature-based solutions

Urgent Climate Change Framework Actions Identified to Help Meet the Commitments:

- New Buildings – To ensure that new developments in the city don't eat into the limited carbon budgets and add to the already significant retrofit challenge developments need to be built and operated to zero carbon standards as soon as possible.

- The ideal way to do this is through UK Government establishing a national zero carbon definition and methodology for its implementation, and for Manchester City Council to implement this standard as quickly as possible through the local planning system.

- This should include applying zero carbon standards to all developments where the Council has additional influence, with a view to all new development needing to be zero carbon from 2023 at the latest.

- Renewable Energy – The National Grid has been decarbonising in recent years; we need this to continue but at an accelerated rate, with a view to being fully decarbonised as soon as possible.

- At least 50% of all homes should have the equivalent of 16m^2 of solar PV panels by 2024.

- Gas – The following actions are needed to help reduce the reliance on natural gas:

- Improve the energy efficiency of our buildings as far as possible to reduce our demand for gas.

- Replace our natural gas-based heating systems with renewable energy-based heating technologies as soon as possible.

- Work with Government to ensure that moving to electricity-based heating systems is affordable and doesn't push even more people into fuel poverty.

3.7 National Policy Context – National Planning Policy Framework December 2024

Section 2. Achieving Sustainable Development

(**8**) - Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):

a) an economic objective – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;

b) a social objective – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being.

c) an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

Section 14. Meeting the Challenge of Climate Change, Flooding and Coastal Change

(**164**) – New development should be planned for in ways that:

a) avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through incorporating green infrastructure and sustainable drainage systems; and

b) help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings in plans should reflect the Government's policy for national technical standards.

(**165**) – To help increase the use and supply of renewable and low carbon energy and heat, plans should:

a) provide a positive strategy for energy from these sources, that maximises the potential for suitable development, and their future re-powering and life extension, while ensuring that adverse impacts are addressed appropriately (including cumulative landscape and visual impacts);

b) consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure their development; and

c) identify opportunities for development to draw its energy supply from decentralised, renewable or low carbon energy supply systems and for colocating potential heat customers and suppliers.

(**166**) – In determining planning applications, local planning authorities should expect new development to:

a) comply with any development plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and

b) take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.

(**168**) – When determining planning applications for all forms of renewable and low carbon energy developments and their associated infrastructure, local planning authorities should:

a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and give significant weight to the benefits associated with renewable and low carbon energy generation and the proposal's contribution to a net zero future;

b) recognise that small-scale and community-led projects provide a valuable contribution to cutting greenhouse gas emissions;

c) in the case of applications for the repowering and life-extension of existing renewable sites, give significant weight to the benefits of utilising an established site.

(**169**) – Once suitable areas for renewable and low carbon energy have been identified in plans, local planning authorities should expect subsequent applications for commercial scale projects outside these areas to demonstrate that the proposed location meets the criteria used in identifying suitable areas.

3.8 National Policy Context – Building Regulations

Building Regulations, Part L - Conservation of Fuel and Power sets the compliance standards for energy demand and carbon dioxide emissions from buildings.

Approved Document L1A addresses the conservation of fuel and power in new dwellings. The proposed development is registered against Building Regulations, Part L (2013) which requires all newly constructed dwellings need to comply with 5 criteria set out in Approved Document L1A unless exempted through the transitional provisions:

I. The predicted rate of carbon dioxide emissions from the dwelling (the Dwellings Emission Rate DER) is not greater than the Target Emissions Rate (TER). Additionally, the Dwelling Fabric Energy Efficiency (DFEE) is not greater than the Target Fabric Energy Efficiency (TFEE);

II. The performance of the building fabric and fixed building services should be no worse than the design limits set out in Table 2 of the Approved Document;

III. The dwelling has appropriate passive control measures to limit the effect of solar gains on indoor temperatures in summer;

IV. The performance of the dwelling as built is consistent with the DER, including site checking that the air permeability is within reasonable limits; and

V. The necessary provisions for energy efficient operation of the dwelling are put in place including operating and maintenance instructions aimed at achieving economy in the use of fuel and power in a way that householders can understand.

3.9 POLICY CONTEXT SUMMARY - APPLICABLE TARGETS

Based upon a review of relevant planning policy requirements, legislative drivers, and client priorities, the following list provides a brief precis of the key criteria that should be targeted for this development:

- CS Policy EN 4 - Following the principles of the Energy Hierarchy to reducing CO_2 Emissions;
- CS Policy EN 6 - Residential - 9% dwelling emission rate reduction over Part L 2013; and,
- Approved Document L1A / L2A will guide the compliance standards for energy demand and carbon dioxide emissions from this building.

4 ENVIRONMENTAL PERFORMANCE

This section provides an appraisal of the development proposals and details the specific approach, design features and specifications which will contribute to reducing the environmental impact of the proposed scheme. This section outlines those commitments that have been made by the client to ensure this development contributes to sustainable development, meets the council's current policies, and examines the following categories identified in the Guide to Development in Manchester, Supplementary Planning Document (SPD):

- Energy efficiency;
- Renewable energy;
- Environmental design;
- Water management and weather resilience;
- Waste management;
- Construction management;
- Biodiversity; and,
- Waterways.

The key specifications, site characteristics and design measures of the proposed development are considered below. They will mitigate the environmental impact of the scheme throughout both the construction stage and the future occupation of the development.

4.1 ENERGY

In order to limit energy demand and carbon dioxide (CO2) emissions from the operation of the new dwellings, the following design features will be integrated within the scheme. These will enable the occupants to lead a low-impact lifestyle:

Energy Efficiency Strategy

- The proposed approach to emissions reduction at this site will be through a fabric led energy strategy and efficient servicing in accordance with the principles of the Energy Hierarchy;

- The proposed energy strategy will provide improvements in the energy performance of the building above national building regulations Part L1A (2013) criteria in relation to heating energy demand, primary energy consumption and carbon dioxide and will incorporate the following measures:

- Enhanced building fabric specification; and,

- Renewable energy technology. Further details of the proposed approach to reducing the energy demand and associated carbon dioxide emissions of these dwellings are presented in the Sections 5 (Energy Strategy) and Section 6 (Climate Emergency).

General Principles

- White goods are graded on a scale from G (the least efficient) up to A++ (the most efficient) under the EU energy efficiency labelling scheme. There will be the provision of A and A+ rated white goods (where applicable);
- Provision of EU energy efficiency labelling scheme details to assist in the purchasing of energy efficient white goods;
- 100% low energy and/or LED internal lighting;
- All external space lighting to be provided by dedicated energy efficient fittings and controls; and,
- On-site, secure cycle storage will be provided to encourage the use of sustainable modes of transport.

4.2 WATER

The new dwellings will be designed to reduce mains/potable water consumption and will include water efficient devices and equipment.

- A water efficiency strategy will be determined for the development. This will include 'A' rated appliances (where provided);
- Specification of efficient water fixtures throughout the scheme including low flow taps and showers, dual flush WCs and low volume baths. In order to reduce the demand, the sanitary fixtures will be specified to achieve a calculated daily consumption of <105 litres/person/day; and,
- The landscaped areas of the development will be irrigated solely by precipitation throughout all seasons of the year to reduce unregulated water consumption. Private landscaped areas will be irrigated with water from individual water butts to further reduce potable water consumption and promote the recycling of rainwater

4.3 RESOURCE MANAGEMENT AND POLLUTION

Efficient Use of Land

- The re-use of land in a highly accessible, urban location will provide much-needed homes, and a development that inherently supports a sustainable community.

Pollution Control

To reduce emissions of gases with high global warming potential (GWP) and nitrogen oxide (NOx) into the atmosphere, the new build dwellings will be specified with:

- Insulating materials that have a GWP of less than 5 throughout the development to reduce the construction phase impact of this scheme upon climate change.

Additionally, the following measures will be implemented:

- Pollution Prevention Guidance will be adhered to in respects of air (dust) and water (ground and surface) pollution during the demolition and construction phase;

- External light fittings will be controlled through a time switch, or daylight sensor, to prevent operation during daylight hours to limit the impact of artificial lighting for the development's residents and surrounding environment;

- Where necessary, temporary drainage and pollution prevention measures will be in place on site, this may include, for example, bunded areas and spill kits to prevent harmful chemicals/materials from draining to natural watercourses; and silt traps to ensure that suspended solids are removed from the drainage water;

- Dust suppression measures will also be put in place as part of the contractor's Environmental Management Plan, such that any potential risks to watercourses or the neighbouring properties are minimised; and,

- Sound insulation will be specified to achieve Building Regulation Part E compliance standard (this will be verified by pre-completion testing) in addition to meeting the requirements of the council. Excess noise can have a significant impact on local ecology as well as human physical and psychological health therefore, a Noise Impact Assessment (NIA) has been prepared by professional consult.

Materials

This development will contribute towards making more efficient use of non-renewable material resources and to reducing the lifecycle impact of materials used in construction. This is demonstrated by the selection of:

- Materials with low environmental impact throughout their lifecycle will be selected;

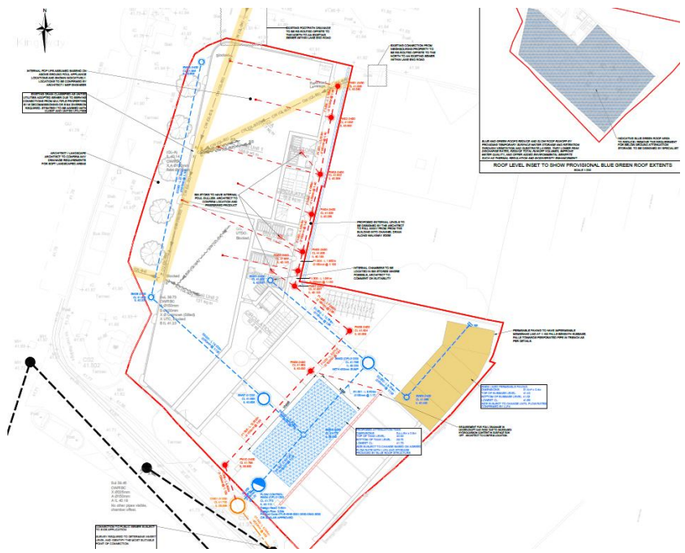
- Construction materials will be selected to match the existing building on the site, as well as the housing stock of the area, so as to contribute to the retention of the local housing characteristics. This will include traditional red brick, artstone heads and cills plus grey roof tiles and wood grain UPVC doors and windows; and,

- Robust materials will be utilised for hard landscaping that reflect the local vernacular therefore, minimising the frequency of replacement.

4.4 Surface Water Run-off

Flood Risk

The proposed site is located within Flood Risk Zone 1 and therefore has a low probability of flooding. Data provided on the Environment Agency website confirms the Flood Risk Zone classification for the site.



On Site Surface Water Management

To minimise the risk and impact of localised flooding on and off-site, watercourse pollution and other environmental damage, the drainage strategy will ensure that the peak rate of run-off from the site to the watercourses (natural or municipal) will be no greater for the developed site than it was for the predevelopment site.

A proposed drainage strategy report has been undertaken which is attached separately to this report as Appendix C.

4.5 Construction Waste

Best practice techniques to prevent and minimise waste arising during the design and construction phases of the development, as follows:

- Prior to commencement of the above ground construction phase, a site waste management plan (SWMP) will be produced by a waste management contractor, containing procedures for waste minimisation, as well as optimisation of waste recovery and recycling in accordance with the Waste Hierarchy. This SWMP will limit the on and off-site environmental impacts of construction and will detail:

- Recycled and secondary materials;
- Waste reduction;
- Waste segregation;
- Waste recovery; and,
- Waste disposal.

- A SWMP will identify opportunities to minimise waste generation and will help to divert as much construction waste from landfill as feasibly and financially viable. Skips will be provided on site to segregate waste into the following streams:

- Timber;
- Metal;
- Plasterboard; and
- General Waste.
- Procedures for monitoring waste will include:

- Topsoil / spoil – copies of the tickets from the carrier will be retained on site to identify the quantities of material leaving site; and,
- Other waste – skips will be sent to a licenced recycling centre who will provide reporting as to the various waste streams and recycling rates.

- This scheme will promote the minimisation of waste from the site development and seek to maximise the use of recycled materials in construction. Procedures for minimising waste (both hazardous and non-hazardous) are as follows:

- Design stage:
  - Standardise construction details wherever possible;
  - Coordinate sizes in line with standard materialsizes (i.e. plasterboard, blockwork);
  - Do not specify hazardous materials where there is a non-hazardous alternative available; and,
  - Early contractor and/orsubcontractor involvement to review buildability.

- Construction phase:
  - Ensure material correctly stored on site to prevent damage;
  - Protect finished works to prevent damage;
  - Segregate waste to maximise recycling;
  - Correctly store and dispose of hazardous waste materials; and
  - Request deliveries made to site with minimal packaging and that items such as pallets are returned to suppliers.

- As a result of the waste minimisation procedures, a 10% improvement on the following benchmarks are targeted:

  - Inert spoil offsite - 55 m3 per 100 m^2 ;
  - Recycled waste - 0.54 tonnes per 100 m^2 ; and,
  - Waste to landfill - 0.03 tonnes per 100 m^2 .

4.6 DOMESTIC WASTE

The development will provide infrastructure and facilities that meet the need of the residents for segregated waste storage, thereby optimising the ability to recycle waste:

- A waste management strategy will be developed, ensuring that adequately sized bin storage areas for the dwelling will be designed into the development at an early stage of the design; and,

- Private bin storage provisions will enable residents to make full use of Local Authority recycling services. The strategy will allow for storage of general waste, recyclable materials and food waste in order to optimise the recycling rates achieved by Manchester City Council.

4.7 Health and Wellbeing

To enable the occupants of the proposed development to lead lower impact lifestyles and enhance their quality of life, the following measures will be delivered:

- All dwellings will comply with National Space Standards, to ensure that all dwellings are of a sufficient size, provide flexibility and comfort for the future occupants.

4.8 Management

In order to minimise the impact of the development during construction and operation whilst providing a safe place to live, the proposals include for the following provision:

- Construction site impacts will be minimised and measures implemented to prevent impacts upon the local area in terms of dust and noise pollution during construction works; and,

- The security needs of the development will be considered, and the site will adopt crime prevention measures to assist in reducing the opportunity for, and fear of crime. A Crime Impact Statement has been prepared by Design for Security. The scheme will have due regard to the recommendations within the Crime Impact Statement.

4.9 Biodiversity and Land Use

Land Use –

The proposal for a multi-residential scheme makes effective use of a small plot of vacant land in meeting the urgent need for homes.

Biodiversity –

An Ecology Scoping and BNG Assessment (undertaken by Mulberry) is attached separately to this report as Appendix D.

4.10 BIODIVERSITY AND LAND USE

The proposed development is located within approximately 4 Miles of Manchester city centre, which is one of the most sustainable locations in Manchester, particularly in relation to key pedestrian, rail, Metrolink and bus transport routes.

The site is well located in terms of non-car modes of transport with basic facilities all within easy walking distance of the site.

Transport Links –

The site benefits from good sustainable access opportunities and is well connected by existing walking and cycling routes to key trip attractors. Buses can also be used to easily access the site as well as Metrolink stops:

- Bus – The nearest bus stops are located immediately to the front of the site. The bus stops provide regular services into Bury, Shudehill, Rochdale, Manchester Royal Infirmary and Piccadilly Gardens.

- Rail – The nearest railway station is Burnage railway station and is located 0.5 miles away (or a 5-10 minute walk) away from the proposed development site. This station services the Styal Line.

- Metrolink – The nearest Metrolink station is Didsbury Village and is located 0.8 miles away(or a 17 minute walk) away from the proposed development site.

- Cycle - The area is accessible by bike with particularly strong links to employment opportunities in the city centre areas such as Salford and Manchester which can be accessed easily via public transport. Cycle storage will also be provided in a secure, accessible location in accordance with local authority guidelines.

- Pedestrians – The site is in a sustainable location with basic facilities that can be accessed from the development via foot or public transport.

The proposals include for the enhancement of the existing parking provisions to provide a total of six car parking spaces.

Local Amenity Access –

- Residents are able to walk to local amenities and shops in the local area.

Disability Access –

- Disabled access provision within the scheme itself will be in accordance with Building Regulation, Part M criteria where possible.

5 Design Criteria

Within this section of the report we will, utilising SAP (10.2) & SBEM software, to carry out an assessment of the proposed development against current Building Regulations. We will establish CO_2 baseline, then following the energy hierarchy, establish a low-carbon specification to ensure CO_2 emissions meet the requirements of both national and local policy.

Full SAP & SBEM calculations will be carried out at detailed design to ensure the specification meets the local policy. If any amendments to the design are required these will be incorporated at this point and calculations updated to ensure compliance.

5.1 Preview and implement the Energy Hierarchy: Be Lean – Be Clean – Be Green

The Energy Hierarchy is a classification of energy options, prioritised to assist progress towards a more sustainable energy system. The energy hierarchy uses a step-by-step process:

- Step 1 Be lean – Use less energy.
- Step 2 Be Clean – Use energy efficiently
- Step 3 Be Green – Utilise renewable technology

5.2 Be Lean – Use Less Energy

The developer, in accordance with both national and local planning policy, has stated their wish towards ensuring the development follows a fabric first approach, therefore reducing demand on the national grid as reasonably possible.

Below we have highlighted the proposed U values, going beyond the requirements of Building Regulations; thus improving upon the baseline CO_2 emissions.

Beyond the fabric first approach, the next stage is to look at possible be lean measures that can be introduced across the site to minimise energy demand. Below we have identified the practical measures to be introduced:

Table 1: Summary of Proposed Be Lean Measures

Element	Building Fabric	
	L1A Minimum Requirement U Values (W/m^2K)	Proposed Dwelling U Values (W/m^2K)
Ground Floor	0.18	0.13
External Wall	0.26	0.18
Roof	0.16	0.11
Windows including roof lights (if applicable)	1.60	1.20 G-value = 0.63
External Doors	1.60	1.2
Air Permeability	8	3

Table 2: Additional Be Lean Measures

Be Lean
Low Air Leakage Rates
Dedicated LED low energy efficient light fitting within all areas
Lighting controls to all applicable areas
High efficiency MVHR (Mechanical Ventilation Heat Recovery units to all applicable areas

5.3 Be Clean – Supply Energy Efficiently

Within this section of the energy hierarchy, we see an emphasis being placed upon ensuring the regulated energy demands of the development are met as efficiently as possible.

District and site-wide heat networks can be utilised to provide heating and hot water to a development in an efficient manner. In this instance there isn't a district wide network within the vicinity of the scheme (see appendix B).

Furthermore, opportunities to include a combined heat and power system (CHP) may be considered, which allows for the production of electricity and although the scheme will provide a mix of users which could allow for a site wide heat network and Combined Heat and Power (CHP) system, the development programme, size of the development, and uses are not aligned in a way to allow for CHP to be considered and has therefore been discounted.

The next stage is to look at possible be clean measures that can be introduced to individual plots on site. Below we have identified the practical measures to be introduced:

Table 3: Be Clean Measures

Be Clean
Hot water provided by high efficiency systems
Space heating via high efficiency systems

5.4 Be Green – Utilise Renewable Energy

The final phase of the report is to ascertain if the development will benefit from renewable/low carbon technologies and the following renewable/low carbon technologies will be analysed for this development;

- Solar Thermal
- Solar PV
- CHP
- Air Source Heat Pump
- Ground Source Heat Pump

See Appendix A for detailed summary and suitability matrix of Be Green technologies.

Renewable technology in the form air source heat pumps and roof mounted Photovoltaics have been selected as the best fit renewable technology for the site.

Table 4: Summary of Be Green Measures

Be Green
We have reviewed the renewable options available to this site and have included the following: • Air Source Heat Pump to provide hot water to the dwellings via the Dimplex KERS ASHP. • Roof-mounted solar PV is applicable to this development, with a favorably sized, orientated and unshaded roof. It is estimated that: - 28.5kWp array to the apartments (0.5 kWp per unit) - 4kWp array allocated to the non-domestic area This array size would be roughly 130m^2 which the roofspace of the proposed 4th floor can accommodate.

6 SUMMARY OF ENERGY PERFORMANCE CALCULATIONS

6.1 SUMMARY OF RESULTS – THE ENERGY HIERARCHY

Tables 5 summaries the performance of the development using the guidance outlined in Part L1A for residential buildings respectively as the baseline target.

Although the proposed PV system could have a visual impact which may be of concern due to the location and local plan limitations, the carbon emissions uplift on the carbon emission rates are necessary to sure PfE policies are adhered to. Regardless of the implementation of solar photovoltaics, this development will be designed with high levels of insulation and air tightness and surpass current Building Regulation requirements Part L 2021 for fabric requirements.

A summary of the design stage results of the SAP and SBEM compliance documents for the site can be found below, demonstrating that the scheme is in line with the relevant national and local policies outlined within the energy statement. It can be concluded that CO_2 emissions of predicted energy use of the development will be less than the baseline (notional building) as the DER/BER (Dwelling or Building Emissions Rate) will be lower than the TER (Target Emissions Rate), as detailed in the table below.

A calculation of the carbon emission shortfall (those carbon emissions that cannot be mitigated on-site) is also shown, which as outlined in this 'Policy JP-S2: Carbon and Energy' must be addressed. It is envisaged that a contribution to the local planning authority's carbon offset fund will be made for the residual carbon emissions for the site.

Table 5: Summary of Results - The Energy Hierarchy and Net-Zero Carbon Emission Shortfall Calculation

Energy Hierarchy	Residential		Non-Residential	
	Carbon Dioxide Emissions for Residential building (Kg CO_2 / year)	Percentage improvement on Part L1A	Carbon Dioxide Emissions for Non-Residential building (Kg CO_2 / year)	Percentage improvement on Part L2A
Part L 2021 Baseline/Target Emissions Rate	41,579	-	700	-
Part L 2021 As Designed Emissions Rate	11,561	72%	652	7%
Cumulative savings for off-set Payment for Net Zero Emissions	11,561	-	652	-
	12,213 kgCO_2			

Full compliance with the key criteria of the Manchester Core Strategy, and the Places for Everyone Policy, have been achieved by the proposed energy strategy.

Policy Reference	Core Strategy Policy	Relevance to Scheme	How was this policy achieved?
DM1	Development Principles	High-quality design, environmental performance, residential amenity	The proposal demonstrates excellent environmental design, incorporating: • Nationally Described Space Standards (NDSS), • Secure access, boundary treatments, and CPTED measures (e.g., CCTV-ready, defensible planting), • High levels of daylight, private and shared amenity space. • Located within a highly accessible urban area, promoting low-carbon travel via public transport and cycling. • Incorporates climate adaptation features such as SuDS, green/blue roofs, and drought-tolerant landscaping. • Delivers net biodiversity gain and efficient use of a brownfield site, contributing to regeneration.
EN4	Low & Zero Carbon Development	Follow Energy Hierarchy and integrate LZC technologies.	• **Be Lean**: Enhanced thermal fabric (e.g. walls 0.18 W/m²K, airtightness 3 m³/h·m²). • **Be Clean**: High-efficiency heat systems and MVHR, with district-heat readiness built in. • **Be Green**: Integration of **air source heat pumps** and a **~32.5 kWp solar PV system**, providing on-site renewable energy. • Residual emissions to be offset in agreement with MCC, in line with PfE JP-S2.
EN6	Target Framework for CO_2 Reduction	Minimum 9% CO_2 improvement over Part L 2013 for residential.	• The residential element achieves a **72% CO_2 emissions reduction** below the Part L 2013 baseline. • This is verified via SAP 10.2 calculations and demonstrates far **exceeding the minimum threshold**, in line with current climate emergency policy.

Policy Reference	Core Strategy Policy	Relevance to Scheme	How was this policy achieved?

JP-S2	Carbon and Energy	*Zero-net-carbon from 2028*; follow Energy Hierarchy; offset any residual carbon.	• The scheme follows the **Energy Hierarchy** rigorously:
			  • **Be Lean** – High-performance fabric specification (e.g. U-values, airtightness).
			  • **Be Clean** – Centralised hot water, high-efficiency services, and futureproofing for district energy connection.
			  • **Be Green** – On-site renewables: **Air Source Heat Pumps (ASHP)** and **~32.5 kWp solar PV** system.
			• SAP/SBEM outputs show a **71% CO_2 reduction sitewide** for residential/non-residential (vs Part L 2013), exceeding the 9% policy minimum.
			• **Residual emissions** (~12,213 $kgCO_2$/year) will be offset through a financial contribution to MCC's **carbon offset fund**, subject to a Section 106 agreement.

JP-S3	Heat and Energy Networks	Connect to existing networks or be "network-ready".	• No existing heat network is within 500 m of the site (confirmed via CSS mapping).
			• However, the building is **designed to be network-ready** with:
			  ○ A central plant space in the ground floor,
			  ○ Oversized risers to allow retrofitting of pipework,
			  ○ A communal service strategy that would enable future integration without major redesign.
			• This meets the **"connect or be ready"** requirement of JP-S3.

JP-S4	Resilience	climate-resilient design, SuDS and green-blue infrastructure.	• Climate resilience is embedded in the design:
			  • **Flood risk**: Located in **Flood Zone 1** with a compliant **SuDS strategy** (attenuation tanks, restricted discharge rate).
			  • **Green infrastructure**: Biodiversity net gain (+12% units, +18% area) via native planting, habitat boxes, and green roofs.
			  • **Water efficiency**: Dwellings limited to **≤105 litres/person/day** potable water use through efficient fixtures.
			  • **Overheating risk minimised** by passive measures: low-g-value glazing, MVHR, solar shading, and no need for mechanical cooling.
			• The proposal is robust against both acute and long-term climate risks.

7 CLIMATE CHANGE EMERGENCY

A Climate Emergency was declared by Manchester City Council on 10th July 2019, with a target to make Manchester carbon neutral by 2038. In support of this, the developer wishes to highlight the following measures that will form part of the specification of this development:

- An energy strategy that aligns with current planning policy in relation to carbon emissions and minimising energy consumption:
    - In securing compliance with the current, building regulation Part L targets, a commitment is made to construct a high quality, energy efficient thermal envelope thereby minimising demand side energy loads – in accordance with the principles of the Energy Hierarchy; and,
    - A commitment is made to achieving at least a 9% improvement in the emission rate reduction relative to the current Part L1A (2013) compliance standards for the residential dwellings. •

- Unregulated energy demand (that is, the energy demand associated with appliances and cooking) typically accounts for over half of the total carbon dioxide emissions from modern residential developments such as this. To limit this:
    - The integrated white goods will have as a minimum an A+ energy rating; and,
    - A welcome pack will be provided to all residents to encourage selection of green energy providers to enable them to make informed decisions.

- There is a limit to fabric enhancements such as increased insulation and improved air tightness as this generates a higher overheating risk and, as a consequence, the building would generate cooling loads. The design of the dwellings will balance both requirements and incorporates a building specification intended to avoid cooling requirement and the associated wasted energy in producing cooled air. Thus, through the integration of passive design measures such as the specification of the window g-value, the dwellings will not require active cooling, which further limits the energy demand of the development.

- Waste is a misuse of natural resources and also contributes a large proportion of the UK's carbon footprint;
    - Waste minimisation during construction will reduce raw materials demand, thereby reducing the building's embodied carbon footprint; and,
    - During occupation, the building will benefit from recycling facilities to enable the local authority waste reduction targets, diverting more materials away from landfill and reducing the occupant's carbon footprint further.

- The site's location will enable low carbon, sustainable lifestyles. Located minutes away from several bus stops, the residents have the option to utilise various sustainable modes of transport. This is facilitated by:
    - Basic infrastructure provided such as secure cycle storage on site;
    - Travel options, including local access to transport nodes for bus, train and Metrolink; and,
    - Local amenities that are within easy walking distance of the site, enabling residents to live local with a reduced need to travel.

- The dwellings are designed to incorporate features that will serve to reduce energy demand, and in turn, carbon emissions arising from access to the dwellings:

    - The lighting provision will include active sensors; and,
    - The fit-out specification of the dwelling will seek to minimise water demand. Water efficiency measures (such as dual flush toilets, flow restrictors and reduced volume baths) will limit potable water demand to 105 litres/person/day. This will reduce water heating energy loads and also cut the process energy required to supply clean drinking water.

These commitments, in combination, seek to work towards the carbon reduction target of no more than 1.5°C global temperature increase and assist Manchester City Council in meeting their Climate Change Emergency objectives.

8 CONCLUSION

This statement has reviewed the environmental performance of the proposed residential scheme at the Lane End Road site in Burnage, Manchester against national and local policies. The material specification and servicing strategy for the scheme and the building (carbon dioxide) emission rates have also been reviewed.

8.1 ENERGY STRATEGY

Full compliance with the key criteria of the Manchester Core Strategy, and the Places for Everyone Policy, have been achieved by the proposed energy strategy while responding positively to MCC's declaration of a Climate Emergency, as evidenced in this report.

- Minimising the impacts of climate change is a key element of the proposed energy strategy. In line with adopted Core Strategy Policy EN 4, EN 6 and the Supplementary Planning Document (SPD) criteria, the energy strategy includes an enhanced fabric approach to emission rate reduction combined with efficient servicing plus zero-carbon technology, in addition to the JP-S2, JP-S3 and JP-S4 policies in the Places for Everyone document.

- The development will be designed and specified in accordance with the principles of the energy hierarchy in line with the adopted Core Strategy Policy EN 4 and will achieve the following:

    - The Dwelling Fabric Energy Efficiency (DFEE) reduction for the residential scheme is better than the Part L1A (2013) compliance standard through enhanced fabric measures;

    - The indicative SAP calculation shows that the building specification is expected to achieve at least a 72% betterment in dwelling emissions over Building Regulation Part L1A (2013), in accordance with Core Strategy Policy EN 6; and,

    - Zero-carbon energy generation form part of the proposals and a total installed capacity of 32.5kWp (0.5kWp allocation per apartment) photovoltaic array is allocated to the developments residential areas, and 4kWp is allocated to the non-domestic areas, with an area of roughly 130m^2 required to meet these demands which the roof space of the proposed 4th floor can accommodate.

- These proposals will deliver a scheme that is inherently efficient and cost-effective during occupation

8.2 SUSTAINABILITY PERFORMANCE

The key issues of Manchester City Council's Supplementary Planning Document (Environmental Standards) in accordance with the Core Strategy Policy DM 1 have been achieved by the proposals. These are as follows:

- Water consumption of the development will be minimised. The internal water strategy will exceed the regulatory standard specified to achieve a calculated daily consumption of <105 litres/person/day through the specification of efficient water fixtures.

- The development site is located within Flood Risk Zone 1.

- Waste arising during construction and occupation/operation will be minimised. A site waste management plan will be adopted during construction and a comprehensive waste management plan for the site will accord with the local authority recycling scheme ensuring that adequately sized bin storage areas for the site are provided.

- Construction site management procedures will minimise adverse impacts on the environment and control pollution generated during the construction phase. These include a waste management strategy to reduce the quantity of waste generated, and to increase re-use and recycling of materials. A commitment will be made to minimise waste and pollution.

- The impact of sound associated with the development will be mitigated by the design/specification of the building. Sound insulation will be specified to comply with acoustic performance compliance standards, and mitigation measures will be implemented, where required, to reduce the noise arising from the residential development.

- The planting provision will be designed to provide an enhancement to the aesthetic and ecological value of the post-developed site. Biodiversity enhancement measures such as the planting of shrubs and trees of local progeny and the provision of bird and bat boxeswill provide a contribution to the enhancement of the borough's natural environment and biodiversity.

- The site is located in a highly sustainable location with basic facilities all within easy walking and/or cycling distance of the site therefore, reliance upon traditional methods of transport such as the car will be reduced.

Furthermore, the proposals accord with the aims of the National Planning Policy Framework, as follows:

- Construction practices that minimise adverse impacts on the environment will be adhered to including a waste management strategy to reduce the quantity of waste generated, and to increase re-use and recycling, a commitment will be made to minimise waste and pollution; and,

- Exceeding the regulatory compliance criteria (Part L1A) will assist in mitigating the impact of climate change and its environmental impact.

In conclusion, the proposals reviewed within this statement for the proposed mixed-use scheme at the Lane End Road site in Burnage will deliver a high-quality development that accords with the guidance provided within the Manchester City Council’s adopted policies.

Appendix A – Renewable Technologies Matrix

Technology	Description	Pros	Cons	Project Suitability	Included in Proposed Scheme?
Solar Thermal	Solar thermal hot water collectors are panels or evacuated tubes which are typically located on the roof of the buildings. The collectors harness the sun's energy to warm domestic hot water	• Reduced fuel bills and carbon footprint • Low maintenance • Proven technology	• Only compatible with boilers that have hot water storage • Need south facing roofs to optimise efficiency • Carbon saved is low comparative to the savings offered by PV	Solar thermal HW is not deemed suitable for this development due to the nature of the scheme in particular the level of hot water demand thus making the suitability of a system unfeasible.	✗
Solar PV	Solar Photovoltaic (PV) panels work by converting energy from the sun into electricity. This can then be used with the development to offset the electrical usage.	• Reduced bills and carbon footprint • Benefit from the feed in tariff • Proven technology • Relatively maintenance free	• PV panels lose efficiency over their lifetime	PV would be suited to this development as it is a simple bolt on technology that will assist with meeting the energy demand of the building and ensure compliance with the local planning policy. However, the scheme would benefit more with the use of an air source heat pump.	✓
Combined Heat & Power (CHP)	CHP is a technology which develops heat and power from the same energy source, typically mains gas. The CHP engine is fed by mains gas which then drives an alternator to provide electricity. CHP is highly energy efficient as the heat and electricity are produced on site, therefore reducing transmission losses. Typical efficiencies are 50% for the heat and 35% for the electric.	• Reduced fuel bills and carbon footprints • Eligible for the feed in tariff. • Proven technology which is in use in many schemes in the UK • Suited to large developments	• Not a true renewable technology • Heating and electricity demand must remain fairly stable to ensure CHP is running at optimum efficiency • Requires a centralised/district heating network • Noise. / Capital intensive	The total size and nature of the development does not lend itself to CHP. It would add to the capital costs of the development making the development not financially viable when compared to other technologies. For these reasons, CHP has been discounted	✗
Air Source Heat Pump	Air source heat pumps extract heat from the external air which can be used to heat radiators/underfloor heating and hot water within a dwelling. ASHP can still extract heat from air as cold as -15 degrees centigrade. ASHP are particularly useful on sites where gas is not available. There are two forms of ASHP – air to air and air to water.	• Can offer lower heating bills and reduce carbon footprints (when compared to electric systems) • Relatively maintenance free • Offers high efficiencies • Can offer heating and cooling depending on system chosen (air to air)	• Requires space to locate the external condenser unit. The unit requires lots of space around it to ensure adequate air flow. • Requires the use of underfloor heating or large radiators due to low grade heat. • Noise issues	Air source heat pumps have been included on this development due to the lower emissions associated with this technology.	✓
Ground Source Heat Pump	Ground source heat pumps (GSHP) work in a similar way to air source heat pumps, however they extract heat from the ground. A ground loop is buried within the garden and a mixture of water and refrigerant is circulated along the loop. The heat from the ground is then absorbed within the fluid and then passes through a heat exchanger within the GSHP. Ground loops can be laid horizontally at depths or 1-2m or vertically at depths of up to 100m.	• Can offer lower heating bills and reduce carbon footprints (when compared to electric systems). • Relatively maintenance free • Offers high efficiencies	• High capital costs • Requires space for boreholes or trenches to locate ground loops • Requires the use of under floor heating or large radiators due to low grade heat	Ground source heat pumps have been discounted on this development predominantly due to the nature of the development and the lower emissions associated with an air source heat pump.	✗

APPENDIX B – EXISTING AND PROPOSED LOCAL HEAT NETWORKS

