

Ask Real Estate MBP Limited

Manchester Business Park, Aviator Way

Environmental Standards & Energy Statement

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1.0 Introduction

This Environmental Standards & Energy Statement has been prepared to support the full planning application for the proposed Manchester Business Park, Aviator Way development (proposed development) located at Unit 2000, Aviator Way, near Manchester Airport, Greater Manchester, M22 1GE.

This statement demonstrates how the proposed development will incorporate sustainable design principles to reduce the development's energy consumption, carbon emissions and overall contribution to climate change in accordance with the local environmental and sustainability policy requirements, including those of Manchester City Council (MCC) and the Greater Manchester Combined Authority (GMCA).

1.1 Project Description

The proposed development comprises 9 no. Commercial B2 (General Industry) and B8 (Storage and distribution) units to form light industrial and ancillary office space, with associated landscaping works, access and car parking.

The site is bounded to the north by residential housing along Thornsgreen Road, to the east by existing Manchester Business Park office units, to the south by Aviator Way and the A555 Ringway Road West, and to the west by Woodhouse Lane and existing Manchester Business Park units beyond this.

A site plan of the units that comprise the proposed development is provided below.



1.2 Planning Policy

The following statutory requirements, separated by their national, regional and local relevance, have been identified as key policy drivers and considered during the development of this statement. Further details regarding the specific policies relevant to energy and sustainability are provided in Appendix 1.

Policy Reference	
National	National Planning Policy Framework (December 2024)
Regional	Greater Manchester Combined Authority Places for Everyone Joint Development Plan (adopted March 2024)
	Manchester Core Strategy 2012-2027 (adopted July 2012)
Local	A Guide to Development in Manchester: Supplementary Planning Document (adopted April 2007)

A principal factor of the local energy and sustainability policy requirements that apply to the proposed development is the Greater Manchester ambition to become a carbon neutral city-region by 2038, following the declaration of a Climate Emergency by MCC and GMCA in July 2019. A primary element of achieving this target is to set out a pathway for new developments to be net zero carbon by 2028 at the latest. Policies within the Places for Everyone Joint Development Plan (PfE) and the Manchester Core Strategy support the delivery of a carbon neutral Manchester by encouraging a range of measures that contribute to reducing greenhouse gas emissions from new developments in the area.

1.3 Environmental Standards

The Environmental Standards set out within The Guide to Development in Manchester Supplementary Planning Document (SPD) reinforces the GMCA ambition to become carbon neutral and sets targets that new developments must adhere to. New developments are expected to demonstrate compliance with the Environmental Standards and contribute to its objectives to secure long-term economic growth; adapt to a changing environment and maintain and improve the quality of life essential to the residents, businesses and users of Manchester. The Environmental Standards are intended to deliver achievable and financially viable approaches to furthering all aspects of sustainability within the city and cover the following themes:

- Energy Efficiency
- Renewable Energy
- Environmental Design
- Water Management and Weather Resilience
- Waste Management
- Construction Management
- Biodiversity

In line with the aspects listed, the following sections of this statement will demonstrate how Manchester Business Park, Aviator Way will comply with the Environmental Standards set out in the Guide to Development in Manchester SPD and its approach to all aspects of sustainability. Section 2.0 Energy and Carbon of this statement demonstrates how Manchester Business Park, Aviator Way will comply with the Environmental Standards pertaining to both energy efficiency and renewable energy due to the significant overlap in approach and in line with the energy hierarchy. As such, section 2.0 will comprise the Energy Statement aspect of this statement and consider the use of sustainable and low carbon design principles to maximise efficiency and minimise carbon emissions in accordance with the requirements of the Manchester Core Strategy. Further details on how the proposed development complies with Policies JP-S2 and JP-S3 of the PfE are outlined in the Energy & Carbon Statement submitted as part of this planning application.

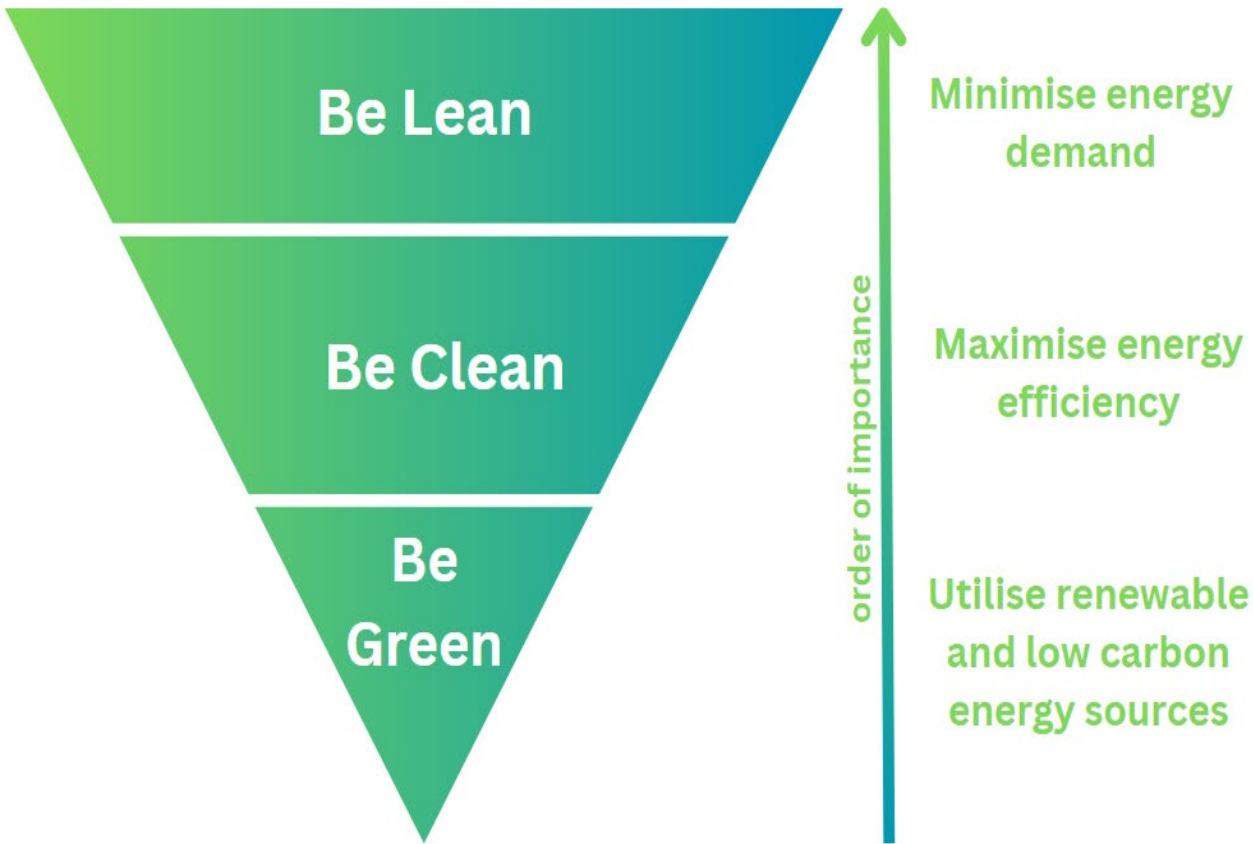
2.0 Energy and Carbon

In accordance with the Environmental Standards set for energy efficiency and renewable energy in new developments, this section demonstrates how the design of the buildings comprising Manchester Business Park, Aviator Way, seek to maximise reductions in carbon emissions by applying low carbon design principles and considering low and zero carbon technologies following the energy hierarchy, which in order of importance seeks to:

- i. Minimise energy demand;
- ii. Maximise energy efficiency;
- iii. Use renewable energy;
- iv. Use low carbon energy; and
- v. Utilise other energy sources.

For the purposes of this statement, the industry-recognised energy hierarchy has been applied using the following approach to reduce operational energy and greenhouse gas emissions:

- 1. Be lean: use less energy and manage demand during operation.
- 2. Be clean: supply energy efficiently to reduce demand and minimise waste.
- 3. Be green: maximise opportunities for utilising renewable energy by producing, storing and using renewable energy on-site.



The table below summarises the low carbon design principles that have been considered in the design of Manchester Business Park, Aviator Way, to apply the energy hierarchy. Each low carbon design principle has been considered in the following sections of this statement to determine its viability and to enable an informed decision as to whether it would be beneficial to the development. The findings within the statement are subject to review at the next stage of design.

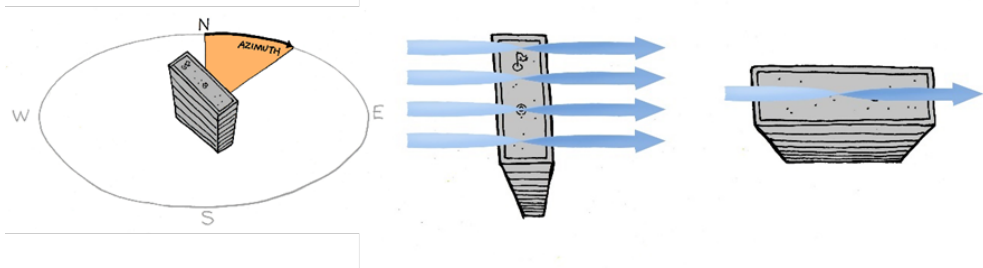
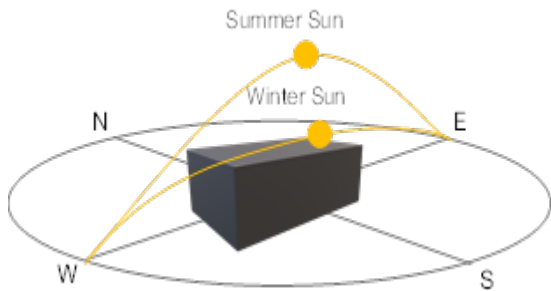
Passive Design	High Efficiency Systems	Low and Zero Carbon Technologies
Building Orientation	Energy Efficient Lighting	District Heat Network
Building Fabric	Mechanical Ventilation Incorporating Heat Recovery	Wind
Air Permeability	Low Consumption Sanitary Fittings	Hydropower
Daylighting	Water Monitoring and Management Systems	Heat Pumps
		Combined Heat and Power (CHP)
		Biomass
		Combined Heat and Power
		Photovoltaics and Battery Storage

2.1 Passive Design

Passive design considers the natural movement of heat, air and light to make building layout, fabric and form decisions that can reduce or remove the mechanical cooling, heating, ventilation and lighting demand for the building. Incorporation of passive design measures into the design of Manchester Business Park, Aviator Way, therefore achieves the first tier of the energy hierarchy by reducing overall building energy consumption (be lean).

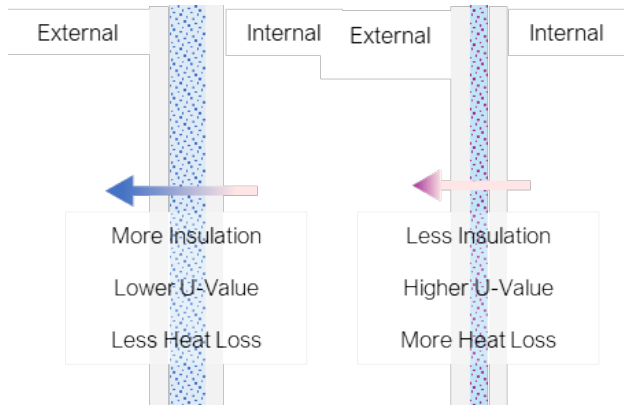
2.1.1 Building Orientation

- Building and room orientation can have an impact on the energy consumption of a building. Effective orientation of a building can reduce its heating and cooling demand by utilising the passive energy from the sun.
- Depending on the needs of the building, rooms that are used more regularly and typically require more heating should be located on the south side of the building, where possible, to benefit from increased solar heat gains and minimise heating demand.
- Buildings can also be oriented to maximise the passive energy benefits of cooling breezes in hot weather and shelter from undesirable winds in cold weather by utilising natural ventilation. Orienting a building so that its shorter axis aligns with the prevailing wind will generally provide the maximum natural ventilation benefits. By doing so, the building will benefit from increased passive ventilation during hot weather, reducing its cooling demand and lowering the exposure to cold winds, therefore reducing heating demand. Maximising the passive energy from natural ventilation requires an in-depth understanding of the local climate and direction of prevailing winds to determine which winds to take advantage of and which to avoid.
- The units comprising the proposed development have been oriented to maximise the benefits of passive design whilst making the most of the available GIFA on the development site.



2.1.2 Building Fabric

- U-values quantify the rate of heat transfer through a structure; the lower the U-value, the less heat is lost through the structure. Building fabric choices determine the U-value of the building element, for example, using more insulation will reduce heat loss through the element, therefore reducing the energy required to maintain thermal comfort. Part L of the Building Regulations sets limiting values for U-values for new and existing buildings, with the latest provided in the 2021 edition.

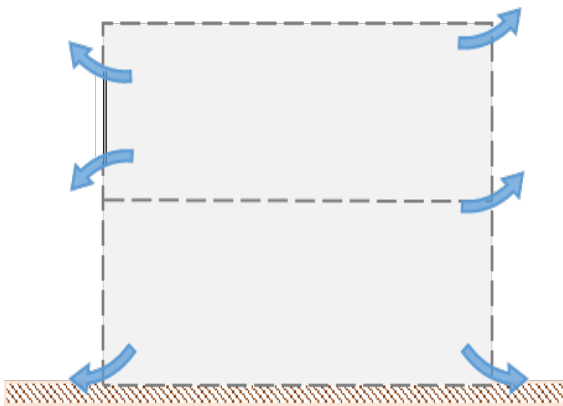


- As part of the Environmental Standards set for energy efficiency and Policy EN4 of the Manchester Core Strategy, there is a requirement for new build developments to minimise reliance on energy-using equipment for heating, cooling, and lighting as a measure to reduce CO₂ emissions. This can be achieved by improving the U-values of building materials and exceeding the minimum standards required by the Building Regulations.
- The buildings that comprise Manchester Business Park, Aviator Way, have been designed using a fabric first approach to improve the performance of the building envelope and ensure that each building will comply with, and exceed the standards set by Part L 2021. Based on the below U-values achieved for the proposed development at the early, pre-planning stage, high standards of insulation and heat retention have been achieved in accordance with the Environmental Standards to reduce overall energy demand.

LIMITING U-VALUES IN BUILDINGS (OTHER THAN DWELLINGS) (W/m2K)					
	Maximum Part L (2021 Edition)	Building 1 (Unit 1A-1B)	Building 2 (Unit 2A-2C)	Building 3 (Unit 3A-3C)	Building 4 (Unit 4)
Roof	0.18	0.13	0.13	0.13	0.13
Wall	0.26	0.18	0.18	0.18	0.18
Floor	0.18	0.15	0.15	0.15	0.15
Windows	1.6	1.4	1.4	1.4	1.4

2.1.3 Air Permeability

- Building airtightness is the resistance to air leakage through the external building envelope. Reducing the air leakage in a building also improves the energy performance by reducing heating demand.
- Air leakage in buildings generally occurs at junctions between building elements, the wall and window and door frames, electrical equipment, and other building penetrations. Part L of the Building Regulations sets limiting values for air permeability. The lower the air permeability, the more airtight the building.



AIRTIGHTNESS IN BUILDINGS (OTHER THAN DWELLINGS) (m³/hm²) at 50 Pa					
	Maximum Part L (2021 Edition)	Building 1 (Unit 1A-1B)	Building 2 (Unit 2A-2C)	Building 3 (Unit 3A-3C)	Building 4 (Unit 4)
Air Permeability	8.0	3.0	3.0	3.0	3.0

2.1.4 Daylighting

- Providing natural daylighting to a building minimises the use of artificial lighting and therefore reduces lighting loads and energy consumption. Natural daylighting also provides both physical and mental health and wellbeing benefits to the occupants of a building and has been linked to increased mood and productivity.
- It is important to consider that there is a balance between maximising daylight but not providing so many glazed areas that the risk of summer overheating, increased glare and building fabric u-values and airtightness are compromised.
- The design of Manchester Business Park, Aviator Way, considers opportunities to maximise the natural daylight available, especially in office areas, and reduce overshadowing from surrounding buildings.



PASSIVE MEASURES CONSIDERED VIABLE

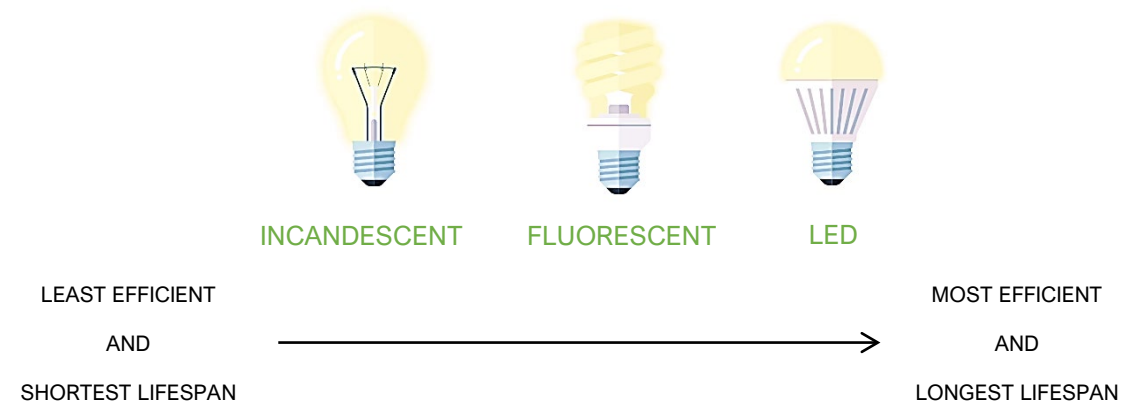
INCORPORATED INTO DESIGN WHERE POSSIBLE

2.2 High Efficiency Systems

This section explores the integration of high-efficiency systems within Manchester Business Park, Aviator Way, to further reduce energy consumption and minimise wasted resources, thereby demonstrating how tier two of the energy hierarchy has been applied (be clean). Both water and energy efficient systems have been considered in the design of the proposed development to maximise overall resource efficiency in line with the scope of this statement.

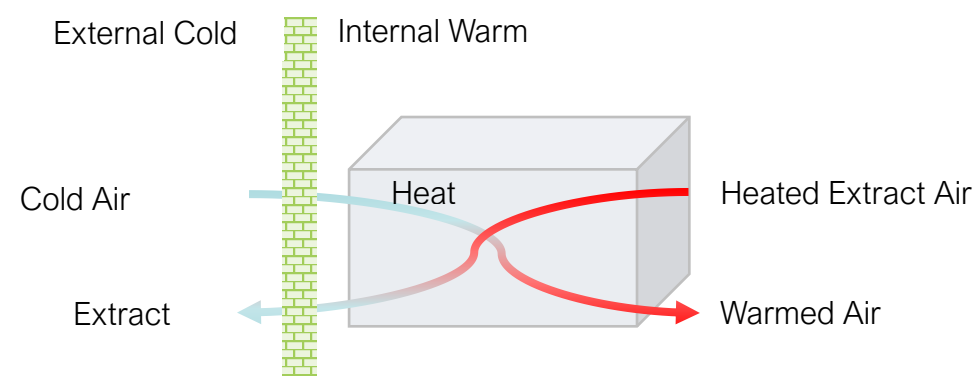
2.2.1 Energy Efficient Lighting

- LED lighting is highly efficient, using approximately 75-80% less energy than incandescent bulbs, converting 80-90% of energy into useful light and lasting up to 25 times longer. When compared to other forms of lighting such as fluorescent lighting, LEDs have a higher lighting efficacy, provide full brightness instantly and last longer. Therefore, the use of LED lighting reduces the need to replace bulbs as frequently and minimises the energy wasted as heat. As such, LED lighting will be incorporated into the design where possible.
- Automatic lighting controls such as passive infrared (PIR) controls that detect motion by measuring changes in infrared radiation emitted by warm bodies will be utilised in areas such as corridors to prevent unnecessary light usage during unoccupied periods, further reducing wasted energy.



2.2.2 Mechanical Ventilation Incorporating Heat Recovery

- Heat recovery systems utilise heat extracted from inside heated spaces to warm the incoming external air. This minimises the space heating demand and makes more efficient use of the energy consumed to heat internal spaces, reducing operational energy and its associated carbon impact.
- All mechanical supply and extract ventilation units that serve the office areas within each unit will be designed to include heat recovery.



2.2.3 Low Water Consuming Sanitary Fittings

- The UK's water resources are under growing pressure due to rising consumption, with the average person estimated to use approximately 140 litres per day. This, combined with more frequent and intense weather events such as droughts and less predictable rainfall due to climate change, is leading to water shortages and water scarcity becoming an increasingly tangible threat.
- The production of potable water itself demands significant quantities of energy attributable to its processing and distribution, with the embodied carbon associated with potable water equating to 0.34 grams of CO₂e per litre. Reducing water consumption in the UK is therefore crucial to protecting water security and decreasing operational carbon emissions associated with its use.
- It is important to reduce water consumption and waste where possible through flow control and sanitaryware specification with optimised flow rates. Efficient sanitary fittings such as low-flow WCs and faucet aerators can provide significant water savings and will be incorporated into the development to conserve water by reducing demand, and associated operational costs, whilst maintaining a hygienic and high-quality experience for occupants in line with the Environmental Standards set for energy efficiency.



2.3 Low and Zero Carbon Technologies

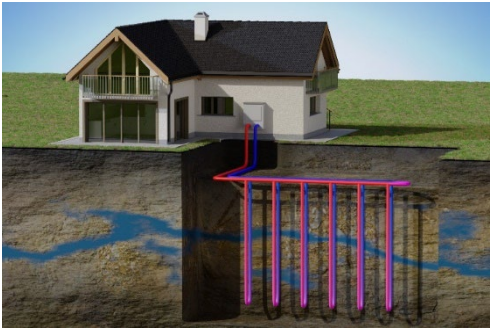
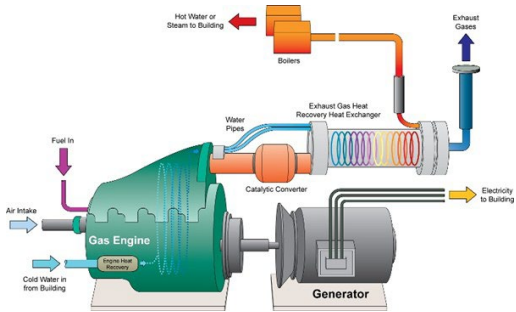
In line with Policies JP-S2, EN4 and EN6, the following low and zero carbon technologies have been considered for use within Manchester Business Park, Aviator Way. The following table will assess the viability of each technology and demonstrate how opportunities to utilise renewable and low carbon energy sources have been maximised, consistent with tier three of the energy hierarchy (be green).

- District Heat Network
- Wind
- Air Source Heat Pumps (ASHPs)
- Ground Source Heat Pumps (GSHPs)
- Biomass Heating
- Combined Heat and Power (CHP)
- Photovoltaics and Battery Storage
- Solar Thermal Water Heating

Of the technologies considered, the most suitable for incorporation into the proposed development are roof mounted photovoltaics and air source heat pumps that will be utilised in office areas.

The size of the arrays is subject to planning, future design development and Part L calculations.

Low and Zero Carbon Technology	Description	Discussion	Viability
District Heat Network 	District heat networks use heat energy generated from a centralised energy centre and redistributes it to buildings via a network of pipes, removing the need for individual boilers or heaters in each of the connected buildings. Typical centralised heat energy sources include power stations, energy from waste plant, geothermal, or CHP. Renewable sources such as heat pumps, solar thermal and solar PV are now also commonplace in 4th & 5th generation District Heating Systems.	A review of the Department for Energy Security and Net Zero’s Heat Network Planning Database reveals that there are no existing or planned heat/energy networks within the vicinity (~500m) of the proposed development that would provide a viable and instant connection point. As there are currently no district heat networks that are operational, awaiting construction, or pending planning permission within 500m of the site, it is considered that designing to enable a future connection would not be necessary, as a future connection is not guaranteed. It is therefore considered that alternative renewable and low carbon technologies would be more feasible and effective at minimising operational carbon emissions on a building-by-building basis. In accordance with the requirements of Policies JP-S2 and JP-S3 of the PFE, the feasibility of a district heat network connection is considered in further detail within Energy & Carbon Statement.	Non-Viable
Wind 	Wind turbines harness the kinetic energy of the wind and convert it into electricity. The rotation of propeller-like blades around a rotor rotates the drive shaft, which then turns the generator, producing renewable electricity. In general, wind turbines should be located in areas where the mean annual wind speed is greater than 5 m/s to consistently meet the cut-in speed of a small-scale wind turbine. Other factors that affect wind turbine feasibility include site suitability, regulatory requirements and stakeholder engagement.	Whilst the electricity generated by wind turbines could be utilised on the site to reduce the consumption of grid electricity, the estimated wind speeds do not meet the minimum annual wind speed required to consistently reach the cut-in speed for anything larger than small-scale turbines. The output of a small-scale turbine would not significantly contribute to the energy demand of the proposed development. In addition, due to the location of the proposed development, in the vicinity of Manchester Airport, the impacts associated with larger wind turbines including noise, shadow flicker, vibrations, topple distance, interference with other systems, and aviation, would be unacceptable; therefore, it is considered non-viable. Wind Speeds <i>estimates from NOABL data</i> • At 10m above ground level 5.1 m/s • At 25m above ground level 5.8 m/s • At 45m above ground level 6.3 m/s Wind speed data for Aviator Way, Manchester (53.36716, -2.263740) (Source: NOABL wind map)	Non-Viable
Air Source Heat Pumps 	Air source heat pumps extract thermal energy from the air and upgrade it to a higher, more useful temperature that can be used in heat pump boilers, underfloor heating or fan coil systems. The air source heat pump system consists of a compressor and a carefully matched evaporator coil and heat exchanger. The heat transfer medium within heat pumps is a refrigerant which circulates within the system. Typical refrigerants used include R410a, R32, R407C, which have a boiling point as low as minus 40°C and evaporate into gas when absorbing heat from the outside air. This gas is then compressed, increasing its thermal energy, and raising its temperature to around 75°C. This is then used to heat internal spaces and/or generate lower-temperature hot water.	An ASHP system can provide hot water, heating and comfort cooling with a high efficiency and low capital cost and does not rely on the use of fossil fuels, minimising air pollution. As a result, installing air source heat pumps is deemed technologically viable and can be utilised to meet the space heating requirements of the office areas.	Viable

Ground Source Heat Pump 	Ground source heat pumps (GSHPs) can provide space heating and hot water by utilising a low-grade heat resource (10 to 25°C) and extracting geothermal energy that is stored in shallow subsurface depths of up to 500m. Heat can be extracted from soil, rocks, aquifers and flooded mines. This is achieved by circulating water mixed with antifreeze through a collector pipework system. The temperature of the earth at one meter below ground level remains stable throughout the year, at approximately 9 - 12°C, depending on geographical location and soil type. This means that there is a consistent source of heat during cold periods that is at a higher temperature than the outside air and therefore requires less electricity to upgrade it to useful heat when compared to ASHP. For this reason, GSHPs are more efficient than ASHPs.	A GSHP system is likely to be more complex and result in significantly higher capital expenditure than the use of an ASHP system due to the costs associated with the extensive groundwork required to lay the underground pipes. The demand for heating across the site is also not expected to be uniform, as no heating or cooling shall be provided in the warehouse areas, and other heated areas, such as the WCs, would likely not need to be heated to the same level of comfort as the office areas. Therefore, a large GSHP system may be oversized for the actual heating demand of the proposed development and may not be financially viable when compared to alternative technologies. For these reasons, an all-electric heating and hot water strategy is deemed preferable over a GSHP and therefore, a GSHP is not considered further.	Non-Viable
Biomass 	Biomass is also known as biofuel or bioenergy; it is obtained from organic matter, either directly from plants or indirectly from industrial, commercial, domestic, or agricultural products such as logs, wood chips, pellets, etc The use of biomass is generally classed as a 'carbon-neutral' process because the carbon dioxide released during the generation of electricity is balanced by that absorbed by plants during their growth. However, this is only true when the fuels are procured responsibly and there are additional concerns over emissions of particulates and nitrogen oxides which are detrimental to human health.	Biomass boilers could be utilised to heat the proposed development, however, although biomass can be deemed carbon neutral, there are other emissions associated with burning biomass such as particulate matter which contribute significantly to air pollution and are detrimental to human health. The negative impacts of these pollutants are greatest in areas where atmospheric pollutant concentrations are already high due to emissions from other sources; for example, in large cities or in areas close to major roads. Due to the urban location of the proposed development, it is considered that a biomass boiler would have a negative impact on local air quality, contradicting the aims of the Environmental Standards and limiting the carbon emissions reductions possible. As such, the all-electric solution is deemed preferable over biomass heating and biomass heating is not considered further.	Non-Viable
Combined Heat and Power 	A CHP uses a gas or oil-fired engine to drive a generator which produces electricity. Heat from the engine block, oil cooler and exhaust are absorbed into a coolant which is then used as a heat source within the building, thereby simultaneously generating heat and electricity from one source of combustion. CHP or 'cogeneration' is not considered a "sustainable energy", but it is a highly energy efficient system, operating at over 80% efficiency, that makes use of waste heat from the production of electricity. The use of a CHP can reduce carbon emissions by up to 30% when compared to the separate means of conventional heat and electricity generation via a boiler and power station.	A CHP system in the proposed development would require the combustion of fossil fuels, which would contribute to local air pollution and be a barrier to achieving net zero regulated operational carbon emissions as per Policy JP-S2 Carbon and Energy. As such, and in accordance with the energy hierarchy, an ASHP is considered to be more effective at minimising carbon emissions over a CHP system which is therefore not considered further.	Non-Viable

Solar Photovoltaics 	Photovoltaics (PV) convert solar energy into electricity, which can then be used to power ordinary electrical equipment such as household appliances, computers, and lighting. PVs output in DC therefore an inverter is needed to deliver power to the building or export it to the grid which requires AC. PV systems can be incorporated in various ways: on sloped roofs, on flat roofs, in facades, atria, and shading devices. Modules can be mounted using frames or incorporated into the building fabric; for example, PV roof tiles are available which can be fitted in place of standard tiles.	Solar PV can be easily integrated and used alongside other LZC technologies. A PV installation would require the installation of fixed building services to make the best use of this technology. On-site generation of renewable electricity contributes to reducing operational carbon emissions in accordance with Policies JP-S2, EN4 and EN6. Due to the nature of the proposed plot development, it is anticipated that there will be a large area of available roof space where solar panels can potentially be located without being impacted by over-shading. As a result, PV is seen as being viable on a unit-by-unit basis and will be installed where feasible.	Viable
Battery Storage 	Battery storage systems allow surplus electricity generated on-site from a PV (or another renewable) system to be stored and released back into the building's electrical distribution network when needed – this is often referred to as 'peak shaving' and reduces the reliance on grid electricity. Electricity can also be exported back to the grid, depending on the electrical wiring arrangement, which contributes to reducing the carbon intensity of grid electricity and enhances grid stability at times of high demand.	As there is likely to be sufficient available space to accommodate a large array of solar PV across the roofs of the buildings included in the proposed development, battery storage is considered to be a viable technology. Battery storage can be utilised to store surplus electricity generated by solar PV once the electricity demand of the building(s) has been met. This can be used at times when the amount of electricity generated by the PV is not sufficient to meet the peak load demand of the building, to reduce reliance on grid electricity, reducing operational energy costs and improving grid stability by adopting a 'peak shaving' energy strategy. At periods where there may be surplus electricity generated and the batteries are fully charged; this can be exported back to the grid and contribute to larger decentralised energy schemes to address climate change and enable other buildings to use renewable electricity. Surplus electricity could also be redirected to electric vehicle chargers when the building peak load is met and exceeded, to maximise the benefits of solar PV. Alternatively, whilst technologically feasible, there are additional practical considerations that may become a barrier to the viability of including a battery storage system including fire risk, available space, and demand. Further consideration of the factors discussed is required to determine the viability of a battery storage system as the design of the Manchester Business Park.	Feasible
Solar Thermal Water Heating 	Solar thermal utilises radiant heat from the sun to provide domestic hot water. It works by using thermal energy to heat an energy-absorbing medium comprised of water or a water/glycol mixture, which is pumped through a solar absorbing panel usually located on the roof. The heated media is then pumped through a heat exchanger, typically to heat hot water within a storage cylinder.	The hot water generated by solar collectors could be utilised for domestic purposes within the development. However, it is anticipated that the development will have a relatively low demand for domestic hot water therefore, the technology would have a reduced impact in limiting emissions when compared to solar PV. Solar PV also has longer lifespans and more versatility in the uses of the electricity generated, and is therefore deemed preferable, as solar thermal is not considered further.	Non-Viable

2.4 Energy and Carbon Policy Requirements

Manchester Business Park, Aviator Way, has been designed with consideration of the limits/targets set for a building’s energy demand and carbon emissions in accordance with the Environmental Standards set by the Guide to Development in Manchester SPD. The low carbon design principles have been applied to maximise energy efficiency and minimise carbon emissions in line with the requirements of Policy JP-S2 of the PfE and Policy EN6 of the Manchester Core Strategy. Compliance with the limits and targets set out in the listed policies is demonstrated below.

2.4.1 Energy Efficiency

The Environmental Standards relating to energy efficiency require that building CO₂ emissions are reduced by at least 25% over the requirements of the current Building Regulations, which at the time of adoption was the 2006 Part L Building Regulations.

Additionally, it has been identified that the site of the proposed development is within a ‘Target 3: Micro-generation Area’ of Manchester in line with the criteria provided by Policy EN6 of the Manchester Core Strategy.

‘Target 3 Micro-generation areas: Locations where lower densities and a fragmented mix of uses tend to mean that only building scale solutions are practical.’

As such, there is a requirement for non-domestic developments to demonstrate a 15% improvement on the estimated building carbon emissions compared to the requirements of the 2010 Part L Building Regulations.

The proposed development will adhere to the current 2021 Part L Building Regulations; exceeding them where practicable as demonstrated below; thereby also exceeding the 25% and 15% improvement targets over the 2006 and 2010 Part L Building Regulations, respectively.

MANCHESTER BUSINESS PARK, AVIATOR WAY PART L 2021 RESULTS			
Unit 1A	TER (kgCO ₂ /m ²)	BER (kgCO ₂ /m ²)	% Improvement
	5.07	4.8	5.63
	TPER (kWh/m ² /yr)	BPER (kWh/m ² /yr)	% Improvement
	53.65	50.88	5.44
Unit 1B	TER (kgCO ₂ /m ²)	BER (kgCO ₂ /m ²)	% Improvement
	5.05	4.76	6.09
	TPER (kWh/m ² /yr)	BPER (kWh/m ² /yr)	% Improvement
	53.51	50.4	6.17
Unit 2A	TER (kgCO ₂ /m ²)	BER (kgCO ₂ /m ²)	% Improvement
	5.36	5.08	5.51
	TPER (kWh/m ² /yr)	BPER (kWh/m ² /yr)	% Improvement
	56.67	53.8	5.33
Unit 2B	TER (kgCO ₂ /m ²)	BER (kgCO ₂ /m ²)	% Improvement
	5.10	5.01	1.80
	TPER (kWh/m ² /yr)	BPER (kWh/m ² /yr)	% Improvement
	54.09	53.31	1.46

Unit 2C	TER (kgCO ₂ /m ²)	BER (kgCO ₂ /m ²)	% Improvement
	5.33	5.31	0.38
	TPER (kWh/m ² /yr)	BPER (kWh/m ² /yr)	% Improvement
	56.39	56.31	0.14
Unit 3A	TER (kgCO ₂ /m ²)	BER (kgCO ₂ /m ²)	% Improvement
	5.20	4.88	6.56
	TPER (kWh/m ² /yr)	BPER (kWh/m ² /yr)	% Improvement
	55.00	51.69	6.40
Unit 3B	TER (kgCO ₂ /m ²)	BER (kgCO ₂ /m ²)	% Improvement
	5.04	4.83	4.35
	TPER (kWh/m ² /yr)	BPER (kWh/m ² /yr)	% Improvement
	53.38	51.28	4.10
Unit 3C	TER (kgCO ₂ /m ²)	BER (kgCO ₂ /m ²)	% Improvement
	5.25	5.17	1.55
	TPER (kWh/m ² /yr)	BPER (kWh/m ² /yr)	% Improvement
	55.46	54.82	1.17
Unit 4	TER (kgCO ₂ /m ²)	BER (kgCO ₂ /m ²)	% Improvement
	5.14	4.86	5.76
	TPER (kWh/m ² /yr)	BPER (kWh/m ² /yr)	% Improvement
	54.33	51.52	5.45

As demonstrated above, the proposed development meets the Environmental Standards for energy efficiency and exceeds the minimum standards for carbon emissions and primary energy consumption set by the 2021 Part L for each unit. This has been achieved by applying the principles of the energy hierarchy and maximising opportunities to implement on-site renewable energy generation in accordance with Policy JP-S2 of the PfE.

2.4.2 Renewable Energy

The Environmental Standards for renewable energy state that developers should aim for at least 20% of the final site energy demand to be met by on-site renewable energy technologies.

Of the technologies considered; the most suitable for incorporation into the development are photovoltaics and air source heat pumps. Implementation and to what extent will be confirmed during design development.

The feasibility of connecting to a district heat network has been assessed in the Energy & Carbon Statement, in line with the requirements of Policy JP-S3 of the PfE and Policy EN6 of the Manchester Core Strategy. It concludes that connecting to a district heat network is not a viable option for the development as there are currently no projects locally that are powered by renewable sources for which a connection to is considered beneficial. There are also more cost-effective low carbon technologies that can reduce operational carbon emissions over the option of a communal heat network, due to the proposed development’s all electric design.

The other renewable energy technologies explored are not considered to be viable options due to the development's location, space limitations, fiscal restraints, and technology payback period.

By applying the energy hierarchy to the design of Manchester Business Park, Aviator Way, and minimising energy consumption; maximising energy efficiency; and utilising low carbon technologies, it is estimated that >20% the site's regulated energy demand will be met by solar PV, thereby achieving the Environmental Standards for renewable energy.

3.0 Environmental Design

The Environmental Standards relating to environmental design require that non-residential developments demonstrate their energy efficiency by achieving at least a “very good” rating using the Building Research Establishment Environmental Assessment Method (BREEAM).

BREEAM is the world-leading assessment method for measuring the sustainability performance of buildings and evaluates the following themes of sustainability:

- Management
- Health and Wellbeing
- Energy
- Transport
- Water
- Materials
- Waste
- Ecology
- Pollution

Buildings 1, 2, 3 and 4 are all targeting a minimum standard of BREEAM (Shell and Core) “Excellent” and will be assessed and certified as a whole using a similar buildings approach. A BREEAM Pre-Assessment workshop was held with the design team, confirming that the likely score is 75.43% for the development.

It is considered that many aspects of sustainable and best practice design will be assessed under the BREEAM assessment methodology. These sustainability measures will, in turn, contribute to addressing the impacts of climate change and deliver a holistic sustainable approach towards design, in line with the Environmental Standards.

The minimum standard for “Excellent” has been achieved for the Ene 01 – Reduction of energy use and carbon emissions BREEAM issue for each unit at the early planning stage in accordance with Policy JP-S2 of the PfE.

3.1 Low Carbon Design

Further to reducing operational carbon emissions as far as practicably feasible, the design of the Manchester Business Park, Aviator Way, has also sought to consider and reduce the embodied carbon associated with its construction and building materials. This will reduce the building’s whole-life carbon impacts which account for both operational and embodied carbon.

An embodied carbon assessment has been carried out by L.C.D Consulting applying the RICS 2023 methodology. The assessment uses early-stage design information and material quantities to estimate the life cycle embodied carbon associated with the proposed development’s ‘upfront’, ‘in-use’ and ‘end-of-life’ emissions, which consider the building’s construction and production of materials; in-use maintenance, repair or replacement of materials; and the eventual deconstruction and disposal of building materials.

Embodied carbon can be reduced by designing a building to utilise re-used and re-cycled materials and ensuring it can be disassembled at its end of life in accordance with circular economy principles. The proposed development has been designed to consider the GMCA Net Zero Design Guidance target metrics for large major non-residential developments, to demonstrate the commitment to best practice low carbon design. Stage 2 estimates for upfront and lifecycle embodied carbon are shown in the table below.

	Upfront Embodied Carbon (kgCO ₂ e/m ²)	In-Use Embodied Carbon (kgCO ₂ e/m ²)	End-of-Life Embodied Carbon (kgCO ₂ e/m ²)	Lifecycle Embodied Carbon (kgCO ₂ e/m ²)
Manchester Business Park, Aviator Way Total	635	206	32	873

3.2 Sustainable Transport

Transportation is the UK’s largest emitting sector, attributable for 29% of total domestic greenhouse gas emissions in 2023. Cars specifically contributed to 54% of the total domestic transport emissions, equating to 60.2 MtCO₂e and is therefore an area targeted for decarbonisation.

The proposed development will adhere to the Hierarchy of Sustainable Transport where possible as part of its approach to environmental design to minimise the carbon emissions associated with transportation to and from the proposed development and encourage the use of more sustainable and less polluting modes of transport. For example, whilst buses and trains use more fuel than cars and therefore have higher emissions per unit of distance, as they can transport more people, the per capita emissions are lower than those associated with private car users. There are no emissions associated with walking and cycling

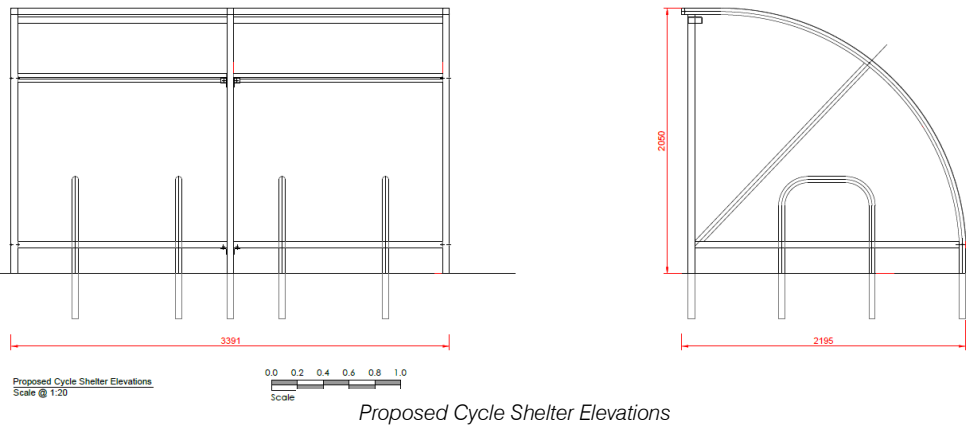
Due to the site being in the vicinity of Manchester Airport, there is likely a high degree of access to public transport by bus and rail. Further information on the current provision of public transport and the proposed sustainable transportation measures is provided in the Framework Sustainable Travel Plan submitted as part of this planning application.

3.2.1 Electric Vehicle Charging

- Electric vehicle charge points provide the facility for building users to charge their private electric or plug-in hybrid vehicles.
- The provision of EV charge points encourages building users to consider alternative low carbon fuelled vehicles, promoting low carbon emission transport, and minimising the impact of the development on local air quality.
- Electric vehicle charging points will be provided at each unit that will exceed 10% of the total car parking capacity of the development in accordance with BREEAM Tra 02 – Sustainable transportation measures criteria. Further provision of parking spaces with cable routes that allow future installation of EV charging infrastructure will be included to account for potential increased demand.

3.2.2 Cycle Storage

- A dedicated cycle storage area will be incorporated into the design of the proposed development to provide building users with convenient, sustainable transport options and contribute to reducing the carbon emissions associated with travel to and from the development.
- This will encourage building users to choose active travel, contributing to improving local air quality and promoting health and wellbeing.
- Secure and covered cycle storage spaces will be provided in the car parking areas and allocated for each unit of the proposed development.



4.0 Water Management and Weather Resilience

The Environmental Standards relating to water management and weather resilience require that new developments manage water in an environmentally effective way. The proposed development seeks to manage water and improve weather resilience by increasing water efficiency; reducing surface water run-off from the site; and mitigating future flood risk due to climate change.

4.1 Water Efficiency

As per Section 2.2, the design of Manchester Business Park, Aviator Way, has sought to maximise efficiency in terms of both its energy and water use to minimise operational carbon and reduce its contribution to the increased pressure on the UK's water resources.

Water efficient systems and sanitary fittings will be implemented to manage water demand such as low-flow WCs and faucet aerators which can provide significant water savings by reducing demand, and associated operational costs, whilst maintaining a hygienic and high-quality experience for occupants.



4.2 SuDS Integration

A Drainage Strategy for surface water drainage has been developed by Renaissance Ltd to manage the effects of surface water runoff from the site. The overarching intention of the surface water drainage strategy is to incorporate SuDS into the development, giving priority to SuDS features that provide multi-functional benefits by enhancing biodiversity and amenity value alongside improving water quality and managing water quantity.

Proposed SuDS features comprise permeable paving systems, geocellular attenuation storage tanks and tree planting to collect, store and treat run-off. Proprietary treatment systems such as fuel and oil separators will also be utilised to provide treatment to run-off beyond the inherent treatment provided by SuDS, owing to the presence of HGVs on site.

The implementation of the proposed SuDS features will support the external drainage system and ensure the site has sufficient drainage to reduce the burden of run-off on the local sewer system and reduce the risk of pollution and flooding in accordance with the Environmental Standards.

4.3 Flood Risk Assessment

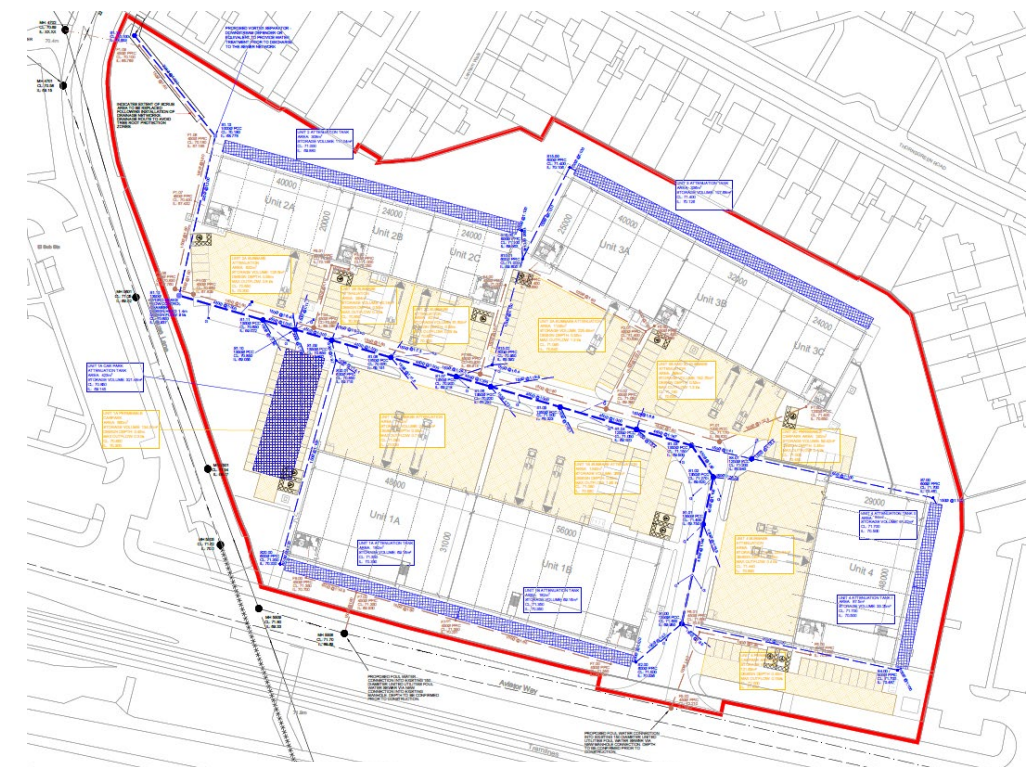
A Site-Specific Flood Risk Assessment (FRA) has been carried out by Renaissance Ltd to determine the risk of flooding for the development site. The FRA confirms that the site is located completely in Flood Zone 1 with a very low risk of flooding from rivers, reservoirs and the sea, and at a low risk of sewer flooding.

A small area of the site is at a medium risk of flooding from surface water with an annual probability between 0.1 and 1%. It is determined that the risk of surface water flooding will be mitigated by the proposed SuDS and drainage strategy, including a new dedicated surface water drainage network and external landscaping.

The site is considered to be at a low to moderate risk from groundwater flooding, which is attributed to the poor rates of infiltration on the site as the ground is underlain by mostly firm to stiff clay with low permeability. Any risk of groundwater flooding will be mitigated by a general increase in surface levels across the site, with finished floor levels being mostly placed above external ground levels. The design of external finishes will ensure that water will fall away from buildings.

It is concluded that the development is appropriate on this site from a flood risk perspective, provided the recommended mitigation measures are adopted.

As stated in the Drainage Strategy submitted as part of this planning application, and in accordance with the National Planning Practice Framework (NPPF), post-development discharge rates should include for an increase in the rainfall intensity of 40% and 45% for the 1 in 30-year and 1 in 100-year storm events, respectively, to allow for climate change. As such, the SuDS strategy utilises a combination of permeable paving systems, attenuation storage tanks and landscaping to mitigate a 1 in 100 year +45% climate change peak storm event, demonstrating how future flood risk has been accounted for.



Proposed Drainage Schematic.

The SuDS strategy will ensure that the proposed development includes sufficient design measures to manage surface water run-off from the site to decrease the level of pollution entering the City's watercourses in an environmentally effective way that increases the site's resilience towards the future effects of climate change.

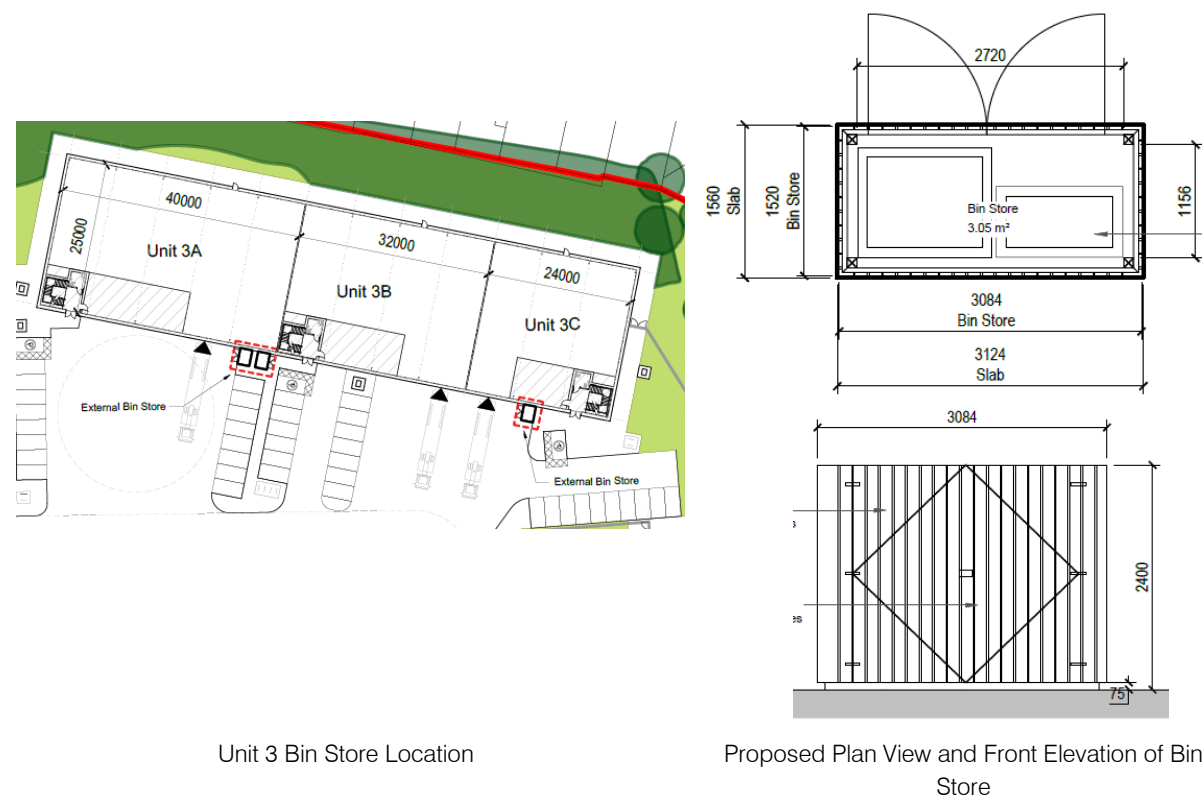
5.0 Waste Management

The Environmental Standards set for waste management require that developments consider how waste produced in the building will be disposed of or recycled.

5.1 Waste Management Strategy

A Waste Management Strategy has been prepared by AEW and submitted as part of the Design & Access Statement to support this planning application and demonstrate how operational waste management has been considered in the early design of the proposed development.

Each unit will be provided with its own external refuse store. Each refuse store will be of an appropriate capacity for the building's size and type, be accessible to building occupants or facilities operators, and enable the segregation of recyclable and non-recyclable waste streams in accordance with the requirements of BREEAM WST03. As the scheme is speculative at this stage, the exact strategy for waste collection will be subject to the nature and requirements of the future building occupier(s).



As demonstrated, the Waste Management Strategy ensures the proposed development will include sufficient design measures to effectively manage and dispose of waste, including adequately sized bin storage areas and access for waste collection crews and vehicles.

6.0 Construction Management

The Environmental Standards relating to construction management encourage new developments to prepare a site waste management plan to reduce the quantity of waste generated during construction and increase opportunities for re-use and recycling of existing structures and building materials; prioritise the use of environmentally friendly materials; and manage adverse environmental impacts that may arise during the construction phase.

6.1 Site Waste Management

A Waste Management Plan has been prepared by Ask Real Estate Ltd as part of the Outline Construction Phase Management Plan (CPMP) submitted as part of this planning application, which includes further details on the approach towards managing site waste during the construction phase of the proposed development.

The CPMP states that the Principal Contractor will implement a clear and structured waste management strategy to reduce, segregate, and responsibly dispose of waste throughout the project.

Once appointed, the contractor will submit a Site Waste Management Plan (SWMP) outlining the waste reduction goals, segregation procedures, disposal and recycling targets to be implemented during the construction phase. The plan will seek to promote efficient material use, responsible procurement and minimisation of waste at source.

On-site waste handling will be managed with clearly marked enclosed skips provided for different waste types to enable the segregation and recycling of different waste types and prevent wind-blown debris. Waste will be collected regularly to prevent overflow, minimise fire risk and maintain a safe and tidy site.

Other measures to be included in the Site Waste Management Plan include:

- Promoting education and awareness of correct waste disposal procedures through toolbox talks and signage.
- Appointing a licensed waste contractor with a strong recyclability rating.
- Adopting appropriate measures to store, transport and dispose of hazardous waste.
- Prioritising recycling and responsible waste management to reduce environmental impact, support cost saving and comply with regulations and best practice.

6.2 Mitigating Construction and Site-Related Environmental Impacts

The CPMP demonstrates a commitment to managing and controlling any adverse environmental impacts that may arise during construction and ensures that the construction process is managed with environmental and social considerations in mind.

It is stated that measures will be put in place to minimise all forms of pollution arising from the works and will be managed via the appointed contractor(s) specific procedures within their management system. The contractor shall adopt good construction management practices that will control fugitive dust emissions and reduce the impact on air quality; minimise noise; and reduce the risks of accidental discharge of pollutants into watercourses or groundwater.

Dust suppression techniques will be implemented via a Dust Management and Air Quality Plan in line with MCC's Air Quality Management Area (AQMA) guidance. All measures and requirements will be reviewed and implemented as necessary, based on the site conditions, proximity of the receptor and impact levels. Suggested measures to mitigate the impact of dust emissions and air quality may include use of water sprays, wheel washing, covering of stockpiles, sealed skips, use of low-emission plant and idling restrictions.

The contractor will continually look to minimise noise throughout the project duration. Prior to the procurement of new plant/machinery, the noise levels that it produces will be considered. Modern vehicles/plant machinery shall be encouraged where practicable, and such vehicles and mechanical plant will be fitted with effective exhaust silencers. They shall be kept in efficient working order with all operations planned and undertaken in such a manner as to minimise noise emissions. The contractor will utilise plant and work methods that reduce noise and vibration where reasonably practicable.

The Principal Contractor will take proactive steps to protect nearby watercourses and drainage systems throughout the construction phase. This is essential to prevent pollution, sedimentation, and environmental harm. Control measures to reduce the risk of watercourse pollution may include:

- Silt fences, bunds, and sediment traps will be installed where necessary to prevent runoff.
- Wheel wash stations will be used to prevent mud and debris from leaving the site.
- Spill kits will be available on site and located near fuel and chemical storage areas.

As demonstrated, it is considered that the Framework Construction Management Plan will ensure that the construction of Manchester Business Park, Aviator Way, and the site is managed in an environmentally conscious way.

7.0 Biodiversity

The Environmental Standards relating to biodiversity state that developers must contribute to Manchester's Biodiversity Strategy, which has since been replaced by the Manchester Biodiversity Strategy and Action Plan following MCC's support of the Edinburgh Declaration, an international commitment that recognises concerns about global biodiversity loss, and the need for a new Global Biodiversity Framework. New developments are required to take full account of their effect on biodiversity.

7.1 Ecological Baseline

A Preliminary Ecological Assessment and Badger Survey has been undertaken by Land Studio to identify the ecological features present on site and the potential negative impacts the proposed development may cause.

The assessment identified that the main ecological features at the site of the proposed development are the boundary native hedgerow with trees to the west, and the dense boundary scrub to the west and north of the site. These habitats provide suitable foraging and commuting habitat for protected species, including bats and badgers; suitable habitats for the creation of badger setts and fox dens; and suitable nesting habitats for common birds and priority species such as hedgehogs.

7.2 Ecological Enhancement

Opportunities to protect existing ecological features and maximise the biodiversity on the site have been developed through the landscaping and biodiversity strategy. Existing habitats will be retained where practicable, and new grassland and tree planting will be undertaken across the site to the greatest extent possible, whilst maintaining the feasibility of the development. Opportunities to provide off-site biodiversity gains may be explored further as the design progresses.



Proposed Landscape General Arrangement.

It is expected that the design of Manchester Business Park, Aviator Way, has considered the potential adverse effects on biodiversity from its construction and has sought to retain existing ecological features where possible and provide an additional net gain of biodiversity in line with the Manchester Biodiversity Strategy and Action Plan.

8.0 Conclusion

This Environmental Standards & Energy Statement demonstrates how the sustainable design principles have been considered and implemented within the design of Manchester Business Park, Aviator Way, in accordance with the local energy and climate change policy requirements, including those of Manchester City Council and the Greater Manchester Combined Authority.

8.1 Local Planning Requirements

Policies EN4 and EN6 of the Manchester Core Strategy (adopted July 2012) and the Environmental Standards set by the Guide to Development in Manchester: Supplementary Planning Document have been considered as part of this statement.

The energy hierarchy has been applied, and the 2021 Part L Building Regulations will be adhered to in order to reduce operational energy demand and associated carbon emissions, exceeding the requirements of Policy EN4 and EN6.

Compliance with the Environmental Standards has been achieved and exceeded where possible as summarised below:

- **Energy Efficiency:** The proposed development will adhere to the current 2021 Part L Building Regulations; exceeding them where practicable, thereby also exceeding the 25% improvement target over the 2006 Part L Building Regulations.
- **Renewable Energy:** By applying the energy hierarchy to the design of the proposed development and considering the viability of utilising low carbon technologies, it is estimated that >20% of final site energy demand will be met by solar PV, thereby achieving the 20% requirement of the Environmental Standards for renewable energy.
- **Environmental Design:** The proposed development will be seeking certification through schemes BREEAM, with Buildings 1, 2 3 and 4 all targeting a minimum standard of BREEAM (Shell and Core) “Excellent” and will be assessed and certified as a whole using a similar buildings approach. Other sustainable design principles have also been adopted, including low embodied carbon design and sustainable transport.
- **Water Management and Weather Resilience:** The proposed development seeks to manage water and improve weather resilience by increasing water efficiency; reducing surface water run-off from the site; and mitigating future flood risk through the inclusion of water-efficient fittings and systems, and the implementation of a SuDS strategy.
- **Waste Management:** A Waste Management Strategy has been prepared to consider how waste produced by the building will be disposed of or recycled. Sufficient refuse storage is provided for each unit for the anticipated number of building occupants and different waste streams, including convenient access for waste collection crews and vehicles.
- **Construction Management:** A Framework Construction Management Plan has been prepared to manage adverse environmental impacts that may arise during the construction phase, including the generation of site waste.
- **Biodiversity:** Existing habitats will be retained where practicable, and new grassland and tree planting will be undertaken across the site to the greatest extent possible, whilst maintaining the feasibility of the development, in line with the Manchester Biodiversity Strategy and Action Plan

8.2 Regional Planning Requirements

Policies JP-S2 and JP-S3 of the Greater Manchester Combined Authority Places for Everyone plan (adopted 2024) have been considered in this statement.

The energy hierarchy has been applied to demonstrate how the proposed development will seek to minimise energy demands; maximise efficiency; and utilise low and zero carbon technologies in accordance with Policy JP-S2. A fabric first approach to improving the performance of the building envelope has been applied using the 2021 ‘notional building’ as the target for the construction of the development to ensure that the development is consistent with the 2021 Part L Building Regulations, exceeding them where possible. The minimum standard for “Excellent” has been achieved for the Ene 01 – Reduction of energy use and carbon emissions BREEAM issue for each unit at the early planning stage in accordance with Policy JP-S2 of the PfE.

Regulated energy carbon emissions have been calculated and minimised as far as practicable and financially viable, and significant carbon savings have been demonstrated, as shown below.

MANCHESTER BUSINESS PARK, AVIATOR WAY, PART L 2021 RESULTS			
	Target Emission Rate (kgCO ₂ /m ²)	Building Emission Rate (kgCO ₂ /m ²)	% Improvement
Unit 1A	5.07	4.80	5.63
Unit 1B	5.05	4.76	6.09
Unit 2A	5.36	5.08	5.51
Unit 2B	5.10	5.01	1.80
Unit 2C	5.33	5.31	0.38
Unit 3A	5.20	4.88	6.56
Unit 3B	5.04	4.83	4.35
Unit 3C	5.25	5.17	1.55
Unit 4	5.14	4.86	5.76

The operational carbon emissions from Manchester Business Park, Aviator Way, will continue to decrease towards net zero as the UK grid continues to decarbonise based on its all-electric energy strategy. It is considered that the inclusion of photovoltaics and air source heat pumps into the design of Manchester Business Park, Aviator Way, will contribute towards mitigating residual operational carbon emissions in the interim and support the delivery of a carbon neutral Greater Manchester no later than 2038.

Appendix 1 – Planning Policies

1.0 National Policy

1.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF) (December 2024 revision) sets out the government's planning policies for England and guidance on how these are expected to be applied. The NPPF states that the purpose of the planning system is to contribute to the achievement of sustainable development, which is defined as meeting the needs of the present without compromising the ability of future generations to meet their own needs. This includes the provision of homes, commercial development and supporting infrastructure in a sustainable manner.

Section 2 describes the three overarching objectives of the NPPF that are intended to be pursued in mutually supportive ways and delivered through the preparation of plans and application of the policies within the Framework. These are:

- a) An economic objective – to help build a strong, responsive and competitive economy;
- b) A social objective – to support strong, vibrant and healthy communities; and;
- c) An environmental objective – to protect and enhance our natural, built and historic environment.

To facilitate the advancement of sustainable development in a positive way, paragraph 10 states that at the heart of the NPPF is a presumption in favour of sustainable development for plans and decisions.

The NPPF supports the transition to a low-carbon future in a changing climate, taking full account of flood risk and coastal change. It aims to help shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.

Section 14 outlines the energy and climate change policies and states that plans should take a proactive approach to mitigating and adapting to climate change, taking into account the long-term implications for flood risk, coastal change, water supply, biodiversity and landscapes, and the risk of overheating from rising temperatures. 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 the planning of green infrastructure; and;
- b) Can help to reduce greenhouse gas emissions, such as through its location, orientation and design. Any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards.

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, which 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 co-locating potential heat customers and suppliers.

When determining planning applications, the NPPF states that 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.

When determining planning applications for renewable and low carbon development, local planning authorities should:

- a) not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small-scale projects provide a valuable contribution to significantly cutting greenhouse gas emissions;
- b) approve the application if its impacts are (or can be made) acceptable⁵⁸. 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; and;
- 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, and approve the proposal if its impacts are or can be made acceptable.

Section 9 of the NPPF outlines the sustainable transport policies supports and encourages transport issues to be considered from the earliest stages of plan-making and development proposals.

The NPPF states that applications for development should:

- a) give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;
- b) address the needs of people with disabilities and reduced mobility in relation to all modes of transport;
- c) create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
- d) allow for the efficient delivery of goods, and access by service and emergency vehicles; and;
- e) be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.

2.0 Regional Policy

2.1 Places for Everyone

The Places for Everyone (PfE) plan was formally adopted in March 2024 and forms part of a suite of documents that comprise the Manchester Local Plan. The PfE was prepared by the Greater Manchester Combined Authority (GMCA) and sets out the long-term plan for jobs, new homes and sustainable growth across nine of Manchester’s Metropolitan Districts including Salford.

The policies within the PfE plan aim to support the delivery of a carbon neutral Greater Manchester by 2038, following the declaration of a Climate Emergency in July 2019 by the GMCA by encouraging a range of measures that contribute to reducing greenhouse gas emissions from new development in the area.

Objective 7: Playing our part in ensuring that Greater Manchester is a more resilient and carbon neutral city-region states that the GMCA will:

- Promote carbon neutrality of new development by 2028;
- Promote sustainable patterns of development that minimise the need to travel and contribute to cleaner air;
- Locate and design development to reduce car dependency;
- Facilitate provision of infrastructure for cleaner vehicles;
- Improve energy efficiency and the generation of renewable and low carbon energy.

Policy JP-S1: Sustainable Development

Policy JP-S1: Sustainable Development states that development should aim to maximise its economic, social and environmental benefits simultaneously, and minimise its adverse impacts, to help tackle climate change. Preference will be given to using previously developed (brownfield) land and vacant buildings to meet development needs. In bringing forward previously developed sites for development, particular attention will be paid to tackling land contamination and stability issues, ensuring that appropriate mitigation and remediation is implemented to enable sites to be brought back into use effectively.

Policy JP-S2: Carbon and Energy

Policy JP-S2: Carbon and Energy aims to support the delivery of a carbon neutral Greater Manchester no later than 2038 through a range of measures including:

1. Promoting the retrofitting of existing buildings with measures to improve energy efficiency and generate renewable and low carbon energy, heating and cooling;
2. Promoting the use of life cycle cost and carbon assessment tools to ensure the long-term impacts from development can be captured;
3. Taking a positive approach to renewable and low carbon energy schemes, particularly schemes that are led by, or meet the needs of local communities;
4. Increasing the range of nature-based solutions including carbon sequestration through the restoration of peat-based habitats, woodland management, tree-planting and natural flood management techniques;

Policy JP-S2 states that there is an expectation that new developments will unless it can be demonstrated that it is not practicable or financially viable;

- a) 'Be net zero carbon which applies:
- from adoption– to regulated operational carbon emissions;
 - from 2028 - to all emissions 'in construction'.

From 2025 development should also calculate and minimise carbon emissions from unregulated emissions alongside regulated emissions.

Development proposals should set out how this has been achieved in an energy statement in accordance with the energy hierarchy, which in order of importance seeks to:

- i. Minimise energy demand;
- ii. Maximise energy efficiency;
- iii. User renewable energy;
- iv. Use low carbon energy; and
- v. Utilise other energy sources.

From 2025 any residual carbon emissions that cannot be fully mitigated on-site should be offset, in agreement with the relevant local planning authority through a financial contribution to a carbon offset fund. As an interim measure, development should be consistent with the 2022 Part L Building Regulations unless superseded by changes to building regulations and/or national or local planning policies.

- b) Incorporate adequate electric vehicle charging points, in line with Part S of the Building Regulations, unless superseded by relevant Local Plan policies, to future proof for the likely long-term demand, taking account of the potential maximum energy demand for the site;
- c) Where practicable, prioritise connection to a renewable energy/heating/cooling network in the first instance or a low carbon energy/heating/cooling network that is adaptable to non-fossil fuels at a later date;
- d) In residential developments, achieve energy demand reductions in terms of space heat demand; hot water energy demand and the delivery of on-site renewable energy generation, in accordance with Table 5.1.

Table 5.1 Best Practice Thresholds for Reducing Energy Demand and Onsite Renewable Energy Generation within residential developments

-	Space Heat Demand ²⁵	Hot Water Energy Demand ²⁶	Renewable Energy Generation Targets
2021 - 2025	Houses (30kWh/m2) Flats (25kWh/m2)	20% energy demand reduction in the total heat required for water heating	*Photovoltaic installation: 20% ground floorspace
2025 - onwards	Houses (20kWh/m2) Flats (15kWh/m2)	^20% energy demand reduction in the total heat required for water heating	*Photovoltaic installation: 40% ground floorspace
*Ground floorspace used as a proxy for available roof area.	-	-	-
^will need to be reviewed with Future Homes Standard 2025 to determine if savings already embedded.	-	-	-

For renewable energy generation priority should be given to PV installation where technically feasible, alternative technologies will be appropriate where the equivalent generation is evidenced.

- e) For non-residential developments, achieve at least BREEAM excellent standard (or equivalent) for the 'Ene 01 – reduction of energy use and carbon emissions' category rising to 'BREEAM outstanding' equivalent for ENE 01 from 2028.
- f) Include a detailed energy statement to demonstrate via site relevant evidence how the development has sought to maximize reductions in carbon emissions in line with relevant policy targets, including the minimisation of overheating risks and appropriate measures for post occupancy evaluation. Whole life cycle emissions should be considered where possible.

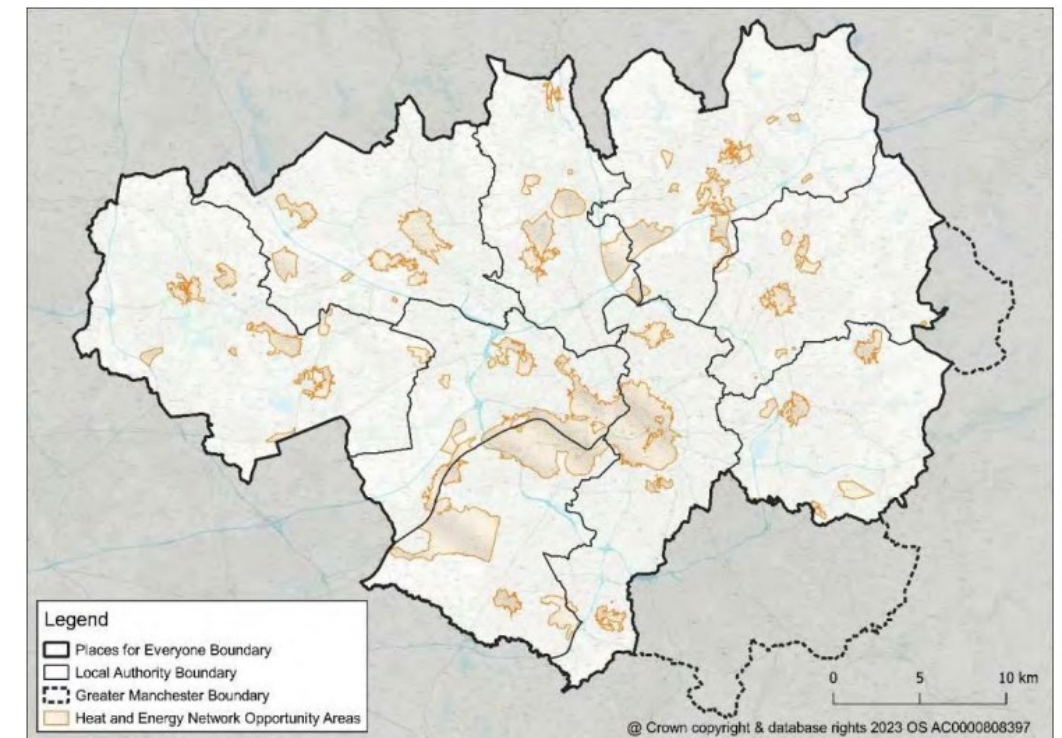
Districts may set out specific carbon emission reduction and energy demand targets within Local Plans.

Policy JP-S3: Heat and Energy Networks

Policy JP-S3: Heat and Energy Networks states that the provision of decentralised energy infrastructure is critical to the delivery of our objectives for low carbon growth, carbon reductions and an increase in local energy generation. The following measures will help to achieve this:

1. Delivery of renewable and low carbon energy schemes will be supported with particular emphasis on the use of decentralised energy networks in areas identified as "Heat and Energy Network Opportunity Areas". These have been identified where:
 - a. Existing heat/energy networks are operational or have been commissioned;
 - b. Proposals for new heat networks/energy networks are being progressed, or future opportunities have been identified in city-region master planning;
 - c. Sufficient density of existing heat demand occurs; and d. Significant future development is proposed at the strategic development locations.
 - d. Significant future development is proposed at the strategic development locations.
2. Within the identified "Heat and Energy Network Opportunity Areas", unless it can be demonstrated that there are more effective alternatives for minimising carbon emissions or such connection is not practicable or financially viable, it is expected that:
 - a. New residential developments that are '10 dwellings or more' or other developments over 1,000 m² floorspace shall:
 - i. Connect to an existing or planned heat/energy network or be designed to enable future connection (where within 500m of such a network); and/or
 - ii. Install a site-wide or communal heat/energy network solution.
 - b. An expectation that new industrial development will demonstrate that opportunities for using waste heat locally have been fully examined, and included in proposals;
 - c. An expectation that where publicly owned buildings and assets adjoin new major development sites, opportunities for these buildings and assets to connect to site-wide proposals will be considered; and
 - d. An expectation that any site-wide networks will be designed so as to enable future expansion to adjoining buildings or assets as appropriate.

Figure 5.1 Heat and Energy Network Opportunity Areas



3.0 Local Policy

3.1 Manchester Core Strategy

Manchester City Council's Core Strategy (2012-2027) was adopted in July 2012 and comprises the key document in the Manchester Local Plan. Following the recent adoption of GMCA's PfE by Manchester City Council, the Core Strategy was updated in March 2024. It sets out the long term strategic policies for Manchester's future development and forms the framework that planning applications will be assessed against. The following policies from the Core Strategy have been replaced by Policy JP-S2 of the PfE however will still be considered within this Statement.

Policy EN4 Reducing CO2 Emissions by Enabling Low and Zero Carbon Development

The Council will seek to reduce fuel poverty and decouple growth in the economy, growth in CO2 emissions, and rising fossil fuel prices, through the following actions:

- All development must follow the principle of the Energy Hierarchy, being designed:
 - to reduce the need for energy through design features that provide passive heating, natural lighting and cooling
 - to reduce the need for energy through energy efficient features such as improved insulation and glazing
 - to meet residual energy requirements through the use of low or zero carbon energy generating technologies
- Wherever possible new development and retrofit projects, including energy generation plant, must be located and designed in a manner that allows advantage to be taken of opportunities for low and zero carbon energy supplies.
- Where possible new development and retrofit projects will be used as a mechanism to help improve energy efficiency and provide low and zero carbon energy supplies to existing buildings.
- Where appropriate new development and retrofit projects will be required to connect to and/or make contributions to low or zero carbon energy schemes and/or to incorporate provision to enable future connection to any existing / potential decentralised energy schemes.
- The use of building materials with low embodied carbon in new development and refurbishment schemes.

Policy EN6 Target Framework for CO2 Reductions from Low or Zero Carbon Energy Supplies

Applications for residential development of 10 or more units and all other development over 1,000 sq m will be expected as a minimum to meet the target shown in Tables 12.1 or 12.2, unless this can be shown not to be viable. This should be demonstrated through an energy statement, submitted as part of the Design and Access Statement. Such a statement will be expected to set out the projected regulated energy demand and associated CO2 emissions for all phases of the development.

Developments smaller than the above threshold, but involving the erection of a building or substantial improvement to an existing building will also be expected to meet the minimum target, where viable, but will not be expected to submit an energy statement.

The target framework relates to three broad development locations and their potential for low and zero carbon, decentralised energy. The areas are defined as follows:

- Target 1 Network development areas: Locations where the proximity of new and existing buildings, the mix of uses and density of development provide the right conditions to support district heating (and cooling).
- Target 2 Electricity intense areas: Locations where the predominant building type has an all-electric fit-out such as retail units and leisure complexes.
- Target 3 Micro-generation areas: Locations where lower densities and a fragmented mix of uses tend to mean that only building scale solutions are practical.

Domestic CO ₂ emissions reduction targets	
Table 12.1	
Target	% Minimum requirement
Target 1: Network development area	CHP/district heating anchor or connection or where not feasible a 15% increase on Part L 2010
Target 2: Electricity intense buildings	+15% increase on Part L 2010
Target 3: Micro generation area	+15%increase on Part L 2010
Non-domestic CO ₂ emissions reduction targets	
Table 12.2	
Target	% Minimum requirement
Target 1: Network development area	CHP/district heating anchor or connection or where not feasible, a 15% increase on Part L 2010
Target 2: Electricity intense buildings (Applies to commercial uses with a high proportion of emissions from electricity use (>45 kg CO2/m2))	+10%increase on Part L 2010
Target 3: Micro generation area	+15% increase on Part L 2010

Where the CO2 emissions reduction required under any future revision to Part L of the building regulations becomes greater than the '% Minimum requirement', the reduction required under building regulations would apply.

Where the Council identifies an 'allowable solution', for example within an energy proposals plan, that would produce higher carbon reductions at no extra cost than that of achieving the '% Minimum requirement' (or required under building regulations if greater) the higher percentage reduction will be required. The cost comparison is based on the cost of incorporating the 'allowable solution' at design stage.

The energy statement will be required to be submitted at the outset of any proposed development (outline application or before). Developers will be permitted to use green infrastructure elements such as green roofs, green walls, street trees and waterways to contribute to compliance with CO2 mitigation, subject to the energy statement incorporating evidence such as modelling to demonstrate compliance.

3.2 A Guide to Development in Manchester

The Guide to Development in Manchester was formally adopted by Manchester City Council in April 2007 and acts as a Supplementary Planning Document and Planning Guidance that reflects the growing recognition of the importance of attractive, well-designed, well-maintained neighbourhoods in supporting sustainable development and 'neighbourliness'. The Guide aims to support and enhance the ongoing shaping of the City by providing a set of reasoned principles that can guide developers, designers and residents to the sort of development that is wanted in Manchester.

The Guide sets out a number of Environmental Standards that are expected to be achieved by developers and demonstrated within an Environmental Standards Statement.

The 'UDP' discussed in the following Environmental Standards refers to the Manchester's Unitary Development Plan (UDP) which was adopted by in July 1995. The UDP provided the guidelines for all development in Manchester and provided the frameworks from which to base decisions about planning applications on, however was superseded by the adoption of Manchester's Core Strategy in 2012 and subsequent policies within the PfE.

Energy Efficiency

Part 1 Policy E1.5 encourages high standards of energy efficiency in new development. In the Environmental Standards Statement, developers should show how they have considered the steps necessary to reduce energy demand at the earliest stages of design. Developers should aim to reduce CO2 emissions by at least 25% more than the requirements of the current Building Regulations, which at present are Building Regulations: Approved Document L (2006) – 'Conservation of Fuel and Power.' The following design principles will assist developers in achieving energy efficiency targets:

- Minimise reliance on energy-using equipment for heating, cooling, lighting and natural ventilation
- Position trees and soft landscaping on and around the development and within buildings to provide natural shading, insulation and air conditioning
- Integrate energy efficient micro-generation and community heating schemes, such as combined heat and power (CHP)
- Site layout and building design principles should maximise the capture and use of daylight and passive solar energy, whilst avoiding excessive solar gain in summer
- Specify energy and water efficient appliances and systems.

Renewable Energy

To reduce energy demand and the harmful impact of using energy from non-renewables, in line with UDP Part 1 Policy E1.5, developers should aim for at least 20% of final site energy demand to be met by on-site renewable energy technologies. Renewable energy targets can be achieved more readily by undertaking the measures suggested above to reduce the total energy demand of the building. It is possible to produce developments that use 50% and even 100% energy from renewable sources. To achieve this, developers should:

- Assess opportunities for integrating small and large scale renewable energy generation systems (i) to improve the energy security of occupants and the neighbourhood, including siting of energy generation businesses on-site and export of surplus energy
- Use a mix of technologies to help generation patterns match demand Investigate energy generation opportunities before designing building envelopes or fixing their location, to optimise utilisation of wind, solar and geothermal resources
- Consider final energy demand rather than building energy consumption in the selection and sizing of generation equipment
- Explore opportunities to tackle waste and energy issues collectively through use of anaerobic digesters linked to CHPs (Combined Heat and Power devices)
- Consider private wire networks as an alternative to grid connection and availability charges on larger developments.

Environmental Design

Developers must demonstrate energy efficiency in line with UDP Part 1 Policy E1.5. For residential developments, this should be through the use of the Department for Communities and Local Government's 'Code for Sustainable Homes'. (In the short-term, compliance is voluntary but home builders are encouraged to follow the principles set out in the Code because the Government is considering making assessment under Code standards mandatory in the future). This Code builds on and replaces the EcoHomes system. Any developer in the process of achieving an EcoHomes assessment should discuss the transition to the Code for Sustainability with the relevant planning case officer. Whilst the City Council considers that new homes should achieve at least a three star sustainability rating under the Code for Sustainable Homes, developers should be aware that the Government target is for new homes to have a six star rating under the Code by 2016. The City Council would expect developers to be working towards meeting this six star rating. However, using alternative modelling tools that enable the developer to exceed the requirements of the Code is also encouraged.

To demonstrate energy efficiency in non-residential developments, the City Council would encourage developers to use the Building Research Establishment Environmental Assessment Method (BREEAM) which is used to assess environmental performance. Developments should be achieving a design and post-construction rating of "very good." However, using alternative modelling tools that enable the developer to exceed the requirements of BREEAM is also encouraged.

Water Management and Weather Resilience

UDP Part 1 Policy E1.3 states that the Council will promote measures to decrease the level of pollution in the City's watercourses, and groundwater sources. UDP Development Control Policy DC21.1 refers to development not normally being permitted where it would be at risk from flooding or increase the risk of flooding elsewhere. The environmental standards statement should therefore show how water is to be managed in the most environmentally effective way.

- New developments and the conversion of existing properties can both result in the removal of areas of soakaway, which can result in high volumes of surface water run-off, burdening the local sewer system and increasing pollution and the risk of flooding. Sustainable drainage systems (SUDS) should be included, and the amount of hard surfacing minimised, for example by providing on site capture and soakaway of all rainwater on site. Examples of SUDS options would include, rainwater harvesting systems, pervious surfaces, green roofs, filter drains, filter strips, swales, infiltration devices, bio-retention areas, basins, ponds and wetland. The use of gardens as a surface water management resource should not be underestimated.
- Localised flooding incidents are becoming increasingly frequent and problematic as we see the effects of climate change taking hold across the UK. Developers will be expected to prepare a Flood Risk Assessment for proposals in an area of identified flood risk.
- *New developments should seek to use water efficiently, through specification of water efficient devices and through the use of rainwater harvesting and grey water recycling.*

Waste Management

UDP Development Control Policy DC27.1 sets out how the City Council will deal with applications for development involving the disposal or recycling of waste materials. All development is likely to involve the production of waste to a greater or lesser extent. Greater emphasis is now being placed on the importance of the reduction and recycling of waste at source (PPS10). Developers will be increasingly required to consider how this issue will be tackled on-site.

All developments should have a waste management strategy included in the Environmental Standards Statement. This will ensure that adequately sized bin storage areas, access for collection crews and vehicles, and other aspects of waste management are designed into the development at the earliest stage.

Construction Management

UDP Part 1 Policy E1.6 requires the building materials used in new development and refurbishment schemes to be environmentally friendly wherever possible, and encourages the use of recycled building materials, which is also energy efficient. Site waste management plans should, therefore, be implemented to reduce the quantity of waste generated, and to increase re-use and recycling. Opportunities for reuse of existing structures should be explored, and where this is not appropriate, materials should be reused on site and incorporated into the new design where practicable. Materials that are environmentally friendly, of low embodied energy, locally sourced, and can be recycled or reclaimed when the building comes to the end of its life should be prioritised. Materials that contain environmentally damaging chemicals should be avoided.

In addition, activities carried out during the construction of new developments have the potential to cause significant environmental impact. In order to avoid such impacts, it is important that appropriate measures are put in place to manage and control the waste generated, the amount of water and energy used, and any potential releases to water, land and air. Use of the Considerate Constructor scheme is recommended.

Biodiversity

UDP Part 1 Policies E2.3 and E2.4 require the protection of wildlife, wildlife habitats, and where possible, the creation of new nature reserves and features which will sustain wildlife. Part 1 Policy E2.6 states that the City Council wishes to prevent the loss of existing trees. Developers will need to contribute to Manchester's Biodiversity Strategy by demonstrating in their Environment Standards Statement how they have taken full account of the effect of their proposed development on biodiversity. This should highlight how existing species and habitats would be protected and how the proposed development would enhance the ecological value of the site. Mature trees and hedges should be retained on site wherever possible. Where this is not possible, developers will be expected to agree an appropriate scheme for replanting with the Development Control case officers.

Developments should result in no net loss in overall biodiversity value and maximise opportunities to meet and exceed our target to achieve a 10% net increase in tree cover across new developments. In exceptional cases, where planting is unachievable on site, permission may be granted to plant elsewhere in the City to ensure no overall net loss in tree resources. Existing green links across the site should be maintained and the opportunity taken to create new links as appropriate. Landscaping and new planting should include species appropriate for the proposed development that will encourage wildlife. Full plans should be included in the report showing retained, enhanced and new ecological features, the number of on-site trees pre and post development, and a 5 year management plan. Wood and wood products should come from Forest Stewardship Council sources. Tropical hardwoods should be avoided.

Waterways

The waterways are a major asset for the City and provide significant opportunities to raise perceptions and economic values through links to regeneration, the environment and transportation. This is recognised in UDP Part 1 Policies E1.3 which seeks to promote measures to reduce pollution in the City's watercourses and E3.4 which sees the waterways as an important part of a recreational network where measures will be taken to improve access and protect and enhance wildlife. Developers working in close proximity to the City's waterways should demonstrate, in line with the above mentioned UDP Policies and Manchester's Waterways Strategy, how public access, environment and management will be enhanced. Developers should landscape to ensure that site run-off and blown waste does not enter watercourses, even during extreme weather conditions.

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