RIDGE

EQUITABLE BUILDING MANCHESTER ENVIRONMENTAL STANDARDS STATEMENT

19/12/2024

5025995 – EQUITABLE BUILDING

December 2024

Prepared for

PH Property Holdings Ltd

Prepared by

Ridge and Partners LLP
2nd Floor, 100 Embankment
Cathedral Approach
Manchester
M3 7FB

VERSION CONTROL

VERSION	DATE	DESCRIPTION	CREATED BY	REVIEWED BY
1.0	08.11.24	Sustainability Statement for Equitable Buildings – Application 2	IY/SM	KR
2.0	16.12.24	Sustainability Statement for Equitable Buildings – Application 2 – V2	SM	KR
3.0	19.12.24	Sustainability Statement for Equitable Buildings – Application 2 – V3	SM	KR

CONTENTS

1. INTRODUCTION **3**

2. DEVELOPMENT PROPOSALS **3**

2.1. Site Overview & Development Proposals 3

3. POLICY CONTEXT **4**

3.1. National Planning Policy Framework 4

3.2. Manchester Local Plan 4

3.3. Places for Everyone Joint Development Plan 7

3.4. Guide to Development in Manchester Supplementary Planning Document 9

4. DESIGN RESPONSE (ENERGY AND CARBON) **10**

4.1. Introduction 10

4.2. Carbon Reduction 10

4.3. Climate Change Adaptation 13

5. DESIGN RESPONSE (WIDER ISSUES) **14**

5.1. Introduction 14

5.2. Materials and Waste 14

5.3. Biodiversity 14

5.4. Air Quality 14

5.5. Noise Pollution 15

6. CONCLUSION **15**

1. INTRODUCTION

Ridge & Partners LLP have been appointed by PH Property Holdings to complete an Environmental Standards Statement for the proposed Equitable Buildings Project at St Ann's Square, Manchester.

This Environmental Standards Statement has been produced to support the full planning application for the development by demonstrating that careful consideration has been given to the context of the site, local planning policy and the 2021 Building Regulations, in the development of the proposed energy and sustainability strategy. The primary objective of this report is to contribute to the development of a low carbon and sustainable design and construction strategy for the site which will be carried through to detailed design, construction, and operation.

2. DEVELOPMENT PROPOSALS

2.1. Site Overview & Development Proposals

The site, identified by the red line boundary in Figure 2.1, comprises an area of 0.1ha located at St Ann's Square, Manchester. The building is bound by St Ann' Street to the South and St Ann's Square to the east.

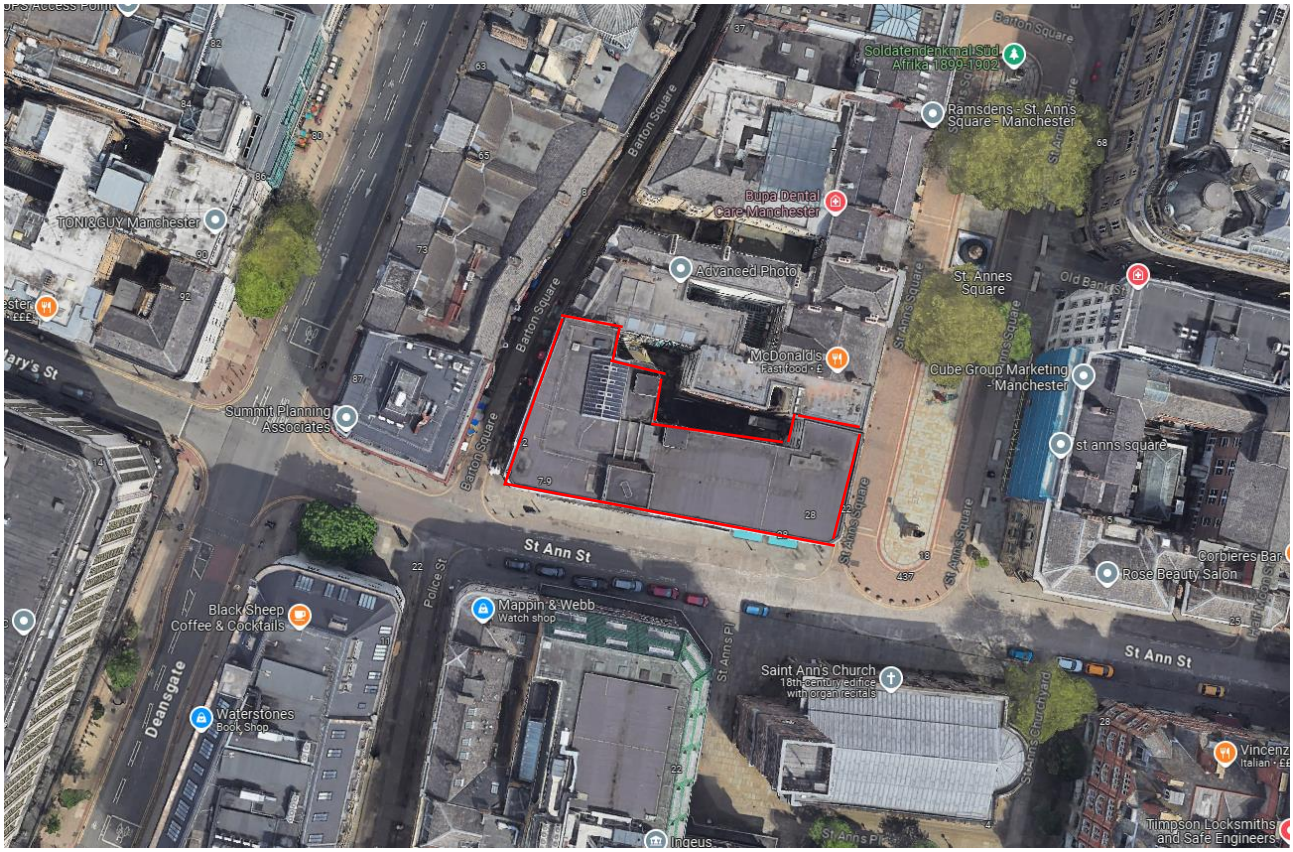

Figure 2.1: Location Plan

The proposed refurbishment comprises 12 apartments on Levels 02 and 03. The refurbishment also includes a shared entrance foyer within the existing ground floor for commercial space / workshop on Level 01.

3. POLICY CONTEXT

3.1. National Planning Policy Framework

The revised National Planning Policy Framework (NPPF), published in December 2024, sets out the government's planning policies for England, and provides details regarding application of these policies and how they are expected to be applied. This framework replaces the previous version of the NPPF, published in December 2023. This framework confirms in Section 2 "Achieving Sustainable Development" that:

'*the purpose of the planning system is to contribute to the achievement of sustainable development*.'

This highlights sustainability as a critical issue that runs throughout all of the planning policies. The National Planning Policy Framework (NPPF) defines sustainable development in agreement with the U.N. definition of "meeting the needs of the present without compromising the ability of future generations to meet their own needs". The NPPF outlines how three overarching objectives need to be pursued in mutually supportive ways in order to achieve sustainable development. These objectives are outlined below:

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 pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

3.2. Manchester Local Plan

The Manchester Core Strategy (2012) is the Adopted Development Plan for Manchester City Council. More recently, on 21 March 2024, the 'Places for Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan 2022 To 2039' was also adopted, replacing a selection of the Core Strategy policies. With respect to climate change and sustainability considerations, the following policies are included within the Manchester Local Plan Core Strategy (2012), where some of the policies have been superseded, in line with the core strategy addendum:

CS Policy DM 1: Development Management
Policy DM 1 requires all development to demonstrate consideration of a number of development principles for which more detailed guidance may be given within supplementary planning documents. It also states that: *"Subject to scheme viability, developers will be required to demonstrate that new non-domestic development to achieve a BREEAM Rating of 'Very Good' or for domestic development to achieve the Code for Sustainable Homes standard"*

Policy EN 4: Reducing CO2 Emissions by Enabling Low & Zero Carbon Development

Policy EN 4 seeks to reduce fuel poverty and decouple growth in the economy, growth in CO2 emissions, and rising fossil fuel prices, through the following options:

- *"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 EN 5: Strategic Areas for Low and Zero Carbon Decentralised Energy Infrastructure

Policy EN 5 sets a requirement for key developments to consider being part of or providing an anchor to a new local energy network.

Within specific strategic areas, new development, regeneration and retrofit projects will be expected to take place in the context of more detailed proposals for decentralised low and zero carbon energy infrastructure in the form of energy proposals plans. The Council will work with all relevant stakeholders, which may include developers, landowners, residents, community groups, private sector partners, utilities companies, neighbouring authorities, and other public sector bodies, as appropriate, to bring forward such plans.

Where investment or development is being undertaken into or adjacent to a public building/asset or district heating network, full consideration shall be given to the potential role that these can have in providing an anchor load within a decentralised energy network or in creating opportunities for CO2 reduction funded by contributions.

Policy EN 6: Target Framework for CO2 Reductions from Low or Zero Carbon Energy Supplies

Policy EN 6 sets a requirement for residential developments of 10 or more units and all other development over 1,000 sqm are expected as a minimum to meet the targets within JP-S2 of the Places for Everyone Joint Development Plan, unless this can be shown not to be viable. This should be demonstrated through an energy 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.

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.

Policy EN 8: Adaptation to Climate Change

Policy EN 8 requires all new development to be adaptable to climate change in terms of the design, layout, siting and function of buildings and associated external spaces. In delivering developments which are adaptable to climate change, consideration should be given to the following, noting that this is not an exhaustive list:

- Reduction in urban heat island effect through green and blue infrastructure provision such as green roofs, green walls, increased tree cover and waterways.
- The need to control overheating of buildings through passive design measures.

Developers will be permitted to use green and blue infrastructure elements such as green roofs, green walls, street trees and waterways to contribute to compliance with CO_2 mitigation under Policy EN6, subject to sufficient evidence quantifying their contribution.

Policy EN 14: Flood Risk

Policy EN 14 states that:

- *"In line with the risk-based sequential approach contained within PPS25, development should be directed away from sites at the greatest risk of flooding, and towards sites with little or no risk of flooding; this should take account of all sources of flooding identified in the Manchester-Salford-Trafford Strategic Flood Risk Assessment (SFRA).*
- *In addition to the requirements for site-specific Flood Risk Assessments (FRAs) set out in PPS25, an appropriate FRA will also be required for all development proposals, including changes of use, on sites greater than 0.5ha within Critical Drainage Areas (CDAs) and Canal Hazard Zones identified in the SFRA.*
- *In CDAs, evidence to justify the surface water run-off approach / rates will be required.*
- *The City of Manchester contains many sections of rivers which are culverted or 'hidden'; where these are indicated in the SFRA beneath the proposed development site, further investigation will be required and the development proposal should take this into account; where feasible and appropriate development should seek to open up culverted/hidden rivers to reduce the associated flood risk and danger of collapse, taking advantage of opportunities to enhance biodiversity and Green Infrastructure."*

Policy EN 15: Biodiversity and Geological Conservation

Policy EN15 states that *"the Council will seek to maintain or enhance sites of biodiversity and geological value throughout the City. Particular consideration will be given to:*

- *Sites with international or national designations for their biodiversity value. Manchester contains one Site of Special Scientific Interest (SSSI) (Cotteril Clough); there is a Special Area of Conservation (SAC) and an SSSI just over the border in Oldham (both on the Rochdale Canal within Oldham).*
- *Other sites of biodiversity value, including Sites of Biological Importance (SBIs) and Local Nature Reserves (LNRs); Manchester currently has 35 SBIs (including the Rochdale and Ashton Canals) and 7 LNRs; priority habitats found within Manchester, as listed in the Manchester Biodiversity Strategy, and included in the Greater Manchester Biodiversity Action Plan (GM BAP).*
- *Protected and priority species, as listed in the Manchester Biodiversity Strategy and included in the Greater Manchester Biodiversity Action Plan (GM BAP).*
- *Sites that are recognised for their geological importance.*
- *The Council's objective to protect and conserve the City's existing trees and woodlands and the aim for a net increase in trees across the City.*

Developers will be expected to identify and implement reasonable opportunities to enhance, restore or create new biodiversity, contributing to linkages between valuable or potentially valuable habitat areas where appropriate, with reference to:

- *The Manchester Biodiversity Strategy, which provides further details of priority habitats within Manchester and opportunities for biodiversity enhancement including corridors such as the Mersey, Medlock and Irk River valleys, the canals and disused railway lines and areas of managed greenspace particularly in parks.*
- *The Green Infrastructure Framework for Greater Manchester, which encompasses an ecological framework that seeks to guide and inform habitat creation and repair, including identifying large 'biodiversity opportunity areas' including the Moston Brook Corridor and Nutsford Vale;*
- *The Open Space, Sport & Recreation Study, which identifies areas where there is a deficit of natural and semi-natural greenspace, opportunities for green corridors and other linkages.*
- *Manchester's Climate Change Action Plan.*
- *The Strategic Flood Risk Assessment (SFRA) for Manchester.*

- *The Habitats Regulations Assessment (HRA) for Manchester, which gives detailed consideration to Special Areas of Conservation (SACs), including the Rochdale Canal SAC just outside the district boundary.*
- *The River Basin Management Plan for the Northwest.*
- *The Manchester Tree Strategy.*

Any adverse impacts on biodiversity will need to be justified against the wider benefits of the proposal, assessed against other LDF policies. Where adverse impacts are unavoidable, developers will be required to provide appropriate mitigation and/or compensation."

Policy EN 16: Air Quality

Policy EN 16 states that *"the Council will seek to improve the air quality within Manchester. Developers will be expected to take measures to minimise and mitigate the local impact of emissions from traffic generated by the development, as well as emissions created by the use of the development itself, including from Combined Heat and Power and biomass plant.*
When assessing the appropriateness of locations for new development the Council will consider the impacts on air quality, alongside other plan objectives. This includes cumulative impacts, particularly in Air Quality Management Areas."

Policy EN 19: Waste

Policy EN 19 states that the Council will:

- *"Require all developers, including those of new waste management facilities within the District, to demonstrate the proposal's consistency with the principles of the waste hierarchy (prevention, reduction, re-use, recycling/composting, energy recovery, final disposal)*
- *Require all developers to submit a waste management plan to demonstrate how both construction and demolition waste will be minimised and recycled on site wherever possible and how the sustainable waste management needs of the end user will be met.*
- *Promote the development of innovation and technological advancement within the sustainable waste management industry, aiming to achieve a closed-loop waste management system.*
- *Require waste management practices to have full regard to the environmental, social & economic impacts of such development and encourage long-term benefits in improving the environment, the regeneration of areas in need of investment and co-location with other employment uses where appropriate.*
- *Encourage communities to take responsibility for the waste created by provision of accessible facilities."*

3.3. Places for Everyone Joint Development Plan

The following relevant policies are included within the Places for Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan 2022 To 2039, adopted on 21 March 2024:

Policy JP-S2: Carbon and Energy

Policy JP-S2 promotes a carbon neutral Greater Manchester, no later than 2038. A range of measures to reduce greenhouse gas emissions are supported, which have been summarised below:

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;

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;
5. An expectation that new development 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'

        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. Use renewable energy;
        iv. Use low carbon energy; and
        v. Utilise other energy sources.

        Development should be consistent with the 2022 Part L Building Regulations.
    b. Incorporate adequate electric vehicle charging points, in line with Part S of the Building Regulations;
    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. For renewable energy generation priority should be given to PV installation where technically feasible.
    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.

Policy JP-S4: Flood Risk and the Water Environment

Policy JP-S4 intends to protect water bodies and manage flood risk. It does this is a number of ways, the below of which are of relevance to this scheme:

- Locating and designing development to minimise the impacts of current and future flood risk.
- Expecting developments to manage surface water run-off through sustainable drainage systems and as close to source as possible. Development should achieve greenfield run-off rates unless it is demonstrated to be impracticable.
- As a minimum, residential development should meet the mandatory water efficiency standard of 125 litres/person/day as set out in Building Regulations.

Furthermore, it should be ensured that sustainable drainage systems:

i. *"Are designed to provide multifunctional benefits wherever possible, including for water quality, nature conservation and recreation;*
ii. *Avoid adverse impacts on water quality and any possibility of discharging hazardous substances to ground;*
iii. *Are delivered in a holistic and integrated manner, including on larger sites split into different phases; and*
iv. *Are managed and maintained appropriately to ensure their proper functioning over the lifetime of the development."*

Policy JP-S5: Clean Air

Policy JP-S5 outlines a range of measures to improve air quality. These include:

- Locating and designing development, and focusing transport investment, so as to reduce reliance on forms of transport that generate air pollution.
- Requiring applications for developments that could have an adverse impact on air quality to submit relevant air pollution data so that adverse impacts on air quality can be fully assessed and development only permitted where they are acceptable and/or suitable mitigation can be provided.
- Development to be located in areas that maximise the use of sustainable travel modes, and designed to minimise exposure to high levels of air pollution, particularly for vulnerable users.

Policy JP-G8: A Net Enhancement of Biodiversity and Geodiversity:

Policy JP-G8 outlines protection and enhancement measures to achieve a net enhancement of biodiversity. Specifically, development will be expected to:

a. Follow the mitigation hierarchy of:
    i. Avoiding significant harm to biodiversity, particularly where it is irreplaceable, through consideration of alternative sites with less harmful impacts, then
    ii. Adequately mitigating any harm to biodiversity, then
    iii. Adequately compensating for any remaining harm to biodiversity
b. Avoid fragmenting or severing connectivity between habitats.
c. Achieve a measurable net gain in biodiversity of no less than 10%.
d. Make appropriate provision for long-term management of habitats and geological features connected to the development.
e. Where appropriate, development should: mitigate air pollution impacts on Manchester Mosses SAC; mitigate urban edge, functionally linked land and recreation disturbance impacts on the South Pennine Moors SAC/SPAs; and assess and potentially mitigate boat movement, water pollution, and light spillage and shading impacts on the Rochdale Canal SAC.
f. Development proposals should be informed by the findings and recommendations of the appropriate biodiversity/ecological assessment(s) in the PfE evidence base and/or any updated or appropriate biodiversity/ecological assessments submitted as part of the planning application process.

3.4. Guide to Development in Manchester Supplementary Planning Document

The Guide to Development in Manchester Supplementary Planning Document (SPD), adopted in April 2017, is a material planning consideration for applications; however, it is not part of the development plan. While it references policies from the old Local Plan (UDP), which have been superseded, it is still useful as a general guide to development. It includes a section on environmental standards, with sub sections on energy efficiency, renewable energy, environmental design, water management and weather resilience, waste management, construction management, biodiversity, and waterways.

4. DESIGN RESPONSE (ENERGY AND CARBON)

4.1. Introduction

This section of the report summarises the design response to the climate change and sustainability requirements, namely energy and carbon, identified in Chapter 3. In particular, Manchester Local Plan policies EN4, EN6 and EN8, and Places for Everyone Joint Development Plan policy JP-S2 are addressed.

4.2. Carbon Reduction

Carbon reduction is key to tackling climate change. Carbon, in relation to climate change, is a term used to cover all greenhouse gas emissions and is measured in terms of CO_2 equivalent. There can be significant carbon emissions associated with a development which includes both embodied and operational carbon, i.e. carbon related with the materials used within the build, construction processes, operational carbon associated with the running of the building and energy demand, and transport needs of the occupants.

4.2.1. Construction-Related Carbon Emissions

Due to the nature of the development, significant construction related carbon emissions are not anticipated as the impact of refurbishment, relative to new build or rebuild, is minimal, particularly for schemes with a relatively concise construction programme, as is the case here.

4.2.2. Operational Carbon and Energy

The development is aspiring to achieve an EPC rating of B. Carbon reductions are targeted through the application of passive design measures, considering, for example, enhancement of thermal performance of the existing building envelope, with reduced air tightness and optimisation of the glazing design to limit the solar gain into the development.

Additional energy saving features that will be incorporated include, for example:

- PIR lighting controls in common areas.
- Landlord distribution boards fitted with integral meters, reporting to the BMS.
- LED lighting is to be used throughout the project.
- A fully electric heating installation, delivered in accordance with Domestic Building Services Compliance Guide 2010.
- Domestic hot water generation via air source heat pumps.

4.2.2.1. Passive Measures ("Lean")

Noting that full energy modelling will be undertaken at RIBA Stage 4, the design is currently progressing on the assumptions listed below:

- U values

Element	Ridge Recommended u-values (W/m²K)
Walls	0.15
Ground Floor	0.12
Pitched Roof	0.12
Flat Roof	0.15
Glazing	1.0-1.2
Spandrel Panels	0.8
Doors	1.2

- Air leakage rates (to exceed minimum Building Regulations):

Air Permeability	Worst Acceptable Standard	The Proposed Retrofit
M3/(h.m2) at 50 Pa	8	3

Through the application of the above, energy demand relevant to heating and lighting loads will be reduced.

4.2.2.2. Energy Efficiency Measures ("Mean")

Following the reduction of energy demand through passive measures, the next stage of the energy hierarchy was to specify efficient services to meet the demand of the building. The current proposed options are:

- High efficiency LED lighting throughout
- Reduced standing losses from pipes and cylinders
- Air source heat pumps to increase hot water generating efficiencies
- Low energy motors in pumps and fans
- Enhanced panel heater controls

4.2.2.3. Renewable & Low Carbon Technologies ("Green")

The final step of the energy hierarchy was establishing the most appropriate renewable and low carbon technologies to meet any remaining energy demand. A review of possible technologies has been completed; it is proposed that Solar Photovoltaic Panels may be able to be incorporated into the design, the area of which is to be confirmed in due course.

If rooftop photovoltaic panels are to be installed, they would be located at an angle of 30-40 degrees south facing. A typical 5Kw system will generate 5,000kWh per year, saving nearly 2.5 tonnes of CO_2. The possible provision of PV panels supports compliance with policies EN 4 'Reducing CO2 Emissions by Enabling Low and Zero Carbon Development', EN 6 'Target Framework for CO2 Reductions from Low or Zero Carbon Energy Supplies' and JP-S2 'Carbon and Energy'.

4.2.2.4. Operational Energy Reduction

Regulated CO_2 emissions are those associated with heating, lighting and ventilation. The systems are yet to be modelled, below is the assumed emission scenario:

Assessment	Target Emission Rate (TER)	Building Emission Rate (BER)	Betterment over Part L2 2021
Improved U Values, Space Heating: Direct Electric, DHW: ASHP / PV Array (TBC)	TBC	TBC	15.0%

The aspiration is to provide a 15% carbon reduction when compared to the Part L2: 2021 Target Emission Rate. This exceeds the requirements of JP-S2, which requires consistency with the 2022 Part L building regulations and Policy EN6 'Target Framework for CO2 Reductions from Low or Zero Carbon Energy Supplies'.

Unregulated carbon emissions are much harder to determine as they are largely influenced by the use of plug-in equipment. Building users will be encouraged to minimise their unregulated energy use through the provision of information and guidance, for example on the use of energy efficient white goods and other electrical equipment.

4.2.3. Embodied Carbon Emissions

Whilst operational carbon emissions are those associated with the day to day running of the building, e.g. heating, lighting and ventilation, embodied carbon emissions are predominantly associated with building materials and are therefore sometimes referred to as "upfront" or "construction" emissions. Once the building is constructed, they cannot be reduced further. The upfront / embodied carbon emissions for a residential scheme (i.e. construction impacts, material impacts, transport impacts) can comprise around 51% of the total carbon emissions associated with a building, as per the 2017 RICS Whole Life Carbon guidance. Reduction of embodied carbon emissions therefore plays an essential part in achieving net zero targets.

Significant savings in embodied carbon are made through the decision to refurbish the building, and the significant retention of existing materials. This will put the project immediately ahead of an equivalent new build scheme in terms of embodied carbon.

4.2.4. Transport Emissions

A Framework Travel Plan and Transport Statement have been prepared by Mode Transport Planning. These documents report on the existing transport conditions, sustainable accessibility and active travel, aims, objectives, benefits, targets, travel plan strategy and trip generation for the site. The site is located in Manchester City Centre which boasts a wide range of sustainable modes of transport. The design of the site also gives priority to pedestrian and cycle movements. Therefore, the site is compliant with Paragraphs 115 and 117 in the NPPF.

To support active travel, 14 cycle spaces will be provided, located within the building. Externally, the site is well connected, with a network of existing footways in place which provide dedicated pedestrian access to nearby amenities, including ATM's, food outlets, leisure centres, a shopping centre and colleges. Overall, the footways around the development are of good quality, well-lit and wide. Although there is minimal dedicated cycle infrastructure immediately around the site, carriageways have 20mph speed limits, providing a safer cycling environment, which cyclists can use to gain access to the site. There are multiple cycle parking

locations that existing and future retail visitors can use. There are multiple dedicated cyclist routes that are within 2000m and more within 5000m of the site. Overall, access to the development is cycle-friendly with segregated cycle lanes on Deansgate.

The site is in close proximity to multiple bus stops (140m-450m), Metrolink stop at Exchange Square (450m), Salford Central Rail Station (700m) and Victoria Station (800m). Bus services are regular and provide access around the city centre and across Greater Manchester.

No car parking spaces are proposed for the commercial space as it is expected that travel will form part of a wider journey into Manchester City Centre. Most new generated trips are expected to be undertaken via sustainable transport modes. There are also no proposed car parking spaces for the residential units. There are no parking spaces associated with the development as it is expected that visitors to the retail spaces within the Equitable Building will form part of a wider journey into Manchester City Centre, and therefore the number of new vehicle trips are expected to be low.

4.3. Climate Change Adaptation

As the scheme design develops, the team will address the effects of climate change on the development and mitigate these where possible, as directed by Policy EN 8 Adaptation to Climate Change and Policies JP-S2 Carbon and Energy, JP-S4 Flood Risk and the Water Environment and JP-G8 A Net Enhancement of Biodiversity and Geodiversity.

The potential impacts of climate change considered include:

- Increased temperatures (including the heat island effect)
- Flood risk
- Increased weather volatility
- Impacts on water resources
- Changes in ground conditions

The heat island effect occurs when a development is significantly warmer than surrounding rural areas. Sustained high temperatures can have impacts on health, local microclimate/weather conditions and energy use (for cooling). Methods which will be considered for adapting to or reducing the heat island effect include, but are not limited to:

- Design to enable airflow throughout the development
- External finishes that are designed to avoid heat absorption (e.g., light-coloured surfaces)
- Site layout/orientation to maximise microclimatic cooling

Rising sea levels and increases in average winter precipitation, as well as a general increase in the frequency, duration and intensity of rainfall may result in flood risks. Methods for adapting to increased flood risk include, but are not limited to:

- Flood resilient buildings and materials
- Managing flood pathways

As confirmed by Integra Consulting, the site is in Flood Zone 1 (low probability from flooding). In their report, (Proposed Site Re-Development, Flood Risk Assessment / Drainage Strategy) it is confirmed that no SuDS methods are feasible due to the lack of external space. The site will discharge into the existing surface water public sewers surrounding the site, therefore, there are no additional connections to the public sewer required. The report confirms following enquiries there are no adopted or private culvert structures beneath or adjacent to the site. This demonstrates compliance with Policies EN 14 and JP-S4.

It is thought that extreme weather events may occur as a result of climate change, including storms, high winds, cold events, and heatwaves. The confidence level in predictions for these is low and there are a number

of diverging projections. However, it is important to ensure the development is designed so that it will be resilient against future extreme weather wherever possible. This will be taken into consideration when specifying materials and structural detailing.

5. DESIGN RESPONSE (WIDER ISSUES)

5.1. Introduction

The following site-wide sustainability measures will be considered within the final design solution, in line with the requirements of national, regional, and local planning policy.

5.2. Materials and Waste

Retrofitting and refurbishment is inherently less wasteful than rebuilding. Although details of the proposed refurbishment are still being finalised, the priority will be the sustainable, efficient use of resources. Furthermore, the development will be designed to be durable and resilient. This will help to reduce the need to repair and replace materials resulting from damage to exposed elements of the building and landscape.

The proposed development will seek to reduce waste as much in line with best practice efficiency benchmarks during construction. The waste storage facility should demonstrate compliance with Policy EN 19 Waste.

5.3. Biodiversity

As concluded within the Preliminary Roost Assessment (report reference 81-971-R1), submitted as part of the Planning application, the site is exempt from the requirement to achieve a biodiversity net gain. This is due to the fact it is exclusively built development with no onsite priority habitat or biodiversity value/habitat units. As such, a biodiversity net gain report and associated assessment will not be required. This supports compliance with Policies EN 15 and JP-G8.

5.4. Air Quality

An air quality assessment has been produced by Redmore Environmental. The site is located within an Air Quality Management Area (AQMA). There is the potential for the exposure of future occupants to poor air quality and any emissions associated with the proposals to cause air quality effects within the sensitive location. Redmore Environmental has concluded that concentrations of all other pollutants considered within the air quality strategy are currently below the relevant air quality objectives. This demonstrates compliance with Policies EN 16 and JP-S5.

Redmore Environmental have identified mitigation measures are required during the construction phase, which include:

- Recording all dust and air quality complaints, identify cause(s), take appropriate measures to reduce emissions in a timely manner, and record the measures taken.
- Carry out regular site inspections, record inspection results, and make an inspection log available to the LA upon request.
- Erect solid screens or barriers around dusty activities or the site boundary that are at least as high as any stockpiles on site.
- Ensure all vehicles switch off engines when stationary – no idling vehicles.

- Use enclosed chutes and conveyors and covered skips.
- Avoid bonfires and burning of waste materials.

5.5. Noise Pollution

A noise impact assessment has been produced by Professional Consult. A noise survey was carried out between 11:00 on 26th July 2024 – 11:25 on 29th July 2024 for position 1 and between 10:55 on 26th July 2024 – 11:20 on 29th July 2024 for position 2, as detailed within their report. Noise sources from these locations include those of people, street artists playing amplified music, street cleaning machinery and church bells from St Ann's Church on Sunday mornings. Manchester City Council require music noise levels should not exceed 47dB and 41dB in habitable rooms. There are no details of proposed mechanical and electrical plant at this stage however, mechanical and electrical plant noise emission limits must be in line with those detailed on Table 25 of the Noise Assessment report to align with planning requirements.

The development has been identified as noise sensitive. To comply with the requirements of Manchester City Council, the recommendations given, habitable rooms with windows overlooking St Ann's Square, St Ann's Street or Barton Square, will require alternative ventilation and upgraded glazing.

6. CONCLUSION

In the development of the energy and sustainability strategy for the development, careful consideration has been given to the context of the site, local planning policy and the 2021 Building Regulations.

The proposed energy strategy follows a sequential approach. The Energy Hierarchy has been adopted, assessing, in turn, the feasibility of reducing the energy demand of the building, using energy more cleanly and finally applying renewable technologies. Although a number of measures are to be implemented, the details of these will be finalised in later RIBA stages. It is intended that there will be optimisation of the thermal performance of the building envelope beyond the minimum U value and air infiltration standards set out in Part L Volume 1 & 2 of the Building Regulations. Key proposed energy efficient building services systems include the use of LED lighting installations, PIR lighting controls in common areas and low energy mechanical ventilation systems.

A review of possible renewable technologies has been completed which proposed that solar photovoltaic panels could be incorporated into the design. A typical rooftop 5Kw system would generate 5,000kWh per year, saving nearly 2.5 tonnes of CO_2. The final decision on the use of solar photovoltaic panels on site will be decided post planning. Air source heat pumps are to be installed for domestic hot water generation, with an anticipated result of an improvement on the 15% improvement required against Part L2 2021, to exceed the requirements of Policy EN 6 of the Manchester Core Strategy Development Plan and JP-S2 Carbon and Energy of the Place for Everyone Joint Development Plan.

Sustainable features to address wider issues are also proposed for the scheme. These include provision of cycle storage, together with a strategy for addressing the key issues of materials and embodied carbon, surface water and waste.

It has been shown that the scheme has considered the opportunities for sustainable development and decarbonisation on the site compared to and within the constraints of the existing development and proposed end use.

RIDGE

www.ridge.co.uk