

Energy statement and Environmental Standards Statement – Post Construction Review

Client: PJ Livsey

Site: Siemens Campus

Date: 04/12/2022

Ref: 1062 Siemens

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1.0 Introduction

Complete Sustainability Solutions has been commissioned by PJ Livesey to complete a post construction review of the Energy and Sustainability Statements produced at part of the planning submission.

The energy statement and environmental standards statement shows how the proposed development addresses the relevant national and local policy in terms of environmental consideration for future developments. It shows clearly how the developer and its design team have taken practicable measures with a view to meeting both national and local level in terms of sustainable development.

This statement reviews relevant national and local planning policy as they relate to core environmental strategy and uses the proposed energy statement targets to demonstrate compliance and where these have not been satisfactorily addressed proposes justification in such instances.

The information contained in the energy statement and environmental standards statement should be in line with Manchester City Council's general environmental policies contained in the Unitary Development Plan Methodology

The statement has prepared by Complete Sustainability summarizing the adopted sustainability features with reference to the Energy Statement & Environmental Standards Statement Completed by Energy Council.

2.0 Policy Review

2.1. National Planning Policy

International and national bodies have set out broad principles of sustainable development. Resolution 42/187 of the United Nations General Assembly defined sustainable development as meeting the needs of the present without compromising the ability of future generations to meet their own needs.

The UK Sustainable Development Strategy Securing the Future set out five 'guiding principles' of sustainable development:

- Living within the planet's environmental limits
- Ensuring strong healthy and just society
- Achieving sustainable economy
- Promoting good governance
- Using sound science responsibly

The National Planning Policy Framework 2012 states clearly that it is the responsibility of the planning system to contribute to the achievement of sustainable development. The policies in paragraphs 18 to 219, taken as a whole, constitute the Government's view of what sustainable development in England means in practice.

NPPF 2012 identifies 3 dimensions to sustainable development which are:

An economic role – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places and at the right time to support

growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;

A social role – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and

An environmental role – contributing to protecting and enhancing our natural, built and historic environment; and as part of this, helping to improve biodiversity, uses natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy.

Pursuing sustainable development involves seeking positive improvements in the quality of the built, natural and historic environment, as well as in people's quality of life, including (but not limited to):

Making it easier for jobs to be created in cities, towns and villages; Moving from a net loss of bio-diversity to achieving net gains for nature; Replacing poor design with better design

Improving the conditions in which people live, work, travel and take leisure; and Widening the choice of high quality homes.

2.2. Local Planning Policy

Climate change and its impact on the environment both urban and natural is recognised as one of the most significant challenges facing Manchester. Consequently, it is essential that the way in which the city develops is set within the context of mitigating the

impacts of climate change and adapting to its effects on the local environment.

Manchester's Core Strategy (CS) was adopted on 11th July 2012 and is the key Development Plan Document in the Local Development Framework (LDF).

Policy EN4 – Reducing CO2 Emissions by Enabling Low and Zero carbon Development

The following actions should aid in the reduction in fuel poverty and decouple growth in the economy:

- 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, also reduce the need for energy through energy efficient features such as improved insulation and glazing as well as meeting the 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 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 developments

Policy EN6 – Target Framework for Co2 reductions from low or zero carbon energy supplies

Applications for residential developments of 10 or more units and non-residential developments over 1,000 sq m will be expected as a minimum to meet the target shown in Table 12.2 unless this can be demonstrated as being unviable.

- The "Guide to Development in Manchester Supplementary Planning Document and Planning Guidance Adopted 2007" indicates a number of environmental standards to be considered for each development which includes the following:

Energy Demand and CO2 Emission Reductions

Water Management and Weather Resilience

Waste Management

Construction Management

Biodiversity

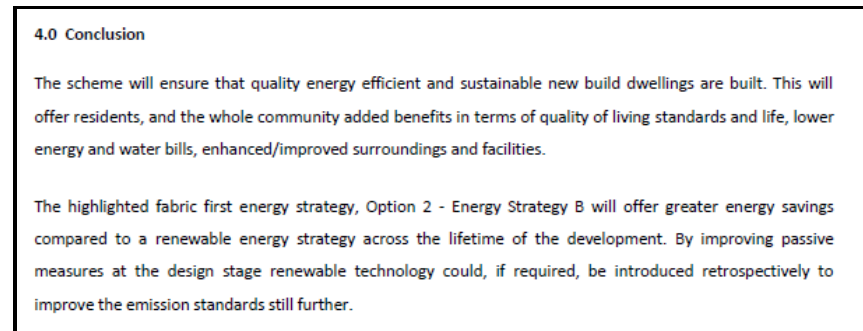
3.0 Sustainable Features

This chapter details the sustainability features of the proposed development

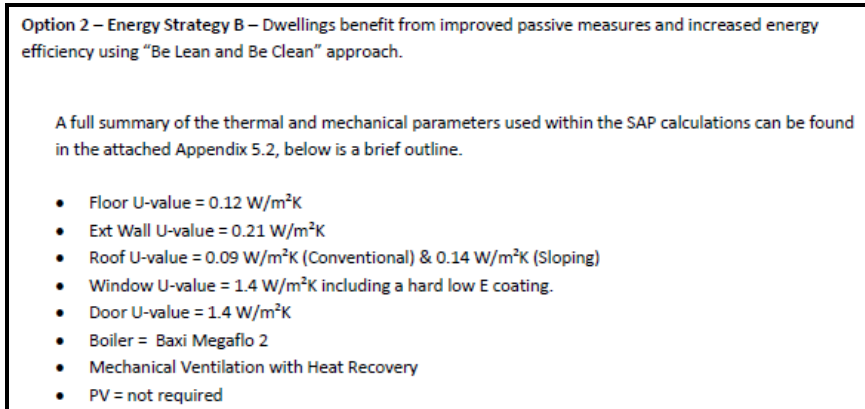
3.1 Energy Demand and CO2 Emission Reductions

The development first seeks to design out energy requirements by optimising certain design elements of the building (high insulation values, specification of sustainable materials) to minimise heating and cooling requirements. The management and reduction of energy use will help to reduce the impact on the environment from within the building, therefore reducing pollution and CO2 emissions.

Below the we have taken extract from the energy council energy statement “96552ES RevA Energy Statement” Highlighting the proposed energy strategy, as agreed with MCC. The statements highlight the proposed thermal and mechanical solutions put forward by the design team



Pic 1 -extract from Energy Council report highlighting option B would be incorporated on site.



Pic 2- Summary of thermal and mechanical parameters put forward by Energy Council Option B.

Post Construction Validation - It can be seen from the extracts below, in the form of As Built SAP Calculations and Air Test certificates that the construction specification detailed in the planning reports has been adhered to.

Criterion 2 – Limits on design flexibility				
Limiting Fabric Standards				
2 Fabric U-values				
Element	Average	Highest		
External wall	0.21 (max. 0.30)	0.21 (max. 0.70)		Pass
Party wall	0.00 (max. 0.20)	-		Pass
Openings	1.40 (max. 2.00)	1.40 (max. 3.30)		Pass
2a Thermal bridging				
Thermal bridging calculated from linear thermal transmittances for each junction				
3 Air permeability				
Air permeability at 50 pascals	3.03 (measured in this dwelling)	m ³ /(h.m ²) @ 50 Pa		
Maximum	10.0	m ³ /(h.m ²) @ 50 Pa		Pass

Pic 3 – Extract from As Built SAP Calc confirming the passive measures installed on site.

8 Mechanical ventilation				
Continuous supply and extract system				
Specific fan power	0.55			
Maximum	1.5			Pass
MVHR efficiency	91	%		
Minimum	70	%		Pass

Pic 4 – Extract from As Built SAP confirming mechanical vent with heat recovery has been specified.

Energy performance certificate (EPC)		
Flat 204 Quantum House 2, Kensal Drive MANCHESTER M20 2NE	Energy rating B	Valid until: 2 December 2029 Certificate number: 9665-3887-7620-9001-5435
Property type		Mid-floor flat
Total floor area		86 square metres
Rules on letting this property Properties can be let if they have an energy rating from A to E. You can read guidance for landlords on the regulations and exemptions (https://www.gov.uk/guidance/domestic-private-rented-property-minimum-energy-efficiency-standard-landlord-guidance).		

Pic 5 – Confirmation of the EPC rating achieve on site. B rated and valid until 2029.

Post Construction Validation Smart Meters – Have been provided to all houses.

Post Construction Validation - Electric Vehicle Charging – Whilst chargers were not installed at the time of hand over, the developer did ensure sufficient capabilities for dwelling owners to have sufficient capacity to install chargers at a later date, as highlighted by the post construction photographs.

Post Construction Validation Cycle Storage – Communal secure cycle storage has been provided within the basement carparking to

the apartment block. As highlighted by the post construction photographs.

Post Construction Validation Energy Efficient Lighting – Has been provided throughout the development. All fittings are 100% LED.

Post Construction Validation Home Office -All dwelling have been installed with high speed broad band as standard.

Air Permeability Test Certificate

This is to certify that the following test has been carried out by an Elmhurst Airtightness Scheme (EAS) registered Tester in accordance with the Test Standard stated below. Deviations from the standard are also stated below. A full report in line with the current approved procedures can be requested from the EAS Tester.



Unique Certificate Number	10136638
Test Method	Blower Door
Test Standard	None declared
Date of Test	17 th January 2020
Building name / Plot number	Apartment 307
Building Address	Siemens Campus, Manchester, Greater Manchester M20 2NP
r^2 (Correlation ≥ 0.98 - ≤ 1.00)	0.9982
n (Slope ≥ 0.5 - ≤ 1.0)	0.600
Envelope Area m ²	276
Volume m ³	
Temporary Sealing applied	None declared
Deviations	None
Report Reference	
Tester's Name	Matthew Holland
Company Name	Complete Sustainability Solutions
Tester No.	0563
Tester's level of competence	Level 2: Buildings > 4000m ³ Level 2: Buildings > 4000m ³
Related party disclosure	No related party
Signed	

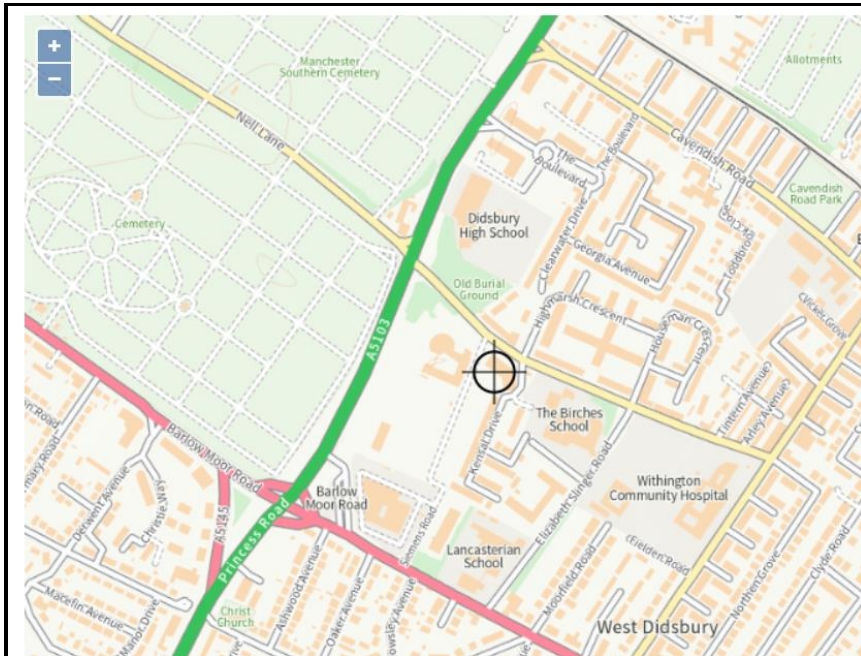
Elmhurst Airtightness Scheme
Elmhurst Energy Systems Ltd
16 St Johns Business Park,
Lutterworth,
Leicestershire, LE17 4HB

	Calculated at 50 PA
Air permeability m ³ /(h.m ²)	3.98

Pic 6 above, confirmation of the tested air leakage rate achieved on site.

3.2 Water Management and Weather Resilience

The scheme is located in a zone 1 of the environment agency flood map - Land and property in flood zone 1 have a low probability of flooding



Pic 7 – extract from the EA Flood Map confirming site is not a in a flood zone.

Flood risk summary for the area around:

FLAT 110, QUANTUM HOUSE, 2, KENSAL DRIVE, MANCHESTER, M20 2NE

Surface water

Low risk

► [What this information means](#)

Pic 8 – Confirmation the site is at low risk of flooding from surface water.

Rivers and the sea

Very low risk

► [What this information means](#)

The Environment Agency is responsible for managing the flood risk from rivers and the sea.

[View a map of the risk of flooding from rivers and the sea](#)

The strategy is for the reduction of potable water for use within the building this is based on meeting the minimum baseline threshold for water reduction as set out by the Building Regulations Approved Documents. Low-flow water consuming sanitary fittings will be specified where possible to achieve at least a 25% improvement against the notional baseline performance.

White Goods such as Washing machine and dishwashers where specified will have at least an 'A' rating

Post Construction Validation - All white good, specified meet the necessary EU Energy Ratings. Refer manufacturers data sheets to confirm.

3.4. Waste Management

Post Construction Validation It can be confirmed by the As Built Site Plan reference 123-00-2100K - Site Plan that the bin storage put forward at planning has now been implemented on site. further more the schemes recycling for both houses and apartments is fully optional and is working without issue.

3.5. Construction Management

Where practical the contractor should source all major materials for the following elements from suppliers with an environmental management system such as ISO 14001

Commissioning of all building services will be carried out in line with current Building Regulations, BSIRA and CIBSE standards.

Insulation will need to be specified in line with the Green Guide to Specification. This will also need to be responsibly sourced.

Insulation for the external wall, ground floor, roof and building services) will need to be specified to achieve an average Green Guide rating of A, in line with the Green Guide to Specification.

All timber used for any of the building elements will be sourced from legal and responsible sources with chain of custody from certifying bodies such as the Forestry Stewardship Council (FSC) or PEFC.

3.6 Biodiversity

Please refer to UG_11749_LAN_GA_DRW_03, UG_11749_LAN_SL_DRW_06, 121-00-2123 As Planted Softworks and 121-01-1005-D_Landscape Plan the refracted highlight the proposed measures to site ecology

Post Construction Validation – From the post construction site review carried out, as highlighted by the photographic evidence it can be seen that the schemes ecological value has been maintained.

3.7 Health and wellbeing

Post Construction Validation - Acoustic report 0374.56363.4 highlights the dwellings have performed very well when compared against Part E. with floor and wall tests highlighting 5db over the requirements.

Test ID	D _{nt,w} + C _{tr}		Pass/Fail
	Measured	Required	
9	50dB	≥ 45dB	Pass
10	51dB	≥ 45dB	Pass

Table 6 Airborne Wall Test Results

The results of the airborne sound insulation tests of separating floor constructions are summarised in the table below. Detailed results are presented in the Test Charts enclosed in Appendix D at the rear of the report.

Test ID	D _{nt,w} + C _{tr}		Pass/Fail
	Measured	Required	
11	64dB	≥ 45dB	Pass
12	64dB	≥ 45dB	Pass

Table 7 Airborne Floor Test Results

Pic 9 – Extract from acoustic test report.

Post Construction Validation - Daylighting – it can be seen from the photographic evidence the scheme has been developed with daylighting in mind. Large windows have been incorporated to all aspects of the

4.0 Conclusion

Compliance with National Policy - The proposed development satisfactorily demonstrates compliance with the aspirations of the relevant parts of the National Planning Policy Framework

Compliance with Local Policy, the requirements of the Manchester Core Strategy as stated in Policies DM1, EN4 and EN6 have been considered.

Particular attention has also been given to the prescriptions in the 'Guide to Development in Manchester Supplementary Planning

Document and Planning Guidance' and incorporated into the design ethos of the development proposal for Clarence House

The proposal exceeds current Building Regulations requirements

Post Construction Validation – It can be confirmed that the scheme has been developed in accordance with the commitments made at planning.