



Manchester City Council,
PO Box 532,
Town Hall,
Manchester
M60 2LA

RE: 123295/FO/2019

25/01/2020

Dear Sir,

This statement is to support the development of the proposed industrial unit, Briscoe Lane, Newton Heath, Manchester, M40 2XG and to assist with the discharge of planning condition 21:

Prior to above ground development commencing, an Environmental Standards Statement shall be submitted to, and approved in writing by, the City Council, as Local Planning Authority. The statement shall demonstrate measures to be incorporated into the development to achieve energy efficiency and approved measures shall be implemented in the construction of the approved development.

Reason - In order to minimise the environmental impact of the development, pursuant to policies DM1 and SP1 of Manchester's Core Strategy and the National Planning Policy Framework

Using the drawings provided along with an assumed fit out the results are shown below:

	kgCO2/m2.annum
Target Emission Rate	13.8
Building Emission Rate	11.8
% Improvement	14.49 %

The improvement above the target emission rate has been met through the following energy efficiency measures:

- Improvements upon the building fabric against the notional building:
 - 4% improvement on the external wall u-value
 - 18% improvement on the external floor u-value
 - 11% improvement on the roof u-value
 - 29% improvement on the infiltration of the building



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- Lighting efficiency improved by 25%
- Lighting controls to the warehouse and office spaces
- Energy efficient air source heat pumps providing the heating and cooling

Using the energy efficiency measures outlined above it can be shown that the development achieves a 14.49% reduction in emissions.

For further details on the inputs used see the attached BRUKL document.

If you have any further queries, please don't hesitate to get in touch using the above contact details.

Yours Sincerely



Aharon Horwich



The Building Compliance Team, 34 Bury Old Road, Manchester, M25 0FT



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Project name

Industrial Unit

As designed

Date: Sun Jan 17 20:48:19 2021

Administrative information

Building Details

Address: Briscoe Lane, MANCHESTER,

Certification tool

Calculation engine: TAS

Calculation engine version: "v9.5.1"

Interface to calculation engine: TAS

Interface to calculation engine version: v9.5.1

BRUKL compliance check version: v5.6.b.0

Certifier details

Name:

Telephone number:

Address: , ,

Criterion 1: The calculated CO₂ emission rate for the building must not exceed the target

CO ₂ emission rate from the notional building, kgCO ₂ /m ² .annum	13.8
Target CO ₂ emission rate (TER), kgCO ₂ /m ² .annum	13.8
Building CO ₂ emission rate (BER), kgCO ₂ /m ² .annum	11.8
Are emissions from the building less than or equal to the target?	BER ≤ TER
Are as built details the same as used in the BER calculations?	Separate submission

Criterion 2: The performance of the building fabric and fixed building services should achieve reasonable overall standards of energy efficiency

Values which do not achieve the standards in the Non-Domestic Building Services Compliance Guide and Part L are displayed in red.

Building fabric

Element	U _a -Limit	U _a -Calc	U _i -Calc	Surface where the maximum value occurs*
Wall**	0.35	0.25	0.25	External Wall
Floor	0.25	0.18	0.18	Ground Floor
Roof	0.25	0.16	0.16	Roof
Windows***, roof windows, and rooflights	2.2	1.6	1.6	RF L 1
Personnel doors	2.2	2.2	2.2	Door
Vehicle access & similar large doors	1.5	1.5	1.5	VAD Lg Lower
High usage entrance doors	3.5	-	-	No high usage entrance doors in project

U_a-Limit = Limiting area-weighted average U-values [W/(m²K)]U_a-Calc = Calculated area-weighted average U-values [W/(m²K)]U_i-Calc = Calculated maximum individual element U-values [W/(m²K)]

* There might be more than one surface where the maximum U-value occurs.

** Automatic U-value check by the tool does not apply to curtain walls whose limiting standard is similar to that for windows.

*** Display windows and similar glazing are excluded from the U-value check.

N.B.: Neither roof ventilators (inc. smoke vents) nor swimming pool basins are modelled or checked against the limiting standards by the tool.

Air Permeability	Worst acceptable standard	This building
m ³ /(h.m ²) at 50 Pa	10	5

Building services

The standard values listed below are minimum values for efficiencies and maximum values for SFPs. Refer to the Non-Domestic Building Services Compliance Guide for details.

Whole building lighting automatic monitoring & targeting with alarms for out-of-range values	NO
Whole building electric power factor achieved by power factor correction	<0.9

1- Offices (7 Zones)

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	3.5	4	-	-	-
Standard value	2.5*	2.6	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES
* Standard shown is for all types >12 kW output, except absorption and gas engine heat pumps. For types <=12 kW output, refer to EN 14825 for limiting standards.					

2- WCs (4 Zones)

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	1	-	-	-	-
Standard value	N/A	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES

3- WH Offices

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	1	-	-	-	-
Standard value	0.86	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES

4- WH WCs (4 Zones)

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	1	-	-	-	-
Standard value	N/A	N/A	N/A	N/A	N/A
Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system					YES

1- New HWS Circuit

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	1	0
Standard value	1	N/A

Local mechanical ventilation, exhaust, and terminal units

ID	System type in Non-domestic Building Services Compliance Guide
A	Local supply or extract ventilation units serving a single area
B	Zonal supply system where the fan is remote from the zone
C	Zonal extract system where the fan is remote from the zone
D	Zonal supply and extract ventilation units serving a single room or zone with heating and heat recovery
E	Local supply and extract ventilation system serving a single area with heating and heat recovery
F	Other local ventilation units
G	Fan-assisted terminal VAV unit
H	Fan coil units
I	Zonal extract system where the fan is remote from the zone with grease filter

Zone name	SFP [W/(l/s)]										HR efficiency	
	ID of system type	A	B	C	D	E	F	G	H	I	Zone	Standard
	Standard value	0.3	1.1	0.5	1.9	1.6	0.5	1.1	0.5	1		
GF_WC 1		-	-	0.5	-	-	-	-	-	-	-	N/A

Zone name	SFP [W/(l/s)]									HR efficiency	
ID of system type	A	B	C	D	E	F	G	H	I		
Standard value	0.3	1.1	0.5	1.9	1.6	0.5	1.1	0.5	1	Zone	Standard
GF_WC 2	-	-	0.5	-	-	-	-	-	-	-	N/A
1F_WC 1	-	-	0.5	-	-	-	-	-	-	-	N/A
1F_WC 2	-	-	0.5	-	-	-	-	-	-	-	N/A
WH_WC1	-	-	0.5	-	-	-	-	-	-	-	N/A
WH_WC 2	-	-	0.5	-	-	-	-	-	-	-	N/A
WH_WC 3	-	-	0.5	-	-	-	-	-	-	-	N/A
WH_WC 4	-	-	0.5	-	-	-	-	-	-	-	N/A

General lighting and display lighting		Luminous efficacy [lm/W]			General lighting [W]
Zone name		Luminaire	Lamp	Display lamp	
	Standard value	60	60	22	
GF_Office 1		80	-	-	447
GF_Office 2		80	-	-	141
GF_Office 3		80	-	-	148
GF_WC 1		-	80	-	40
GF_WC 2		-	80	-	40
GF_Store		80	-	-	7
GF_Circulation		-	80	-	84
1F_Office 1		80	-	-	541
1F_Office 2		80	-	-	216
1F_Office 3		80	-	-	90
1F_Office 4		80	-	-	111
1F_WC 1		-	80	-	41
1F_WC 2		-	80	-	41
1F_Store		80	-	-	7
1F_Circulation		-	80	-	57
Warehouse		80	-	-	14301
WH_Office 1		80	-	-	177
WH_Office 2		80	-	-	174
WH_WC1		-	80	-	20
WH_WC 2		-	80	-	28
WH_WC 3		-	80	-	19
WH_WC 4		-	80	-	29
WH_Store 1		80	-	-	6
WH_Store 2		80	-	-	8

Criterion 3: The spaces in the building should have appropriate passive control measures to limit solar gains

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
GF_Office 1	NO (-94%)	NO
GF_Office 2	NO (-67%)	NO
GF_Office 3	N/A	N/A
1F_Office 1	NO (-92%)	NO

Zone	Solar gain limit exceeded? (%)	Internal blinds used?
1F_Office 2	NO (-80%)	NO
1F_Office 3	N/A	N/A
1F_Office 4	N/A	N/A
Warehouse	NO (-34%)	NO
WH_Office 1	NO (-95%)	NO
WH_Office 2	NO (-95%)	NO

Criterion 4: The performance of the building, as built, should be consistent with the calculated BER

Separate submission

Criterion 5: The necessary provisions for enabling energy-efficient operation of the building should be in place

Separate submission

EPBD (Recast): Consideration of alternative energy systems

Were alternative energy systems considered and analysed as part of the design process?	NO
Is evidence of such assessment available as a separate submission?	NO
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters

	Actual	Notional
Area [m ²]	3268	3268
External area [m ²]	7998	7998
Weather	MAN	MAN
Infiltration [m ³ /hm ² @ 50Pa]	5	7
Average conductance [W/K]	2149	2898
Average U-value [W/m ² K]	0.27	0.36
Alpha value* [%]	4.08	4.08

* Percentage of the building's average heat transfer coefficient which is due to thermal bridging

Building Use

% Area	Building Type
	A1/A2 Retail/Financial and Professional services
	A3/A4/A5 Restaurants and Cafes/Drinking Est./Takeaways
	B1 Offices and Workshop businesses
100	B2 to B7 General Industrial and Special Industrial Groups
	B8 Storage or Distribution
	C1 Hotels
	C2 Residential Institutions: Hospitals and Care Homes
	C2 Residential Institutions: Residential schools
	C2 Residential Institutions: Universities and colleges
	C2A Secure Residential Institutions
	Residential spaces
	D1 Non-residential Institutions: Community/Day Centre
	D1 Non-residential Institutions: Libraries, Museums, and Galleries
	D1 Non-residential Institutions: Education
	D1 Non-residential Institutions: Primary Health Care Building
	D1 Non-residential Institutions: Crown and County Courts
	D2 General Assembly and Leisure, Night Clubs, and Theatres
	Others: Passenger terminals
	Others: Emergency services
	Others: Miscellaneous 24hr activities
	Others: Car Parks 24 hrs
	Others: Stand alone utility block

Energy Consumption by End Use [kWh/m²]

	Actual	Notional
Heating	3.08	5.34
Cooling	0.28	0.58
Auxiliary	0.15	0.12
Lighting	15.35	19.68
Hot water	3.93	4.54
Equipment*	31.43	31.43
TOTAL**	22.79	30.26

* Energy used by equipment does not count towards the total for consumption or calculating emissions.

** Total is net of any electrical energy displaced by CHP generators, if applicable.

Energy Production by Technology [kWh/m²]

	Actual	Notional
Photovoltaic systems	0	0
Wind turbines	0	0
CHP generators	0	0
Solar thermal systems	0	0

Energy & CO₂ Emissions Summary

	Actual	Notional
Heating + cooling demand [MJ/m ²]	24.34	34.06
Primary energy* [kWh/m ²]	69.97	74.86
Total emissions [kg/m ²]	11.8	13.8

* Primary energy is net of any electrical energy displaced by CHP generators, if applicable.

HVAC Systems Performance										
System Type	Heat dem MJ/m2	Cool dem MJ/m2	Heat con kWh/m2	Cool con kWh/m2	Aux con kWh/m2	Heat SSEFF	Cool SSEER	Heat gen SEFF	Cool gen SEER	
[ST] Split or multi-split system, [HS] Heat pump (electric): air source, [HFT] Electricity, [CFT] Electricity										
	Actual	171.8	62.6	13.6	4.4	0	3.5	4	3.5	4
	Notional	139.6	115.5	16	8.9	0	2.43	3.6	----	----
[ST] No Heating or Cooling										
	Actual	218.1	0	60.6	0	9.1	1	0	1	0
	Notional	496.8	0	168.5	0	7.3	0.82	0	----	----
[ST] Other local room heater - unfanned, [HS] Room heater, [HFT] Electricity, [CFT] Electricity										
	Actual	286.5	0	79.6	0	0	1	0	1	0
	Notional	408.8	0	138.7	0	0	0.82	0	----	----
[ST] No Heating or Cooling										
	Actual	720.5	0	200.1	0	23	1	0	1	0
	Notional	496.8	0	168.5	0	18.4	0.82	0	----	----

Key to terms

Heat dem [MJ/m2]	= Heating energy demand
Cool dem [MJ/m2]	= Cooling energy demand
Heat con [kWh/m2]	= Heating energy consumption
Cool con [kWh/m2]	= Cooling energy consumption
Aux con [kWh/m2]	= Auxiliary energy consumption
Heat SSEFF	= Heating system seasonal efficiency (for notional building, value depends on activity glazing class)
Cool SSEER	= Cooling system seasonal energy efficiency ratio
Heat gen SSEFF	= Heating generator seasonal efficiency
Cool gen SSEER	= Cooling generator seasonal energy efficiency ratio
ST	= System type
HS	= Heat source
HFT	= Heating fuel type
CFT	= Cooling fuel type

Key Features

The Building Control Body is advised to give particular attention to items whose specifications are better than typically expected.

Building fabric

Element	U _{i-Typ}	U _{i-Min}	Surface where the minimum value occurs*
Wall	0.23	0.25	External Wall
Floor	0.2	0.18	Exposed Floor
Roof	0.15	0.16	Roof
Windows, roof windows, and rooflights	1.5	1.6	Window Sm
Personnel doors	1.5	2.2	Door
Vehicle access & similar large doors	1.5	1.5	VAD Md Lower
High usage entrance doors	1.5	-	No high usage entrance doors in project
U _{i-Typ} = Typical individual element U-values [W/(m²K)] U _{i-Min} = Minimum individual element U-values [W/(m²K)]			
* There might be more than one surface where the minimum U-value occurs.			

Air Permeability	Typical value	This building
m³/(h.m²) at 50 Pa	5	5