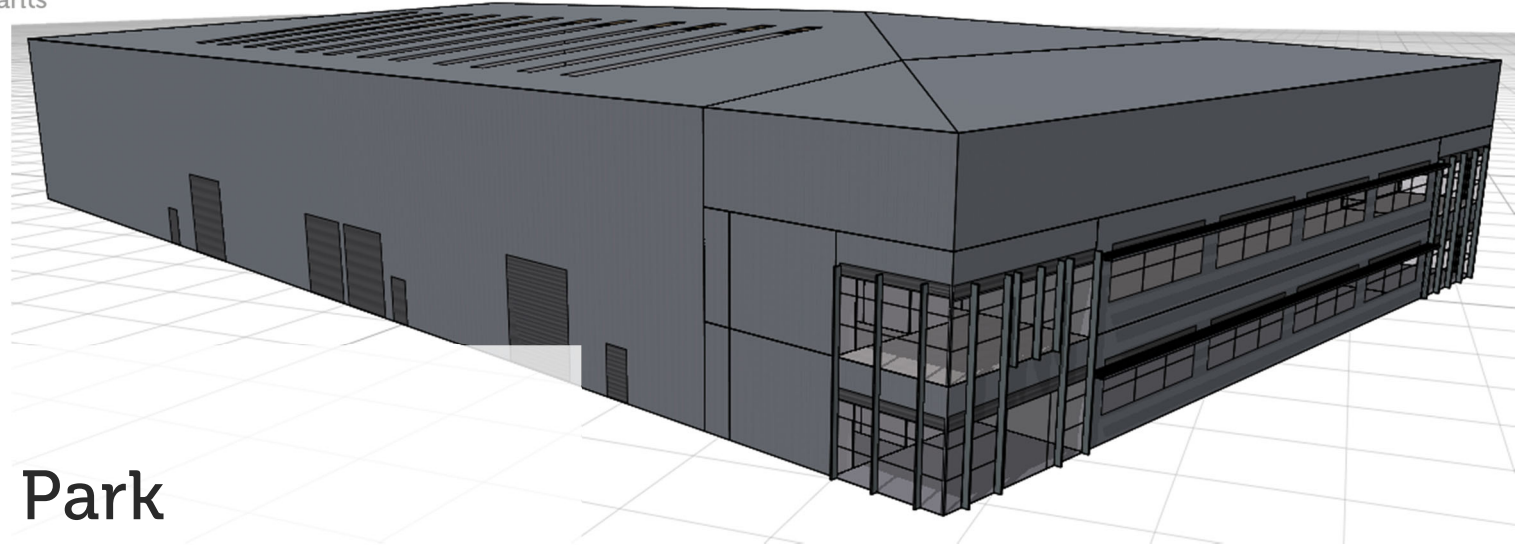




Anderson
Green

building services consultants



Block A, Bretby Business Park Building Regulations Part L & EPC Report (Concept)

LE0189-AGL-ZZ-XX-RP-J-0001

Anderson Green Building Services Consultants in association with:

RAVENSLADE



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Nottingham
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Visit: AndersonGreen.co.uk

RIBA STAGE

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Block A, Bretby Business Park Building Regulations Part L & EPC Report (Concept)

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SECTION			CHECKED		
REV	TITLE	BY	BY	DATE	SIGNED
P01	Part L & EPC	TB	AG	01.12.21	

REV	STAGE	SUITABILITY	DATE
P01	CONCEPT	A2	01.12.21

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1.0 Executive Summary

This report has been prepared on behalf of Ravenslade to demonstrate compliance with Part L2A 2013 for the new industrial unit Block A, Bretby Business Park, Ashby Road, Burton-on-Trent DE15 0YZ.

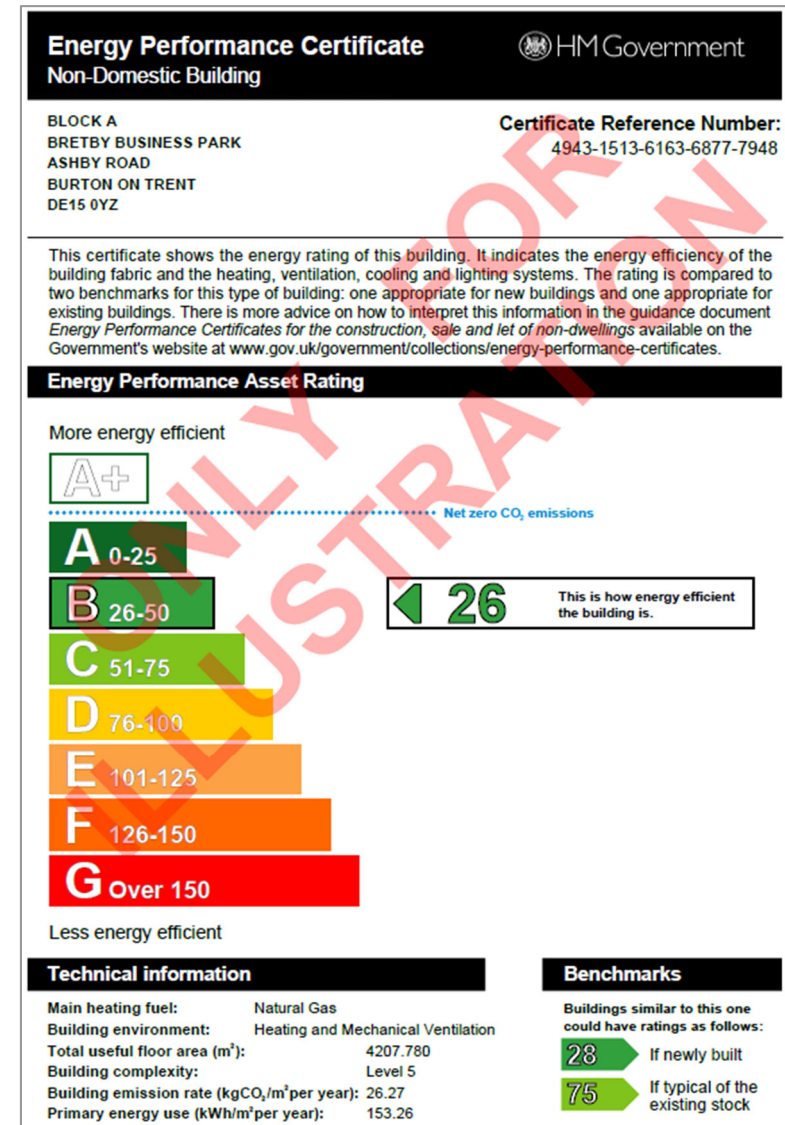
In order to demonstrate compliance with Part L2A 2013 of the building regulations, the Building Emission Rate (BER) is required to be less than or equivalent to the carbon emissions of the notional building set by the Target Emissions Rating (TER).

1.1 Building Regulations Part L2A 2013

This building complies with Part L2A 2013 with an actual building emissions rate (BER) demonstrating a **8%** reduction in carbon emissions in comparison with the notional building target emissions rate (TER).

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	28.6
Target CO ₂ emission rate (TER), kgCO ₂ /m ² .annum	28.6
Building CO ₂ emission rate (BER), kgCO ₂ /m ² .annum	26.3
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



2.0 Introduction

PROJECT	DETAILS
NAME	Bretby
ENGINEER	Toby Britton
ADDRESS 1	Bretby Business Park
ADDRESS 2	Ashby Road
ADDRESS 3	
TOWN	Burton-on-Trent
POST CODE	DE15 0YZ
PART L	2013
PLANNING	Part L compliance
BREEAM 2018	n/a
WEATHER FILE	Nottingham
ORIENTATION	21°
SOFTWARE VERSION	VE2021.3.1.0
BRUKL ENGINE	V.5.6.b.0
BUILDING TYPE	Industrial
AIR TEST m ³ hm ² @ 50pa	3
CLIENT	Ravenslade
ARCHITECT	Webb Grey
RIBA STAGE	3
ANALYSIS STAGE	Design



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3.0 Construction Details

3.1 General

CONSTRUCTION U-VALUES W/M ² k	BUILDING REGS MAX	NOTIONAL	ACTUAL
ROOF	0.25	0.18	0.18
EXTERNAL WALL	0.35	0.26	0.26
GROUND FLOOR	0.2	0.22	0.22
WINDOWS	2.2	1.6	1.6
CURTAIN WALLING	2.2	1.6	1.6
ROOF LIGHT	2.2	1.8	1.8
GLAZED DOORS	2.2	1.6	1.6
PEDESTRIAN DOORS	2.2	2.2	2.2
VEHICLE DOORS	1.5	1.5	1.5
LOOKALIKE/SPANDREL			1.6
AIR PERMEABILITY	10	10	3
GLAZING PROPERTIES	G-VALUE		
WINDOWS	0.6	0.6	0.4
CURTAIN WALLING	0.6	0.6	0.3
ROOF LIGHT	0.55	0.55	0.55
GLAZED DOORS	0.6	0.6	0.4

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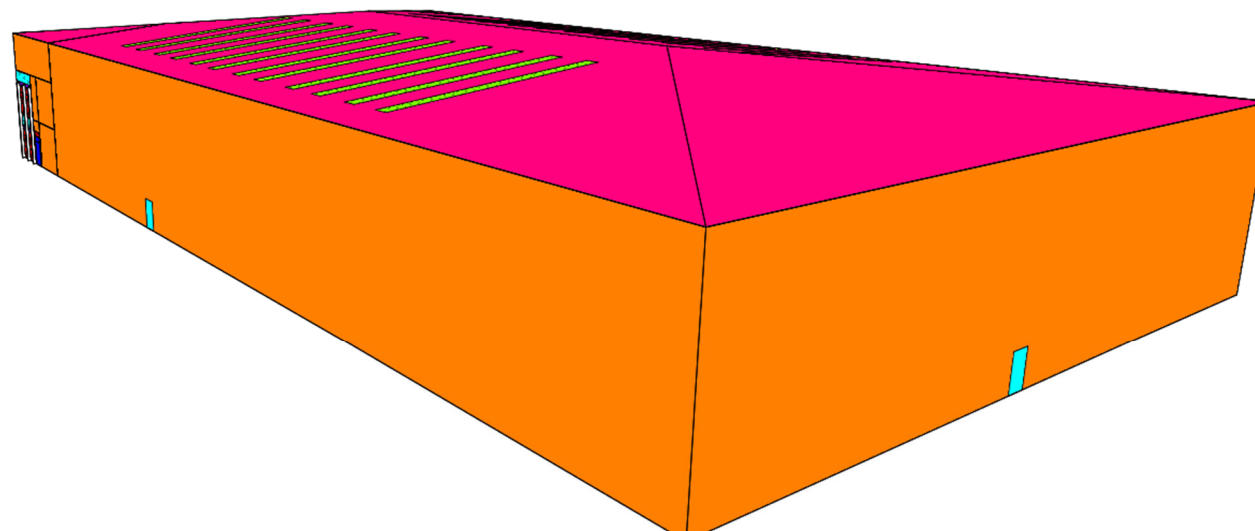
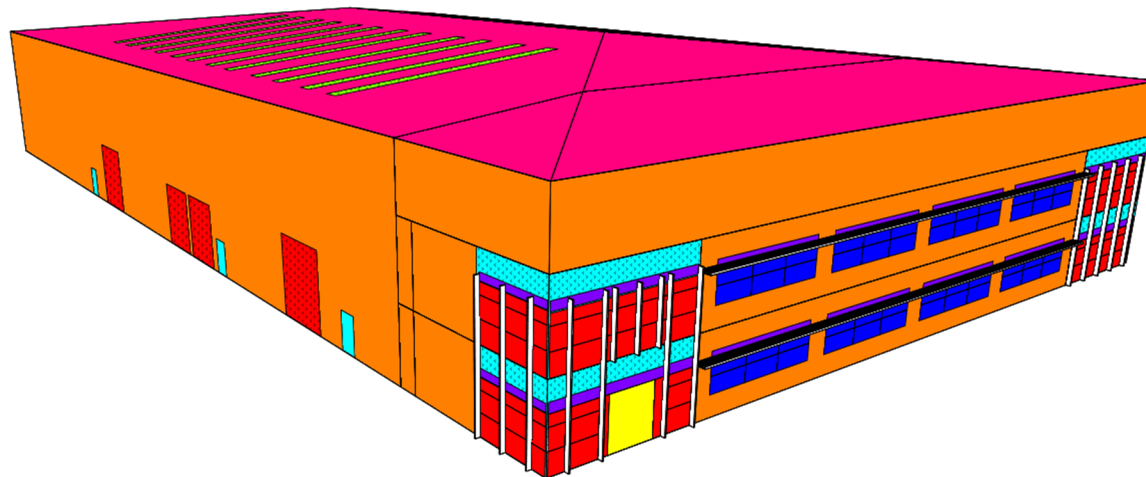
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3.2 Construction Images

- AG Ceiling tile U=1.27 (STD_CEI2)
- AG Curtain Wall U=1.6 G=0.3 Lt=0.71 (STD_EXT3)
- AG Door U=1.6 (STD_DOO1)
- AG External Wall U=0.26 (GXTR0000)
- AG External Window U=1.6 G=0.4 Lt=0.71 (STD_EXT1)
- AG Glazed Door U=1.6 G=0.4 Lt=0.71 (STD_EXT2)
- AG Internal Floor Solid (STD_CEI1)
- AG Internal Floor cw cv (STD_CEI3)
- AG Internal Wall U=0.35 (STD_WAL3)
- AG Lookalike U=1.6 (NCM_CT11)
- AG P3 PARTITION INT (STD_WAL6)
- AG Roof U=0.18 (STD_ROO1)
- AG Rooflight u=1.3 g=0.55 lt=0.6 (NCM_GN94)
- AG Vehicle Access Door U=1.5 (STD_DOO2)
- AG curtain wall u=1.6 (NCM_CT09)
- AG ground floor u= 0.22 (NCM_CN09)



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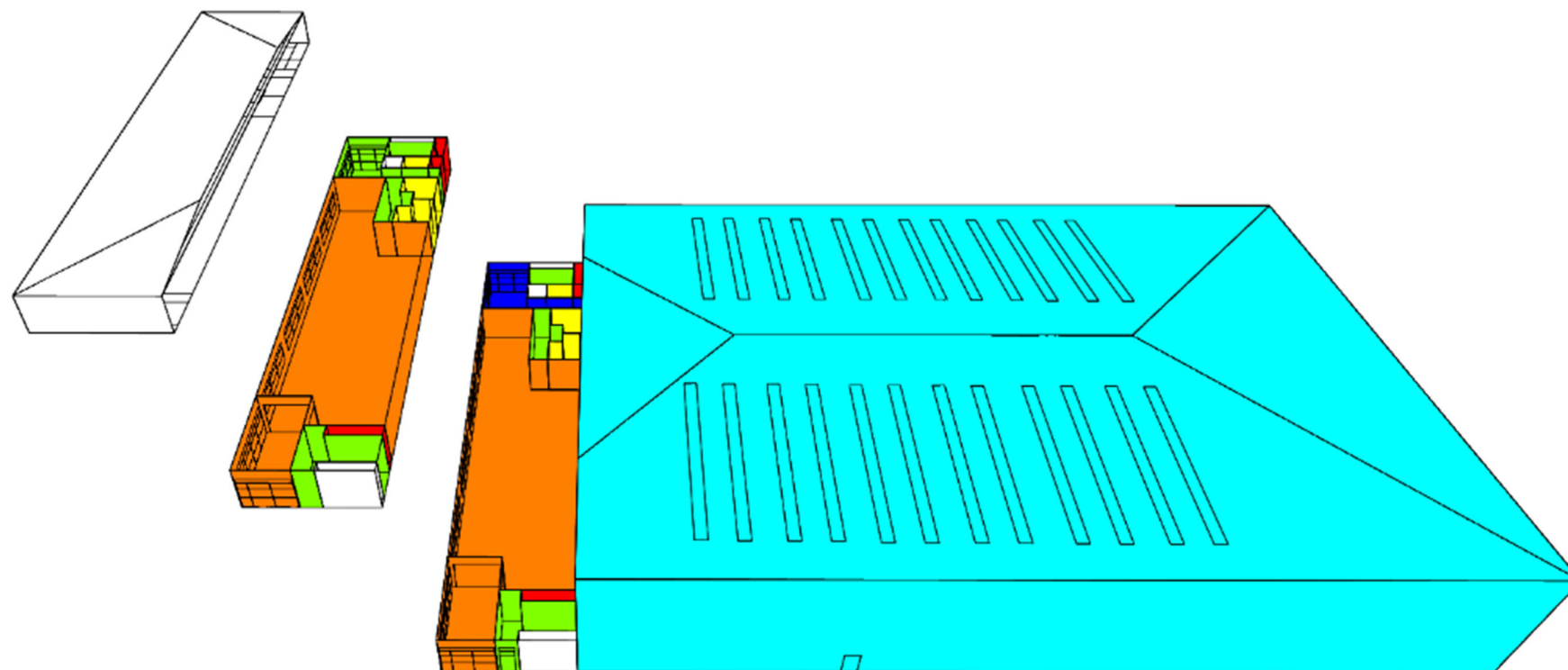
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3.3 NCM Activity Images

NCM Activity

- NCM Indust: Circulation area
- NCM Indust: Cupboard
- NCM Indust: Industrial process area (Workshop)
- NCM Indust: Office (Open)
- NCM Indust: Reception
- NCM Indust: Toilet



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4.0 Building Services

4.1 HVAC

HEATING	ZONE	EFFICIENCY %	FUEL	MODEL
GAS FIRED LTHW RADS	OFFICE, WC, CIRC	96%	GAS	TBC
GAS FIRED RADIANT	WAREHOUSE	91%	GAS	TBC
AIR-CONDITIONING	ZONE	SCOP	SEER	MODEL
AC01	SERVER	4.8	7.7	PUZ-ZM125VKAR2
VENTILATION	ZONE	SFP (W/l/s)	HR %	MODEL
NATURAL	OFFICES			
EXTRACT	ZONE	SFP (W/l/s)	DUTY (l/s)	MODEL
ZONAL	TOILET	0.5		
LOCAL	WAREHOUSE	0.3	3ach	
DHW	EFFICIENCY %	STORAGE L	LOSSES KWH/L/D	MODEL
LOCAL POINT OF USE	100%	5 x 10, 1 X 15	0.04	MULTIPOINT
DIST. LOSS W/M	CIRC LENGTH M	PUMP POWER W		
N/A	N/A	N/A		

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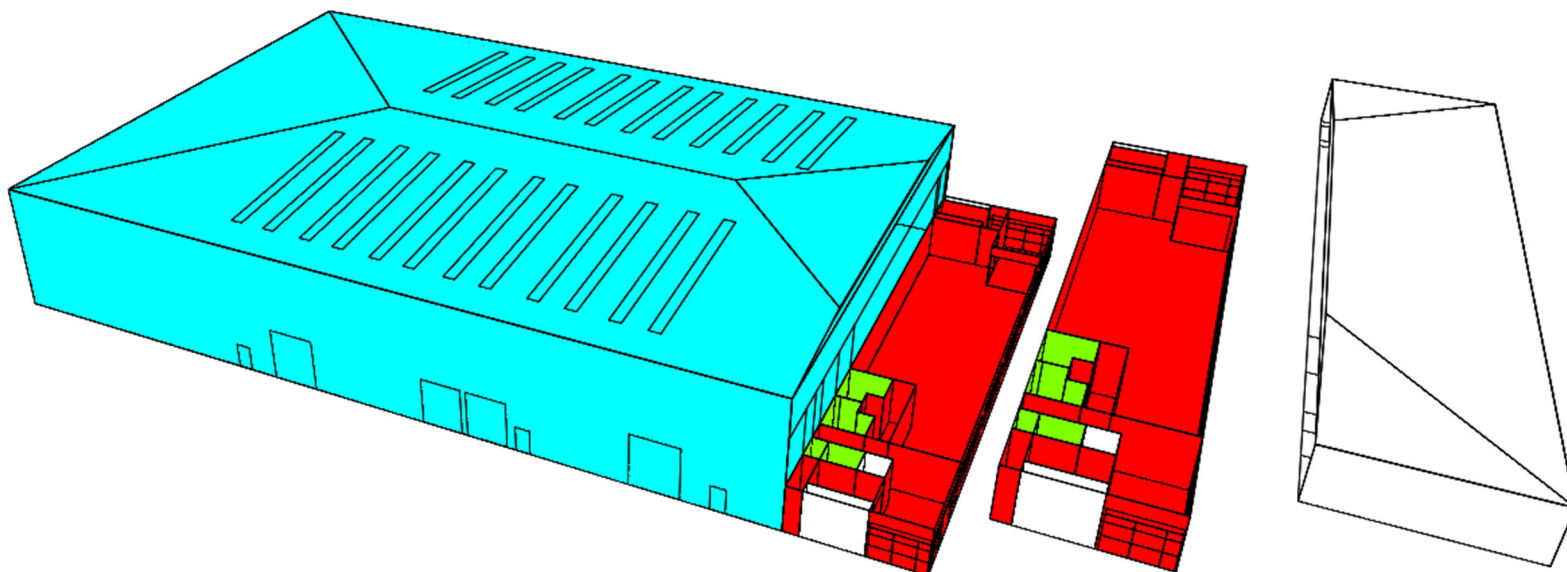
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4.2 HVAC Strategy

HVAC System

- GF HTG RAD EXTRACT
- GF HTG RAD NAT
- GF Radiant Extract



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4.3 Electrical

LIGHTING	ZONE	MODEL	WATTAGE	LUMENS	LLM/CW	OCC	DL	LAMP LM/W	LOR
A	Office	MODRO OFFICE	27.4	3694	135	ABS	DIM	135	100%
B	TOILET	PROTEC D3000	28	2805	100	PIR		100	100%
C	STAIR	DISCALO	27.2	2560	94	PIR		94	100%
D	CIRC	PROTEC D3000	28	2805	100	PIR		100	100%
F1	Warehouse	HERO	87	12830	147			140	95%
G	STORE	AMC	20	2480	124	PIR		124	100%

ENERGY METERING	
LIGHTING	YES
HVAC	YES
OUT OF RANGE	YES
PFC	>0.95

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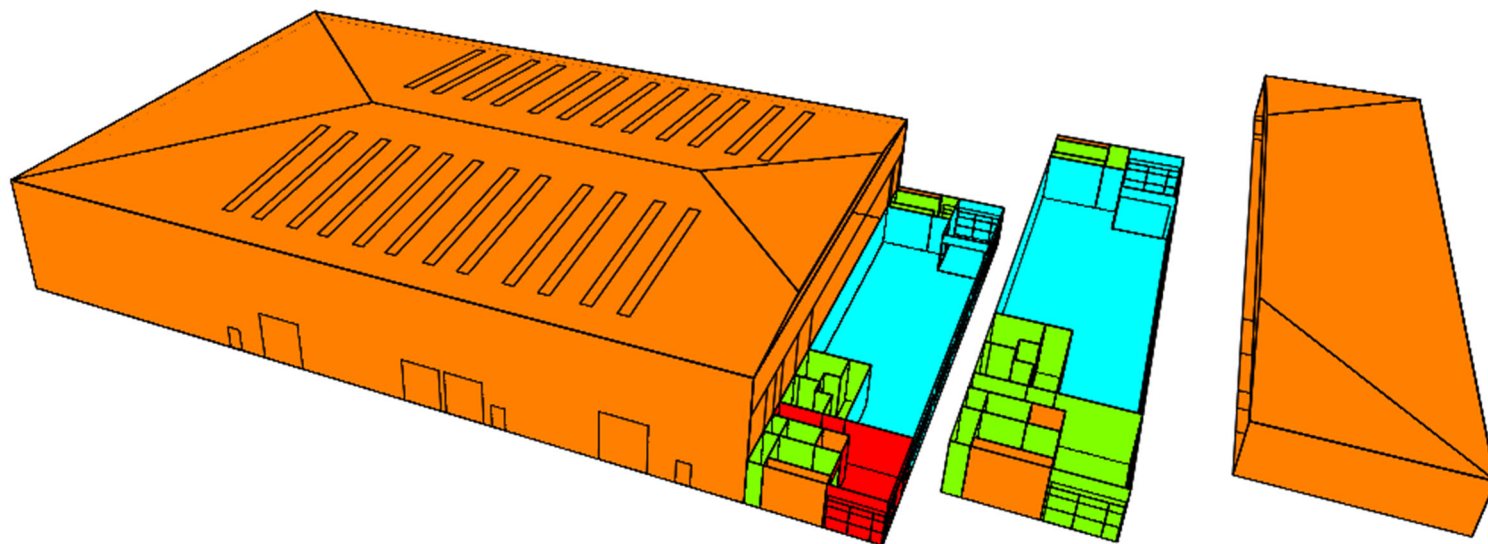
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4.4 Lighting Control Strategy

- 00) Presence
- 01) Presence DIM
- 02) Absence DIM
- 04) None



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4.5 LZC Review

The current design proposals demonstrate a significant improvement in carbon emissions in relation to the notional building. Therefore at this stage no low or zero carbon technologies have been incorporated however the following high level assessment reviews the viability of technologies for potential inclusion if required.

LZC TECHNOLOGY	OVERVIEW	APPLICATION	SITE SPECIFIC	POTENTIAL
PHOTOVOLTAICS	Converts sunlight to DC electrical power. Requires inverter to convert to DC. Ideally located south facing roof. Wide range of building types, schools, offices, hotels etc. Site with good access to solar radiation	Wide range of building types, schools, offices, hotels etc. Site with good access to solar radiation.	Roof space available for required PV installation	YES
AIR SOURCE HEAT PUMP (ELEC)	A heat exchanger extracts heat from the air. The heat pump raises the temperature of refrigerant via the compression cycle and reverse for cooling. Used for space heating, hot water and cooling.	All building types where heating and cooling required. Air to water suited for low temperature systems i.e. underfloor heating.	Heating and cooling required to scheme. Sufficient external space available for external condensers. ASHP could be provided for LTHW heating and central domestic hot water.	YES
COMMUNITY HEATING	Utilises waste heat from process such as large scale power generation where the majority of heating comes from waste heat.	Hotels, hospitals, leisure centres, some industrial premises.	No local system available	NO
CHP - NATURAL GAS	Generates both electricity and heat using fossil or renewable fuels.	Hotels, hospitals, leisure centres, some industrial premises.	Changes to carbon emissions factors make the gas fired CHP options unviable	NO

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SOLAR HOT WATER HEATING	Solar collectors (flat plate or tube) transfer energy into transfer liquid to a closed loop twin coil hot water cylinder. Ideally located south facing roof.	Domestic and commercial applications with high hot water load; leisure centres, canteens, washrooms.	Sufficient roof space, although fairly low hot water demand. Further consideration required depending on end user demand.	NO
AIR SOURCE HEAT PUMP (GAS)	As electric heat pump using gas as fuel for the compressor. Relatively carbon efficient in comparison with gas fired boiler.	All building types where heating and cooling required. Air to water suited for low temperature systems i.e. underfloor heating.	Heating and cooling required to scheme. Sufficient external space required for condensers. Typical system efficiencies relatively low compared with electric.	NO
GROUND SOURCE HEAT PUMP (ELEC)	Takes up heat from the ground and releases it at high temperatures. Heat can be used for space heating and domestic hot water.	All building types where heating and cooling required. Air to water suited for low temperature systems i.e. underfloor heating.	Heating and cooling required to scheme. Insufficient external space required for vertical bore holes or ground loop.	NO
WATER SOURCE HEAT PUMP (ELEC)	Takes up heat from a local water source, lake or river and releases it at relatively low temperatures. Heat can be used for space heating and domestic hot water	All building types where heating and cooling required. Air to water suited for low temperature systems i.e. underfloor heating	Heating and cooling required to scheme. Insufficient water course on site.	NO
GEO THERMAL HEAT PUMP (ELEC)	Takes up heat from a local geothermal underground courses. Heat can be used for space heating and domestic hot water.	All building types where heating and cooling required. Air to water suited for low temperature systems i.e. underfloor heating.	No local geothermal activity.	NO
SMALL SCALE HYDRO POWER, TIDAL POWER, WAVE POWER	Small scale turbines in fast flowing rivers provide electrical power. Tidal wave platform movement generates energy.	Rural and costal situations required.	No access to fast flowing rivers and site located inland.	NO

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WIND TURBINE	Turbine/generator converts wind energy to electrical power. Turbines available with outputs from 600W to 2MW	Large sized turbines in non-urban or off-shore locations will be more effective	Suburban area not suitable for large turbine.	NO
BIOMASS HEATING	Uses plant-derived organic material. Can produce heat or biogas depending on technology	Buildings with sufficient access for storage	Insufficient storage space and access for delivery.	NO
FUEL CELLS	Hydrogen fuel cells used to store energy from any renewable technologies.	All buildings where energy is produced on site.	Insufficient installation/ storage space Relatively low heating requirement.	NO

References

Renewable Energy
Sources TM38:2006
CIBSE
Illustrated Guide to
Renewable
Technologies BG
1/2008 BSRIA
London Renewables
Toolkit

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5.0 Results

5.1 Criterion 1- TER/BER

This building **PASSES** the Part L2A 2013 compliance assessment confirming that the Building Emission Rate (BER) is less than or equivalent to the carbon emissions of the notional building set by the Target Emissions Rating (TER).

5.2 Criterion 2 – Design Limits Check

To achieve compliance with Criterion 2 of Part L2A, the performance of the building fabric u-values, air permeability and building services should be no worse than design limits.

This building **PASSES** the design limit check as detailed in the BRUKL certificate the building fabric and fixed building services achieve compliance with Part L as they are no worse than the design limits.

5.3 Criterion 3 – Solar Gain Check

To achieve compliance with Criterion 3 of Part L2A, the occupied spaces in the building should have appropriate passive control measures to limit the solar gains.

This building **PASSES** the solar gain check as detailed in the attached BRUKL certificate.

This assessment does not confirm whether the occupied spaces may overheat during peak summer time temperatures. Please refer to the Thermal Comfort assessment which is to be carried out separately.

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5.4 Part L Certificate (BRUKL)

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BRUKL Output Document

Compliance with England Building Regulations Part L 2013



HM Government

Project name

BLOCK A

As designed

Date: Wed Dec 01 11:18:08 2021

Administrative information

Building Details

Address: BLOCK A, BURTON ON TRENT, DE15 0YZ

Certification tool

Calculation engine: Apache

Calculation engine version: 7.0.13

Interface to calculation engine: IES Virtual Environment

Interface to calculation engine version: 7.0.13

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

Certifier details

Name: Toby Jonathon Eyres Britton

Telephone number: 0115 975 4141

Address: Anderson Green Unit C4 Park Lane Business Centre, Basford, Nottingham, NG6 0DW

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	28.6
Target CO ₂ emission rate (TER), kgCO ₂ /m ² .annum	28.6
Building CO ₂ emission rate (BER), kgCO ₂ /m ² .annum	26.3
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	0.26	0.26	0_000000:Surf[28]
Floor	0.25	0.22	0.22	0_000005:Surf[0]
Roof	0.25	0.18	0.18	0_000001:Surf[13]
Windows***, roof windows, and rooflights	2.2	1.54	1.6	0_000000:Surf[46]
Personnel doors	2.2	1.6	1.6	0_000001:Surf[1]
Vehicle access & similar large doors	1.5	1.5	1.5	0_000001:Surf[6]
High usage entrance doors	3.5	-	-	No High usage entrance doors in building
U _a -Limit = Limiting area-weighted average U-values [W/(m ² K)] U _a -Calc = Calculated area-weighted average U-values [W/(m ² K)] U _i -Calc = Calculated maximum individual element U-values [W/(m ² K)] * 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	3

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	YES
Whole building electric power factor achieved by power factor correction	>0.95

1- GF HTG RAD EXTRACT

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	0.96	-	0.1	0	-
Standard value	0.91*	N/A	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 gas single boiler systems <=2 MW output. For single boiler systems >2 MW or multi-boiler systems, (overall) limiting efficiency is 0.86. For any individual boiler in a multi-boiler system, limiting efficiency is 0.82.

2- GF HTG RAD NAT

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	0.96	-	0.1	0	-
Standard value	0.91*	N/A	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 gas single boiler systems <=2 MW output. For single boiler systems >2 MW or multi-boiler systems, (overall) limiting efficiency is 0.86. For any individual boiler in a multi-boiler system, limiting efficiency is 0.82.

3- GF Radiant Extract

	Heating efficiency	Cooling efficiency	Radiant efficiency	SFP [W/(l/s)]	HR efficiency
This system	0.91	-	0.9	0	-
Standard value	0.91	N/A	N/A	N/A	N/A

Automatic monitoring & targeting with alarms for out-of-range values for this HVAC system

YES

1- DHW ELEC POINT OF USE

	Water heating efficiency	Storage loss factor [kWh/litre per day]
This building	1	0.04
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			
Standard value	0.3	1.1	0.5	1.9	1.6	0.5	1.1	0.5	1	Zone	Standard	
000 CLEANER	-	-	0.5	-	-	-	-	-	-	-	N/A	
001 DWC	-	-	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
004 INDUSTRIAL AREA	-	-	-	-	-	0.3	-	-	-	-	-	N/A
010 WC	-	-	0.5	-	-	-	-	-	-	-	-	N/A
011 WC	-	-	0.5	-	-	-	-	-	-	-	-	N/A
100 CLEANER	-	-	0.5	-	-	-	-	-	-	-	-	N/A
101 DWC	-	-	0.5	-	-	-	-	-	-	-	-	N/A
109 WC	-	-	0.5	-	-	-	-	-	-	-	-	N/A
110 WC	-	-	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	
000 CLEANER		124	-	-	5
001 DWC		-	100	-	33
002 GF OFFICE		135	-	-	1468
003 GF WC LOBBY		-	100	-	38
004 INDUSTRIAL AREA		140	-	-	10406
005 RECEPTION		-	100	22	152
006 STAIR		-	94	-	27
007 STAIR 2		-	94	-	41
008 STORE		124	-	-	8
009 STORE		124	-	-	8
010 WC		-	100	-	51
011 WC		-	100	-	57
100 CLEANER		124	-	-	5
101 DWC		-	100	-	33
102 FF OFFICE		135	-	-	1468
103 FF WC LOBBY		-	100	-	38
104 FF LOBBY		-	100	-	76
105 STAIR		-	94	-	27
106 STAIR 2		-	94	-	41
107 STORE		124	-	-	6
108 STORE		124	-	-	8
109 WC		-	100	-	51
110 WC		-	100	-	57

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?
002 GF OFFICE	NO (-31.7%)	NO
004 INDUSTRIAL AREA	NO (-32.4%)	NO
005 RECEPTION	NO (-6.7%)	NO
102 FF OFFICE	NO (-31%)	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?	YES
Is evidence of such assessment available as a separate submission?	YES
Are any such measures included in the proposed design?	NO

Technical Data Sheet (Actual vs. Notional Building)

Building Global Parameters			Building Use	
	Actual	Notional	% Area	Building Type
Area [m²]	4207.8	4207.8		A1/A2 Retail/Financial and Professional services
External area [m²]	10602.8	10602.8		A3/A4/A5 Restaurants and Cafes/Drinking Est./Takeaways
Weather	NOT	NOT		B1 Offices and Workshop businesses
Infiltration [m³/hm²@ 50Pa]	3	5	100	B2 to B7 General Industrial and Special Industrial Groups
Average conductance [W/K]	3385.19	3400.27		B8 Storage or Distribution
Average U-value [W/m²K]	0.32	0.32		C1 Hotels
Alpha value* [%]	16.32	10		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

	Actual	Notional
Heating	36.47	31.51
Cooling	0	0
Auxiliary	15.77	20.57
Lighting	16.3	19.7
Hot water	4.28	4.45
Equipment*	32.86	32.86
TOTAL**	72.81	76.24

* 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.

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

Energy & CO ₂ Emissions Summary		
	Actual	Notional
Heating + cooling demand [MJ/m²]	119.08	97.81
Primary energy* [kWh/m²]	153.26	163.9
Total emissions [kg/m²]	26.3	28.6

* 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 SSEEF	Cool SSEER	Heat gen SEFF	Cool gen SEER
[ST] Multiburner radiant heaters, [HS] Radiant heater, [HFT] Natural Gas, [CFT] Electricity									
Actual	99.5	0	30.4	0	19.2	0.91	0	0.91	0
Notional	93.2	0	30	0	25.6	0.86	0	----	----
[ST] Central heating using water: radiators, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity									
Actual	188.9	0	58.2	0	2.5	0.9	0	0.96	0
Notional	111.3	0	35.9	0	1.5	0.86	0	----	----
[ST] Central heating using water: radiators, [HS] LTHW boiler, [HFT] Natural Gas, [CFT] Electricity									
Actual	167.8	0	51.7	0	20.5	0.9	0	0.96	0
Notional	147.5	0	47.5	0	22.7	0.86	0	----	----
[ST] No Heating or Cooling									
Actual	0	0	0	0	0	0	0	0	0
Notional	0	0	0	0	0	0	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	0.26	0_000000:Surf[28]
Floor	0.2	0.22	0_000005:Surf[0]
Roof	0.15	0.18	0_000001:Surf[13]
Windows, roof windows, and rooflights	1.5	1.5	0_000001:Surf[14]
Personnel doors	1.5	1.6	0_00000E:Surf[1]
Vehicle access & similar large doors	1.5	1.5	0_000001:Surf[6]
High usage entrance doors	1.5	-	No High usage entrance doors in building
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	3

5.5 Energy Performance Certificate (EPC)

01

02

03

04

05

06

Energy Performance Certificate

Non-Domestic Building



BLOCK A
BRETBY BUSINESS PARK
ASHBY ROAD
BURTON ON TRENT
DE15 0YZ

Certificate Reference Number:
4943-1513-6163-6877-7948

This certificate shows the energy rating of this building. It indicates the energy efficiency of the building fabric and the heating, ventilation, cooling and lighting systems. The rating is compared to two benchmarks for this type of building: one appropriate for new buildings and one appropriate for existing buildings. There is more advice on how to interpret this information in the guidance document *Energy Performance Certificates for the construction, sale and let of non-dwellings* available on the Government's website at www.gov.uk/government/collections/energy-performance-certificates.

Energy Performance Asset Rating

More energy efficient



Net zero CO₂ emissions

A 0-25

B 26-50

C 51-75

D 76-100

E 101-125

F 126-150

G Over 150

26

This is how energy efficient the building is.

Less energy efficient

Technical information

Main heating fuel: Natural Gas
Building environment: Heating and Mechanical Ventilation
Total useful floor area (m²): 4207.780
Building complexity: Level 5
Building emission rate (kgCO₂/m² per year): 26.27
Primary energy use (kWh/m² per year): 153.26

Benchmarks

Buildings similar to this one could have ratings as follows:

28 If newly built

75 If typical of the existing stock

Administrative information

This is an Energy Performance Certificate as defined in the Energy Performance of Buildings Regulations 2012 as amended.

Assessment Software: Virtual Environment v7.0.13 using calculation engine ApacheSim v7.0.13

Property Reference:

Assessor Name: Toby Jonathon Eyres Britton

Assessor Number: LCEA089923

Accreditation Scheme: CIBSE Certification Limited

Assessor Qualifications: NOS5

Employer/Trading Name: Anderson Green Ltd

Employer/Trading Address: Unit C4 Park Lane Business Centre, Basford Nottingham NG6 0DW

Issue Date: 01 Dec 2021

Valid Until: 30 Nov 2031 (unless superseded by a later certificate)

Related Party Disclosure: Not related to the owner

Recommendations for improving the energy performance of the building are contained in the associated Recommendation Report: 8433-6679-0119-6816-8271

About this document and the data in it

This document has been produced following an energy assessment undertaken by a qualified Energy Assessor, accredited by CIBSE Certification Limited. You can obtain contact details of the Accreditation Scheme at www.cibsecertification.com.

A copy of this certificate has been lodged on a national register as a requirement under the Energy Performance of Buildings Regulations 2012 as amended. It will be made available via the online search function at www.ndepcregister.com. The certificate (including the building address) and other data about the building collected during the energy assessment but not shown on the certificate, for instance heating system data, will be made publicly available at www.opendatacommunities.org.

This certificate and other data about the building may be shared with other bodies (including government departments and enforcement agencies) for research, statistical and enforcement purposes. For further information about how data about the property are used, please visit www.ndepcregister.com. To opt out of having information about your building made publicly available, please visit www.ndepcregister.com/optout.

There is more information in the guidance document *Energy Performance Certificates for the construction, sale and let of non-dwellings* available on the Government website at: www.gov.uk/government/collections/energy-performance-certificates. It explains the content and use of this document and advises on how to identify the authenticity of a certificate and how to make a complaint.

Opportunity to benefit from a Green Deal on this property

The Green Deal can help you cut your energy bills by making energy efficiency improvements at no upfront costs. Use the Green Deal to find trusted advisors who will come to your property, recommend measures that are right for you and help you access a range of accredited installers. Responsibility for repayments stays with the property - whoever pays the energy bills benefits so they are responsible for the payments.

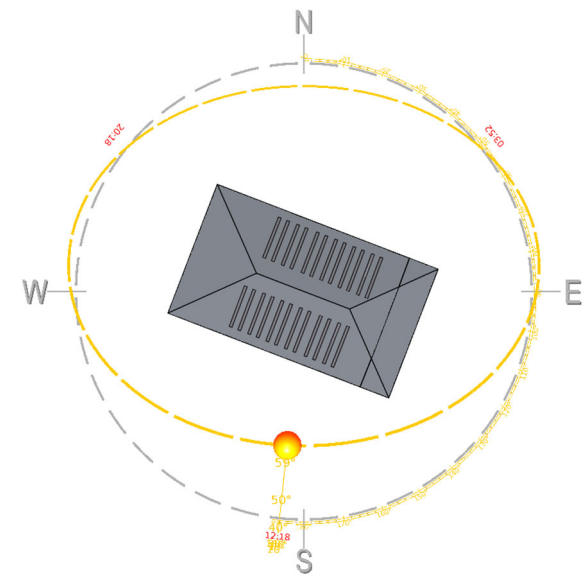
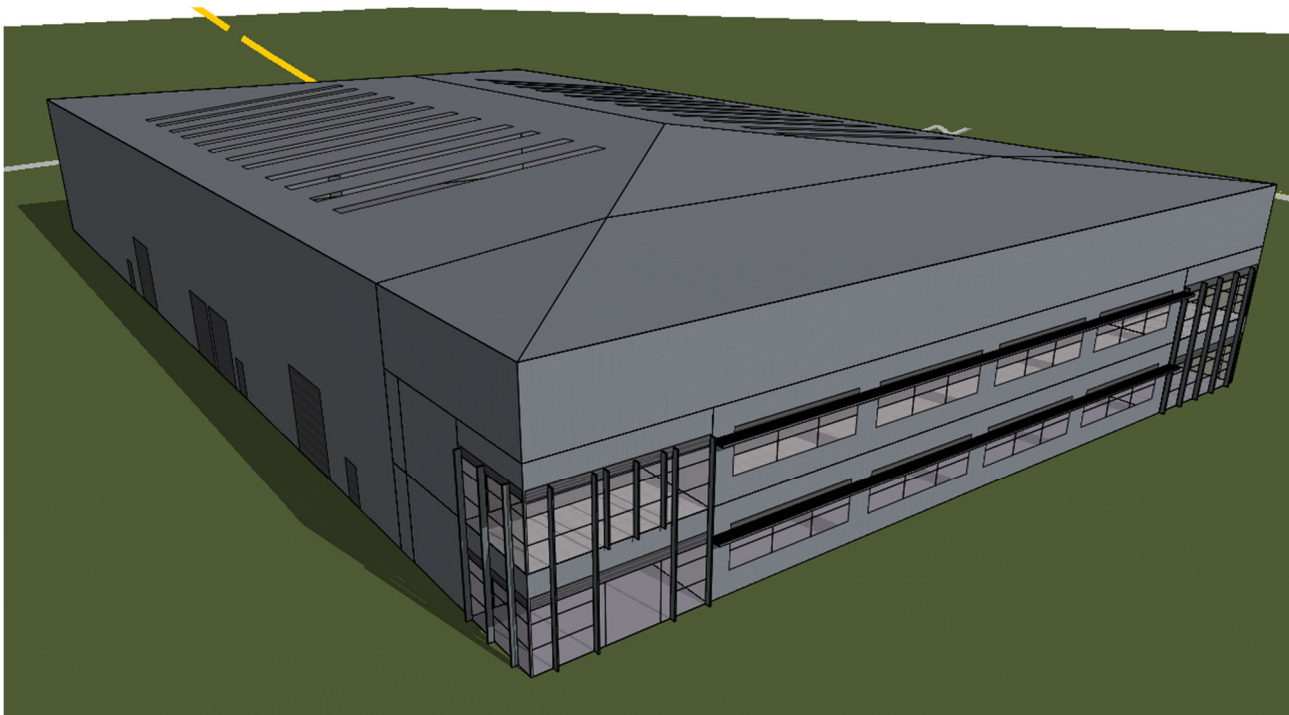
To find out how you could use Green Deal finance to improve your property please call 0300 123 1234.

6.0 Appendices

A. Architectural Information

-  8684-SK-17-11-21-01 - Site Layout Plan
-  8684-SK-26-10-21-100 45k Elevations and General Floor Plan [CAT A]

B. 3D Images



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