

BREEAM 2011 New Construction - Simple Buildings Assessment Report: Building and Project Details

General information

BRE Assessment reference no.	N/A
Client name	F Lloyd (Penley) Ltd
Building end user/occupier	F Lloyd (Penley) Ltd
Assessor name	Ceri Roberts
Assessor organisation	Carpenter Davies Partnership Ltd

Building details

Building name	F Lloyd (Penley) Ltd
Building address	Wrexham Industrial Estate
	Wrexham
County	Wrexham
Post code	
Country	Wales
Building type (main description)	Industrial
Building type (sub-group)	Industrial - Warehouse storage / distribution
Building floor area (GIA) m ²	8464
Building floor area (N IFA) m ²	9464
BREEAM scheme	New Construction - Simple buildings
BREEAM version	2011 (SD5073A)
BREEAM 2011 technical manual issue number	SD5073 Issue 3.2
Project type	New Construction (fully fitted)
Assessment stage	Design (interim)
Location type	Medium urban (>25,000 population)
Climatic zone	Temperate
Building services - heating system type	None
Building services - cooling system type	No mechanical cooling present
Building services - domestic hot water system type	None
Building service - controls	None
If applicable, does this industrial building have a heated or cooled operational area?	No
Building user transportation systems (lifts)	No
If applicable, will this healthcare building house inpatients?	Option not applicable to building type
If applicable, does this industrial building have an office area?	No
If applicable, does this building contain areas requiring SAP assessment?	Option not applicable to building type
If SAP used, what proportion of the building's total floor area (GIA) does it apply to?	

Project team details

Developer	
Principal contractor	
Architect	
Project management	
Building services	
BREEAM Accredited Professional	
Other project team member 1	
Other project team member 2	
Other project team member 3	
Other project team member 4	

BREEAM assessor declaration of assessment accuracy and quality

I, Ceri Roberts, a qualified BREEAM assessor working on behalf of Carpenter Davies Partnership Ltd confirm that the content of this report is to the best of my knowledge a true and accurate reflection of the performance of the above named building, as measured against the assessment criteria and reporting requirements of the BREEAM Scheme Documents (SD5073 and SD5073A). Furthermore, I confirm that this assessment and the information on which it is based has been checked and verified in accordance with BRE Global Ltd's UKAS accredited BREEAM operating procedures for BREEAM assessments and assessors, as described in the technical scheme documents (SD5073 and SD5073A) and associated BREEAM operational documents.

BREEAM Assessor Signature C Roberts

Date 05/02/2014

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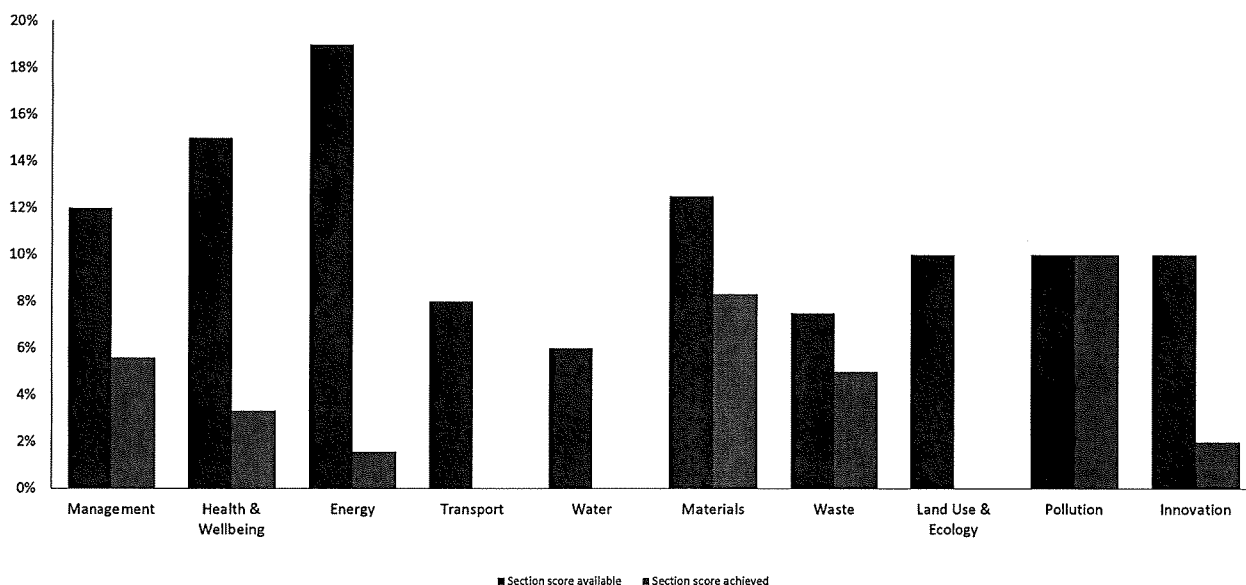
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BREEAM 2011 New Construction - Simple buildings Assessment Report: Rating & Key Performance Indicators

Overall Building Performance

Building name	F Lloyd (Penley) Ltd		
BREEAM rating	Unclassified	Note: the BREEAM rating has been pegged back to the minimum standards level achieved	
Total Score	35.85%		
Min. standards level achieved	Minimum standards not met for certification		

Building Performance by Environment Section



Environmental Section	No. credits available	No. credits Achieved	% credits achieved	Section Weighting	Section Score
Management	15	7	46.67%	12.0%	5.60%
Health & Wellbeing	9	2	22.22%	15.0%	3.33%
Energy	24	2	8.33%	19.0%	1.58%
Transport	6	0	0.00%	8.0%	0.00%
Water	8	0	0.00%	6.0%	0.00%
Materials	9	6	66.67%	12.5%	8.33%
Waste	6	4	66.67%	7.5%	5.00%
Land Use & Ecology	8	0	0.00%	10.0%	0.00%
Pollution	6	6	100.00%	10.0%	10.00%
Innovation	10	2	20.00%	10.0%	2.00%

Building Performance by Key Environmental Performance Indicator

Energy (consumption/production)	Life cycle stage	Measurement	Intensity	Units	Total	Units
Building operation ^[1]	Use	Modelled	INA	kWh/m ² /yr	INA	kWh/yr
Energy production ^[2]	Use	Modelled	INA	kWh/m ² /yr	INA	kWh/yr
Construction process ^[3]	INA	INA	INA	INA	INA	INA
Transport ^[4]	INA	INA	INA	INA	INA	INA
Greenhouse Gas Emissions						
Building operation ^[1]	Use	Modelled	INA	kgCO ₂ eq/m ² /yr	INA	kgCO ₂ eq/yr
Embodied ^[5]	Cradle-to-grave	Measured	INA	kgCO ₂ eq/m ²	INA	kgCO ₂ eq
Proportion of applicable main building elements that data reported covers						INA
Construction process ^[3]	INA	INA	INA	INA	INA	INA
Transport ^[4]	INA	INA	INA	INA	INA	INA
Emissions to outdoor air, soil and water						
Nitrogen Oxides (NO _x) ^[7]	Use	Measured	INA	mg/kWh	INA	kg/yr
Use of freshwater resource						
Building operation ^[8]	Use	Modelled	INA	m ³ /person/yr	INA	m ³ /yr
Construction process ^[9]	INA	INA	INA	INA	INA	INA
Construction waste and recovery						
Construction waste ^[10]	Construction	Target	3.00	m ³ /100m ²	254	m ³
Construction waste diverted from landfill ^[10]	Construction	Target	95.00%	%	241	m ³
Demolition waste diverted from landfill ^[11]	-	-	-	-	-	-
Demolition waste to disposal ^[11]	-	-	-	-	-	-
Material for re-use ^[12]	Construction	Target	0.00	m ³ /100m ²	1	m ³
Material for recycling ^[12]	Construction	Target	0.00	m ³ /100m ²	3	m ³
Material for energy recovery ^[12]	Construction	Target	0.00	m ³ /100m ²	0	m ³
Hazardous waste to disposal ^[12]	Construction	Target	0.0000	m ³ /100m ²	0.00	m ³
Sourcing of materials						
Materials responsibly sourced ^[13]	Construction	Measured	INA	%	-	-
Thermal comfort						
Time out of range of reference temperature ^[14]	Use	Modelled	INA	%	INA	INA
Indoor Air Quality						
Formaldehyde concentration level ^[15]	INA	INA	INA	INA	INA	INA
Total volatile organic compound concentration ^[15]	INA	INA	INA	INA	INA	INA

Notes

- 1 Modelled using approved software compliant with the UK's National Calculation Method which in turn is compliant with Article 3 of The Energy Performance of Buildings Directive (EPBD) 2002/91/EC. Modelling includes building energy consumption resulting from the specification of a 'controlled', 'fixed building service' (as defined in Approved Document L2A, 2010).
- 2 The reported impact includes technologies that produce energy (on-site and/or near-site) as defined by Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC.
- 3 The reported impact includes energy consumption from construction plant, equipment and site accommodation. This KPI is not assessed/reported at the design stage of assessment/certification.
- 4 The reported impact covers transport of the construction materials that make-up the main building elements and ground works and landscaping materials (from the factory gate to the site) and construction waste (from the construction gate to waste disposal processing / recovery centre gate). Main building elements are defined in the BREEAM 2011 New Construction Technical Guide (SD5073). This KPI is not assessed/reported at the design stage of assessment/certification.
- 5 The reported impact covers the construction materials that make-up the main building elements (over a 60 year study period). Main building elements are defined in the BREEAM 2011 New Construction Technical Guide (SD5073). The data is quantified using BRE's Environmental Profiles Methodology. The Environmental Profiles Methodology has been peer reviewed to comply with BS ISO 14040 and represents the Product Category Rules for BRE Global's environmental labelling scheme (EPD - ISO 14025, Type III) for construction products and elements.
- 6 The reported impact is for a 10 year study period. The calculation of the Direct Effect Life Cycle CO₂eq emissions used by BREEAM is based on the Total Equivalent Warming Impact (TEWI) calculation method for new stationary refrigeration and air conditioning systems, as described in Annex B of BS EN 378-1:2008.
- 7 The reported impact covers emissions from either one or a combination of space heating, cooling and hot water heating (refer to Pol02 Assessment Issue for scope of emissions)
- 8 The reported impact includes net water consumption from the micro-components utilised by building occupants for sanitary purposes. The impact accounts for water recycling/rainwater collection, where used for permissible non-potable water demands (For further detail refer to BREEAM 2011 New Construction Technical Guide (SD5073)).
- 9 The reported impact is net water consumption i.e. accounts for any water recycling/rainwater collection used to off-set a potable site demand. This KPI is not assessed/reported at the design stage of assessment/certification.
- 10 The reported impact covers non-hazardous waste from new construction materials, it therefore excludes hazardous and demolition and excavation waste. Where assessed and reported at the design stage of assessment this KPI is based on a target as reported in a compliant Site Waste Management Plan.
- 11 The reported impact covers non-hazardous waste from site demolition. Where assessed and reported at the design stage of assessment this KPI is based on the target demolition waste diverted from landfill, as reported in a compliant Site Waste Management Plan. If no demolition taking place on site this KPI is not applicable.
- 12 Where assessed and reported at the design stage of assessment this KPI is based on a target as reported in a compliant Site Waste Management Plan.
- 13 The reported impact covers the proportion of the key building elements present and assessed by BREEAM that are responsibly sourced, where responsibly sourced is defined as follows; where at least 80% of the materials that make-up an element achieve certification in accordance with one of the responsible sourcing schemes defined in table 10-2 of the BREEAM 2011 New Construction Technical Guide (SD5073).
- 14 The reported impact covers the percentage "time out of range" of the minimum and maximum temperatures for summer and winter settings, whereby winter and summer settings are defined in accordance with the appropriate industry standard (refer to the BREEAM 2011 New Construction Technical Guide (SD5073) for further detail).
- 15 The total volatile organic compound (TVOC) concentration is measured post construction (but pre-occupancy) over 8 hours. Formaldehyde concentration level is measured post construction (but pre-occupancy) averaged over 30 minutes. Both KPI's are measured in accordance with European and/or ISO standards (refer to the BREEAM New Construction Technical Manual for relevant standard numbers. At the design stage of assessment no data is available for this KPI as they are both measured once the building has been constructed (but pre-occupancy) for the purpose of post construction assessment.

"INA" = Indicator Not Assessed. This will be the case where either the data required for the KPI is not gathered/measured by the building's project team or not assessed/quantified in BREEAM for a particular building type or assessment stage e.g. energy consumption for construction process at the design stage of assessment.

"-" = KPI not applicable to building being assessed.

BREEAM 2011 New Construction - Simple Buildings Assessment Report: Assessment Issue Scoring

Building name	F Lloyd (Penley) Ltd
Building score (%)	35.85%
Building rating	Unclassified
Minimum standards level achieved	Minimum standards not met for certification

MANAGEMENT

Man01 Sustainable Procurement

No. of BREEAM credits available	5	Available contribution to overall score	4.00%
No. of BREEAM innovation credits available	3	Minimum standards applicable	Yes

Assessment Criteria		Compliant?	Credits available	Credits achieved
Project brief and design	Criteria 1-3	No	1	0
	Exemplary level (Criteria 4-9, excluding Criterion 7)	No	1	0
	Exemplary level (Criteria 10-13)	No	1	0
Construction and handover	Criteria 14-17	No	1	0
	Criteria 18-20	No	1	0
	Criteria 22	No	1	0
Aftercare	Criteria 23-24	No	1	0
	Exemplary level (Criteria 25)	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Minimum standards not met for certification

Assessor comments/notes:

Criteria 1-3: At stage B, the whole design team was not appointed. Criteria 4-13: A BREEAM AP is not appointed for the scheme. Criteria 14-17: Due to the nature of the building a thermographic survey is not deemed appropriate. Criteria 18-20: There are no services to commission. Criteria 22: There are no services to commission. Criteria 23-24: Apart from lighting, there is no energy or water consumption therefore the aims of meeting the criteria of this credit are irrelevant. Criteria 25: apart from lighting, there is no energy or water consumption therefore the aims of meeting the criteria of this credit are irrelevant. AS THERE ARE NO SERVICES TO COMMISSION, THE MINIMUM STANDARDS FOR CERTIFICATION HAVE NOT BEEN MET AND THE BREEAM RATING WOULD BE "UNCLASSIFIED"

Man02 Responsible Construction Practices

No. of BREEAM credits available	2	Available contribution to overall score	1.60%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria

Compliant considerate construction scheme used	Considerate Constructors Scheme
Level achieved by the project using the compliant scheme	A CCS score between 35 and 39

Total BREEAM credits achieved	2
Total contribution to overall building score	1.60%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

The appointed contractor could register the scheme with the CCS and achieve a 'beyond compliance' score.

Man03 Construction Site Impacts

No. of BREEAM credits available	4	Available contribution to overall score	3.20%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Energy consumption monitoring	Yes	1	1
Water consumption monitoring	Yes	1	1
Exemplary level (Transport of construction materials and waste monitoring)	Yes	1	1
Timber procurement	Yes	1	1
Construction site management: EMS	Yes	1	1
Construction site management - Pollution Prevention Procedures	Yes	1	1

Key Performance Indicators: Construction site energy use

Energy consumption (total) - site processes		Information not available at design stage
Energy consumption (intensity) - site processes		Information not available at design stage
Distance (total) - materials transport to site		Information not available at design stage
Distance (total) - waste transport from site		Information not available at design stage
Energy consumption (total) - materials transport to site		Information not available at design stage
Energy consumption (total) - waste transport from site		Information not available at design stage
Energy consumption (intensity) - materials transport to site		Information not available at design stage
Energy consumption (intensity) - waste transport from site		Information not available at design stage

Key Performance Indicators: Construction site greenhouse gas emissions

Process greenhouse gas emissions (total) - site processes		Information not available at design stage
Greenhouse gas emissions (intensity) - site processes		Information not available at design stage
Greenhouse gas emissions (total) - materials transport to site		Information not available at design stage
Greenhouse gas emissions (total) - waste transport from site		Information not available at design stage
Greenhouse gas emissions (intensity) - materials transport to site		Information not available at design stage
Greenhouse gas emissions (intensity) - waste transport from site		Information not available at design stage

Key Performance Indicators: Construction site use of freshwater resources

Use of freshwater resource (total) - site processes		Information not available at design stage
Use of freshwater resource (intensity) - site processes		Information not available at design stage

Total BREEAM credits achieved	4
Total contribution to overall building score	3.20%
Total BREEAM innovation credits achieved	1
Minimum standard(s) level	N/A

Assessor comments/notes:

It would be possible for the appointed main contractor to monitor their energy use and follow best practice procedures during construction.

Man04 Stakeholder Participation

No. of BREEAM credits available	4	Available contribution to overall score	3.20%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Consultation	No	1	0
Inclusive and accessible design	Yes	1	1
Building user information	No	1	0
Post occupancy evaluation and information dissemination	No	1	0
Total BREEAM credits achieved	1		
Total contribution to overall building score	0.80%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	Very Good level		

Assessor comments/notes:

A design and access statement could be prepared for the units.

HEALTH & WELLBEING**Hea01 Visual Comfort**

No. of BREEAM credits available	3	Available contribution to overall score	5.00%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Fluorescent lamps fitted with high frequency ballasts?	Yes	N/A	N/A
Daylight factor	No	1	
Glare control and view out	No	1	0
Internal and external lighting	Yes	1	1
Exemplary level daylighting	No	1	0
Total BREEAM credits achieved	1		
Total contribution to overall building score	1.67%		
Total BREEAM innovation credits achieved	0		
Minimum standard(s) level	Outstanding level		

Assessor comments/notes:

Any fluorescent lighting could be fitted with HFB's and comply with CIBSE Lighting Guides.

Hea02 Indoor Air Quality

No. of BREEAM credits available	3	Available contribution to overall score	5.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Minimising sources of air pollution	No	1	N/A
Minimising sources of air pollution: VOCs (specification)	No	N/A	N/A
Potential for Natural Ventilation	No	N/A	N/A
Total BREEAM credits achieved	0		
Total contribution to overall building score	0.00%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

Hea03 Thermal Comfort

Assessment Issue Not Applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Thermal modelling	No	N/A	N/A
Thermal zoning and control strategy	No	N/A	N/A

Key Performance Indicators: Thermal comfort (Time out of range (TOR))

Maximum annual TOR for occupied zones for summer and winter settings	
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Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Hea04 Water Quality

No. of BREEAM credits available	1	Available contribution to overall score	1.67%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Minimising risk of contamination: water systems	No	1	0
Minimising risk of contamination: failsafe humidification	No		
Provision of fresh drinking water	No		
Total BREEAM credits achieved	0		
Total contribution to overall building score	0.00%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	Minimum standards not met for certification		

Assessor comments/notes:

THIS ISSUE CANNOT BE ASSESSED AS THERE IS NO WATER SYSTEM(S).

Hea06 Safety and Security

No. of BREEAM credits available	2	Available contribution to overall score	3.33%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Safe external access	No	1	0
Security of site and building	Yes	1	1
Total BREEAM credits achieved	1		
Total contribution to overall building score	1.67%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

An architectural liaison officer or crime prevention design advisor could be approached to look at the development.

ENERGY

Ene01 Reduction of CO₂ Emissions

No. of BREEAM credits available	15	Available contribution to overall score	11.88%
No. of BREEAM innovation credits available	5	Minimum standards applicable	Yes

Ene01 Calculator and Key Performance Indicators

Building floor area	8464	m ²
Notional building energy demand		MJ/m ² /annum
Actual building energy demand		MJ/m ² /annum
Notional building energy consumption		kWh/m ² /yr
Actual building energy consumption		kWh/m ² /yr
Target Emission Rate (TER)		kgCO ₂ /m ² /yr
Building Emission Rate (BER)		kgCO ₂ /m ² /yr
Building Emission Rate improvement over TER		
Demand Energy Performance Ratio (EPR)	0.0000	
Consumption Energy Performance Ratio (EPR)	0.0000	
CO ₂ Energy Performance Ratio (EPR)	0.0000	
Overall Building Energy Performance Ratio (EPR _{inc})	0.0000	

Have the values entered above for the non-domestic building been verified using BREEAM's Ene01 Compliance Checker website?	Please select
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Equivalent % of the building's 'regulated' energy consumption generated by carbon neutral sources and used to meet energy demand from 'unregulated' building systems or processes?	
Is the building designed to be 'carbon negative'?	
If the building is defined as 'carbon negative' what is the total (modelled) renewable/carbon neutral energy generated and exported	

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Very Good level

Assessor comments/notes:

This issue cannot be assessed as an SBEM calculation is not appropriate for this development.

Ene02 Energy Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.79%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Monitoring of energy consuming systems	Yes	1	1
Total BREEAM credits achieved		1	
Total contribution to overall building score		0.79%	
Total BREEAM innovation credits achieved		N/A	
Minimum standard(s) level	Outstanding level		

Assessor comments/notes:

The lighting could be metered.

Ene03 External Lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.79%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
External lighting specification	Yes	1	1
Total BREEAM credits achieved		1	
Total contribution to overall building score		0.79%	
Total BREEAM innovation credits achieved		N/A	
Minimum standard(s) level	N/A		

Assessor comments/notes:

The external lighting could comply with the relevant CIBSE guidance.

Ene04 Low and Zero Carbon Technology

No. of BREEAM credits available	5	Available contribution to overall score	3.96%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Please select	No	2	0
Additional credits not achievable for above option selection		2	0
Please select	No	1	0

KPI - Low and/or zero carbon energy generation

Total on-site and/or near-site LZC energy generation kWh/yr

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Very Good level

Assessor comments/notes:

Due to the nature of the building, a feasibility study would not be carried out to determine the most appropriate low or zero carbon energy solution for the building.

Ene06 Energy Efficient Transportation Systems

Assessment Issue Not Applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Transportation system analysis and strategy	No	1	0
Energy efficient transportation features	No	1	0
Total BREEAM credits achieved	N/A		
Total contribution to overall building score	N/A		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

Ene08 Energy Efficient Equipment

No. of BREEAM credits available	2	Available contribution to overall score	1.58%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Present	Significant majority contributor
Small power and plug in equipment	No	No
Communal laundry	No	No
IT-intensive operation areas	No	No
Residential areas	No	No
Healthcare	No	No
Kitchen and catering facilities	No	No

	Compliant	Credits available	Credits achieved
Significant majority contributors BREEAM compliant	No	2	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

There will not be any of the above present in the units, therefore this credit is not applicable.

Ene09 Drying Space

Assessment Issue Not Applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Residential internal/external drying space and hangers	No	1	N/A
Total BREEAM credits achieved	N/A		
Total contribution to overall building score	N/A		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

TRANSPORT**Tra01 Public Transport Accessibility**

No. of BREEAM credits available	3	Available contribution to overall score	4.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra01 issue assessment)	Business (office/industrial)
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Assessment Criteria	Compliant	Credits available	Credits achieved
Public transport accessibility index	1.64	3	0
Building dedicated bus service	No		0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

There is a bus stop close to the site with an average of 2 bus services to Wrexham Town Centre per hour, however this is not adequate to achieve any credits under this issue.

Tra02 Proximity to Amenities

No. of BREEAM credits available	1	Available contribution to overall score	1.33%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Close proximity and accessible to applicable amenities	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is unlikely that all the amenities will be within 500m safe walking distance of the site.

Tra03 Cyclist facilities

No. of BREEAM credits available	2	Available contribution to overall score	2.67%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra03 issue assessment)	Business - offices, Industrial
Number of compliant cycle storage spaces provided	0
Cyclist facilities types provided	Please select

Assessment Criteria	Compliant?	Credits available	Credits achieved
Cycle storage spaces	No	2	0
Cyclist facilities	No		

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Cycle facilities will not be provided as part of this development.

WATER

Wat01 Water Consumption

No. of BREEAM credits available	5	Available contribution to overall score	3.75%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Please select the calculation procedure used	Standard approach
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Standard approach data

Water Consumption from building micro-components		L/person/day
Water demand met via greywater/rainwater sources		L/person/day
Total net water consumption		L/person/day
Improvement on baseline performance		%

Key Performance Indicator - use of freshwater resource

Total net Water Consumption		m3/person/yr
Default building occupancy		

Alternative approach data

Overall microcomponent performance level achieved	Select level
Please select:	

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Pass level

Assessor comments/notes:

There is no mains water supply to the units therefore this issue cannot be addressed.

Wat02 Water Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Water meter on the mains water supply to the building(s)	No	1	0
Metering/monitoring equipment on supply to plant/building areas	No		
Pulsed output on all relevant water meters	No		
Existing BMS connection	No		
Total BREEAM credits achieved	0		
Total contribution to overall building score	0.00%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	Pass level		

Assessor comments/notes:

There is no mains water supply to the units therefore this issue cannot be addressed.

Wat03 Water Leak Detection and Prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is an automatic excess flow rate valve or major leak detection system installed	No	1	0
Flow control device to each sanitary area/facility	No	1	0
Total BREEAM credits achieved	0		
Total contribution to overall building score	0.00%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

There is no mains water supply to the units therefore this issue cannot be addressed.

MATERIALS

Mat01 Life Cycle Impacts

No. of BREEAM credits available	2	Available contribution to overall score	2.78%
No. of BREEAM innovation credits available	3	Minimum standards applicable	No

Assessment Criteria

Total Mat01 credits achieved	2
Total Mat01 points achieved	4.00
Number of building elements assessed	2
Exemplary level compliant?	No
Has IMPACT compliant software been used?	No

Key Performance Indicator - embodied green house gas emissions by element	Total area of element m ²	Total impact kgCO ₂ eq.	Area of element impact data relevant to m ²
External walls			
Windows			
Roof			
Upper floor construction			

Internal wall			
Floor finishes/coverings			

Key Performance Indicator - embodied green house gas emissions for building (assessed elements only)

Total embodied green house gas emissions for building (by assessed elements)	Missing data	kgCO ₂ eq.		kgCO ₂ eq./m ²
Proportion of applicable building elements that data reported covers				

Total BREEAM credits achieved	2
Total contribution to overall building score	2.78%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

It is likely that two credits could be achieved for assessing the building elements under this issue.

Mat02 Hard Landscaping and Boundary Protection

No. of BREEAM credits available	1	Available contribution to overall score	1.39%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
External hard landscaping and boundary protection	Yes	1	1
Total BREEAM credits achieved	1		
Total contribution to overall building score	1.39%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

Materials for hardlandscaping could be A or A+ rated.

Mat03 Responsible Sourcing

No. of BREEAM credits available	3	Available contribution to overall score	4.17%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant	Credits available	Credits achieved
Percentage of available responsible sourcing points achieved	No	3	0
All timber sourced in accordance with the UK Gov't's Timber Procurement Policy	Yes		

Building elements	Element present	% element responsibly sourced	Responsible sourcing points
Structural Frame	No	0%	
Ground floor	No	0%	
Upper floors (including separating floors)	No	0%	
Roof	No	0%	
External walls	No	0%	
Internal walls	No	0%	
Foundation/substructure	No	0%	
Fittings	No	0%	
Hard landscaping	No	0%	

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Responsible sourcing of the structure would be considered.

Mat04 Insulation

No. of BREEAM credits available	2	Available contribution to overall score	2.78%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Embodied Impact - insulation index	2.00	1	1
Responsible sourcing - % of insulating materials responsibly sourced	100%	1	1
Total BREEAM credits achieved	2		
Total contribution to overall building score	2.78%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

The insulation is likely to be included as part of the walls/roof (SIPs).

Mat05 Designing for Robustness

No. of BREEAM credits available	1	Available contribution to overall score	1.39%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Suitable durability/protection measures to vulnerable building areas	Yes	1	1
Total BREEAM credits achieved	1		
Total contribution to overall building score	1.39%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

The design team could assess the vulnerable areas of the building and take measures to protect these areas.

WASTE**Wst01 Construction Waste Management**

No. of BREEAM credits available	4	Available contribution to overall score	5.00%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria

Compliant?

Compliant Site Waste Management Plan	Yes
Compliant Pre-demolition audit	N/A
For projects less than £300k in value - Is waste generated on site monitored?	N/A

Key Performance Indicators - Construction Waste

Measure/units for the data being reported	volume	
Non-hazardous construction waste (excluding demolition/excavation)	3.00	m3/100m2
Total non-hazardous construction waste generated	253.92	m3
Non-hazardous non-demolition const. waste diverted from landfill	95.00%	%
Total non-hazardous non-demolition const. waste diverted from landfill	241.22	m3
Total non-hazardous demolition waste generated		Indicator Not Applicable
Non-hazardous demolition waste diverted from landfill		Indicator Not Applicable
Total non-hazardous demolition waste to disposal	INA	Indicator Not Applicable
Material for reuse	0.50	m3
Material for recycling	2.50	m3
Material for energy recovery	0.00	m3
Hazardous waste to disposal	0.00	m3

Total BREEAM credits achieved	4
Total contribution to overall building score	5.00%
Total BREEAM innovation credits achieved	1
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

There is unlikely to be a significant amount of waste generated.

Wst02 Recycled Aggregates

No. of BREEAM credits available	1	Available contribution to overall score	1.25%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Total
Total % of high-grade aggregate that is recycled/secondary aggregate	0%

% of high-grade aggregate that is recycled/secondary aggregate - by application

Structural frame	
Floor slabs including ground floor slabs	
Bitumen/hydraulically bound base, binder and surface courses	
Concrete road surfaces	
Pipe bedding	
Building foundations	
Granular fill and capping	
Gravel landscaping	

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

This credit could be considered for any high grade aggregate uses.

Wst03 Operational Waste

No. of BREEAM credits available	1	Available contribution to overall score	1.25%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Segregation and storage of operational recyclable waste volumes	Yes	1	0
Static waste compactor(s) or baler(s)	No		
Vessel(s) for composting suitable organic waste	No		

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Very Good level

Assessor comments/notes:

There are existing facilities for waste generated as part of site operations, however due to the nature of the building it is unlikely that there would be an increase to existing waste levels.

Wst04 Speculative Floor and Ceiling Finishes

Assessment Issue Not Applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria

Compliant?

Credits available

Credits achieved

Previously developed land	No	N/A	0
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Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

LAND USE & ECOLOGY

LE01 Site Selection

No. of BREEAM credits available	2	Available contribution to overall score	2.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

Compliant?

Credits available

Credits achieved

Previously developed land	No	1	0
Contaminated land	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

The land has not been previously developed

LE02 Ecological Value of Site and Protection of Ecological Features

No. of BREEAM credits available	1	Available contribution to overall score	1.25%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Ecological value of the land defined using	The BREEAM checklist
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Assessment Criteria	Compliant?	Credits available	Credits achieved
Land of low ecological value	No	1	0
Protection of existing ecological features	Yes		
Total BREEAM credits achieved	0		
Total contribution to overall building score	0.00%		
Total BREEAM innovation credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

The land cannot be classed as land of low ecological value. Any remaining existing ecological features would be protected.

LE03 Mitigating Ecological Impact

No. of BREEAM credits available	2	Available contribution to overall score	2.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Data sourced for calculating the change in ecological value from	Assessor's classification of broad habitat type(s) using BREEAM
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Assessment Criteria

Change in ecological value	-10.00	Plant species richness
Total BREEAM credits achieved	0	
Total contribution to overall building score	0.00%	
Total BREEAM innovation credits achieved	N/A	
Minimum standard(s) level	Good level	

Assessor comments/notes:

It is unlikely that ecology will be lost from the site, however this is being addressed elsewhere.

LE04 Enhancing Site Ecology

No. of BREEAM credits available		3	Available contribution to overall score		3.75%
No. of BREEAM innovation credits available		0	Minimum standards applicable		No
Assessment Criteria			Compliant?	Credits available	Credits achieved
Has local expertise and guidance been used?			No		
Suitably Qualified Ecologists appointment (SQE)			No		
Implementation of the Suitably Qualified Ecologists general recommendations?			No		
Change in ecological value (as confirmed by Suitably Qualified Ecologist)					
Total BREEAM credits achieved		0			
Total contribution to overall building score		0.00%			
Total BREEAM innovation credits achieved		N/A			
Minimum standard(s) level		N/A			

Assessor comments/notes:

An ecologist will not be appointed as part of the scheme.

POLLUTION**Pol02 NO_x Emissions****Assessment Issue Not Applicable**

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria

NO _x emission level - space heating	1
NO _x emission level - cooling	1
NO _x emission level - water heating	90
Does this building meet BREEAM's definition of a nearly zero energy building?	
Does the building have a heating system that is not a fossil fuel based system?	

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Pol03 Surface Water Run off

No. of BREEAM credits available	5	Available contribution to overall score	8.33%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Annual probability of flooding	Low		
Flood Risk Assessment	Yes	2	2
Surface water run off – decreased impermeable area (A) or source control (B)	Yes	2	2
Surface water run off – no increase in impermeable surface (A) or SUDS solutions (B)	Yes		
Minimising watercourse pollution	Yes	1	1
Exemplary level (Criteria 6 to 14)	No	1	0
Total BREEAM credits achieved		5	
Total contribution to overall building score		8.33%	
Total BREEAM innovation credits achieved		0	
Minimum standard(s) level		N/A	

Assessor comments/notes:

A flood risk assessment could be carried out to determine the risk of flooding from all sources and address any issues as appropriate.

Pol04 Reduction of Night Time Light Pollution

No. of BREEAM credits available	1	Available contribution to overall score	1.67%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
External lighting specification	Yes	1	1
Total BREEAM credits achieved		1	
Total contribution to overall building score		1.67%	
Total BREEAM innovation credits achieved		N/A	
Minimum standard(s) level		N/A	

Assessor comments/notes:

The external lighting specification could comply with CIBSE guidance in terms of night time light pollution.

INNOVATION**Inn01 Innovation**

No. of BREEAM innovation credits available	10	Available contribution to overall score	10.00%
		Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Man01 Sustainable Procurement	No	3	0
Man02 Responsible Construction Practices	No	1	0
Man03 Construction Site Impacts	No	1	1
Hea01 Visual Comfort	No	1	0
Ene01 Reduction of CO2 Emissions	No	5	0
Ene04 Low and Zero Carbon Technology	No	1	0
Wat01 Water Consumption	No	1	0
Mat01 Life Cycle Impacts	No	3	0
Mat03 Responsible Sourcing of Materials	No	1	0
Wst01 Construction Waste Management	Yes	1	1
Wst02 Recycled Aggregates	No	1	0
Pol03 Surface water run off	No	1	0

Number of 'approved' innovation credits achieved?		0
Total BREEAM innovation credits achieved	2	
Total contribution to overall building score	2.00%	
Minimum standard(s) level	N/A	

Assessor comments/notes:

