

BREEAM UK New Construction 2018 Assessment Report



General information

BRE Assessment reference no.	Initial BREEAM Review 15/10/18
Client name	Greyfriars Church
Building end user/occupier	Greyfriars Church
Assessor name	Cameron Parker
Assessors role	Assessor
Assessor organisation	Ridge & Partners LLP

Building details

Building name	Greyfriars Christian Centre
Building address	Friar Street
	Reading
County	Berkshire
Post code	RG1 1EH
Country	England
BREEAM scheme	New Construction
BREEAM version	2018 (SD5078)
BREEAM UK 2018 technical manual issue number	SD5078 Issue 1.2
Project scope	Fully fitted
Building type (main description)	Non-residential institution
Building type (sub-group)	Non-residential institution - Day centre, hall, civic or community centre
Does this healthcare building have inpatient areas?	
Does this industrial building have an office area, or other occupied spaces?	
Assessment stage	Design (interim)
Building floor area (GIA) m ²	1500
Building floor area (NIFA) m ²	1500
Is the building designed to be untreated?	No
Building services - heating system type	Air system
Building services - cooling system type	Air-conditioning
Are commercial or industrial-sized refrigeration and storage systems specified?	No
Are building user lifts present?	Yes
Are building user escalators or moving walks present?	No
Are laboratories present?	No
What percentage of total building area do laboratories represent?	
Are there fume cupboard(s) and/or other containment devices present?	
Are there any water demands present other than those assessed in Wat 01?	Yes
Does the building have external areas within the boundary of the assessed development?	Yes
Are there statutory requirements, or other issues outside of the control of the project, that impact the ability to provide outdoor space?	No
Are there any systems specified that contribute to the unregulated energy load?	Yes
Are the post-occupancy stage credits targeted in Ene 01?	No

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, Cameron Parker, a qualified BREEAM assessor working on behalf of Ridge & Partners LLP 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 Document (SD5078). 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 document (SD5078) and associated BREEAM operational documents.

BREEAM Assessor Signature:

Date

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Disclaimer

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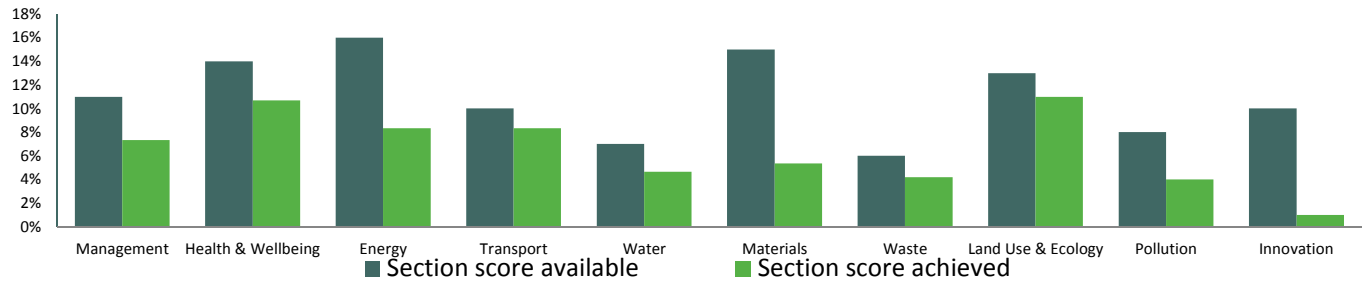
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Overall Building Performance

Building name	Greyfriars Christian Centre
BREEAM rating	Very Good
Total Score	64.90%
Min. standards level achieved	Excellent level

Building Performance by Environment Section



Environmental Section	No. credits available	No. credits Achieved	% credits achieved	Section Weighting	Section Score
Management	21	14	66.67%	11.00%	7.33%
Health & Wellbeing	17	13	76.47%	14.00%	10.70%
Energy	23	12	52.17%	16.00%	8.34%
Transport	12	10	83.33%	10.00%	8.33%
Water	9	6	66.67%	7.00%	4.66%
Materials	14	5	35.71%	15.00%	5.35%
Waste	10	7	70.00%	6.00%	4.20%
Land Use & Ecology	13	11	84.62%	13.00%	11.00%
Pollution	12	6	50.00%	8.00%	4.00%
Innovation	10	1	10.00%	10.00%	1.00%

Building Performance by Key Environmental Performance Indicator

Energy (consumption/production)	Life cycle stage	Measurement	Intensity	Units	Total	Units
Building operation ^[1]	Use	Modelled	40.00	kWh/m ² /yr	60000	kWh/yr
Energy production ^[2]	Use	Modelled	INA	kWh/m ² /yr	INA	kWh/yr
Construction process ^[3]	INA	INA	INA	INA	INA	INA

Carbon dioxide Emissions

BREEAM UK 2018 technical manual issue number						
Building operation ^[1]	Use	Modelled	INA	kgCO ₂ eq/m ² /yr	INA	kgCO ₂ eq/yr
Construction process ^[3]	INA	INA	INA	INA	INA	INA
Transport ^[4]	INA	INA	INA	INA	INA	INA
Direct GHG emissions - Refrigerants ^[6]	Use	Modelled	2088.00	KgCO ₂ eq/kW _{coolth}	INA	KgCO ₂ eq

Use of freshwater resource

Building operation ^[8]	INA	INA	INA	INA	INA	INA
Construction process ^[9]	INA	INA	INA	INA	INA	INA

Construction waste and recovery

Construction waste ^[10]	Construction	Target	7.50	tonnes/100m ²	0	tonnes
Construction waste diverted from landfill ^[10]	Construction	Target	70	%	0	tonnes
Demolition waste diverted from landfill ^[11]	Construction	Target	0	%	INA	INA
Demolition waste to disposal ^[11]	Construction	Target	1	%	INA	INA
Material for re-use ^[12]	Construction	Target	0.06	tonnes/100m ²	95	tonnes
Material for recycling ^[12]	Construction	Target	0.00	tonnes/100m ²	0	tonnes
Material for energy recovery ^[12]	Construction	Target	0.00	tonnes/100m ²	0	tonnes
Hazardous waste to disposal ^[12]	Construction	Target	0.0000	tonnes/100m ²	0.00	tonnes

Sourcing of materials

Materials responsibly sourced ^[13]	Construction	Measured	0.1	%	-	-
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Thermal comfort

Predicted Mean Vote (PMV)	Use	Modelled	INA	Index	-	-
Predicted Percentage Dissatisfied (PPD)	Use	Modelled	INA	%	-	-

Indoor Air Quality

Formaldehyde concentration level ^[14]	INA	INA	-	INA	INA	INA
Total volatile organic compound concentration ^[14]	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 the relevant Approved Document or Guidance produced for each UK territory).
- 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 2018 New Construction Technical Guide (SD5076). 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 UK New Construction 2018 Technical Guide (SD5076). 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 UK New Construction 2018 Technical Guide (SD5076)).
- 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 Resource Management Plan.
- 11 The reported impact covers non-hazardous waste from site demolition. Where assessed and reported at the design stage 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. Responsibly sourced and key building elements are defined in the BREEAM UK New Construction 2018 Technical Guide (SD5076).
- 14 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
"-" = KPI not applicable to building being assessed.

BREEAM UK New Construction 2018 Assessment Report: Assessment Issue Scoring



Building name	Greyfriars Christian Centre
Building score (%)	64.90%
Building rating	Very Good
Minimum standards level achieved	Excellent level

MANAGEMENT

Man 01 Project brief and design

No. of BREEAM credits available	4	Available contribution to overall score	2.10%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Project delivery planning	No	1	0
Stakeholder consultation (interested parties)	No	1	0
Prerequisite: Have the client and the contractor formally agreed performance targets?	No		
BREEAM Advisory Professional (Concept Design)		1	0
BREEAM Advisory Professional (Developed Design)		1	0

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

Assessor comments/notes:

Project delivery and stakeholder consultation have not been assumed; project delivery planning requires a contractor's input from RIBA Stage 2 and the stakeholder consultation requires a variety of stakeholders to be consulted about many aspects of the project which it is considered will be challenging for this scheme, particularly as this would need to happen prior to the end of RIBA Stage 2 which will be soon.

BREEAM AP credits haven't been targeted either however this is a service that Ridge are able to provide - a fee has been issued, in order for this to be achieved appointment must be prior to the completion of RIBA Stage 2.

Man 02 Life cycle cost and service life planning

No. of BREEAM credits available	4	Available contribution to overall score	2.10%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria		Compliant?	Credits available	Credits achieved
Elemental LCC Component level LCC options appraisal Capital cost reporting Capital cost of the project		No	2	0
		Yes	1	1
		Yes	1	1
		£0	£/m ²	
Total BREEAM credits achieved	2			
Total contribution to overall building score	1.05%			
Total BREEAM exemplary credits achieved	N/A			
Minimum standard(s) level	N/A			

Assessor comments/notes:

The elemental level life cycle cost analysis has been omitted from the assessment based upon the time constraints that are currently placed upon it, however the component level life cycle cost analysis has been targeted due to the potential long-term savings that can be achieved for the client. This will need to be actioned prior to the end of RIBA Stage 4.

It is assumed that the capital cost of the project will be reported to allow the fourth and final credit to be achieved.

Man 03 Responsible construction practices

No. of BREEAM credits available	6	Available contribution to overall score	3.14%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	Yes

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved	
Prerequisite: Are all timber and timber-based products used during the construction process of the project 'legally harvested and traded timber'?	Yes			
Environmental management	Yes	1	1	
Prerequisite: Have the client and the contractor formally agreed performance targets?	Yes			
BREEAM Advisory Professional (site)	Yes	1	1	
Responsible construction management	2	2	2	
Monitoring of construction site impacts	Yes			
Utility consumption	Yes	1	1	Note: The KPI data
Transport of construction materials and waste	Yes	1	1	Note: The KPI data
Exemplary level criteria - Responsible construction management	Yes	1	1	

Key Performance Indicators: Construction site energy use

Energy consumption (total) - site processes	10	kWh
Energy consumption (intensity) - site processes	10	kWh/project value
Distance (total) - materials transport to site		km
Distance (total) - waste transport from site		km

Key Performance Indicators: Construction site greenhouse gas emissions

Process greenhouse gas emissions (total) - site processes	10	KgCO ₂ -eq
Carbon dioxide emissions (intensity) - site processes	10	KgCO ₂ -eq/project value
Carbon dioxide emissions (total) - materials transport to site		KgCO ₂ -eq
Carbon dioxide emissions (total) - waste transport from site		KgCO ₂ -eq
Carbon dioxide emissions (intensity) - materials transport to site		KgCO ₂ -eq/project value
Carbon dioxide emissions (intensity) - waste transport from site		KgCO ₂ -eq/project value

Key Performance Indicators: Construction site use of freshwater resources

Use of potable water resource (total) - site processes		m ³
Use of potable water resource (intensity) - site processes		m ³ /£100k

Total BREEAM credits achieved	6
Total contribution to overall building score	3.14%
Total BREEAM exemplary credits achieved	1
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Assumed that all site timber will meet BREEAM requirements and construction site managers (e.g. Main Contractor and Demolition Contractor) will be required to have ISO 14001 or similar accreditation and implement PPG6.

Use of site stage AP is assumed and it is assumed that Considerate Constructors score of >35 will be achieved in addition to carrying out tasks g,p,q within GN33.

Also assumed a specific individual will be assigned responsibility for monitoring site utility consumption and transport of construction materials and waste.

Man 04 Commissioning and handover

No. of BREEAM credits available	4	Available contribution to overall score	2.10%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	Yes

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Commissioning and testing schedule and responsibilities	Yes	1	1
Commissioning - design and preparation	Yes	1	1
Testing and inspecting building fabric	No	1	0
Handover - Has a Building User Guide been developed prior to handover?	Yes		
Handover - Has a training schedule been prepared for building occupiers/managers?	Yes	1	1

Total BREEAM credits achieved	3
Total contribution to overall building score	1.57%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

It is assumed that the BREEAM commissioning testing schedule and responsibilities will be achieved and that a member of the project team will be appointed to monitor and programme the commissioning, and additionally for criteria 4, undertake design reviews etc.

Currently it is not assumed that an air tightness and thermographic survey will be undertaken however these should be considered for a further credit.

It is assumed that a Building User Guide will be provided - now 2 versions are required, a technical and non technical. 2 training schedules are also required.

Man 05 Aftercare

No. of BREEAM credits available	3	Available contribution to overall score	1.57%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	Yes

Is this a speculative development?	No
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Assessment Criteria

	Compliant?	Credits available	Credits achieved
Aftercare support	Yes	1	1
Commissioning - implementation	Yes	1	1
Post occupancy evaluation	Yes	1	1
The client or building occupier commits funds to pay for the POE in advance	Yes		

Total BREEAM credits achieved	3
Total contribution to overall building score	1.57%

Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

Assumed that a compliant short-term (1-month post-handover) and long-term (1 year post-handover) aftercare support will be provided and seasonal commissioning will be undertaken.
It is also assumed that a third party will be commissioned to undertake a Post Occupancy Evaluation, with the client committing funds to pay for this in advance.

HEALTH & WELLBEING

Hea 01 Visual Comfort

No. of BREEAM credits available	4	Available contribution to overall score	3.29%
No. of BREEAM exemplary credits available	2	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Control of glare from sunlight	Yes	1	1
Daylighting (building type dependent)	Yes	1	Yes
View out	No	1	0
Internal and external lighting levels, zoning and controls	Yes	1	1

Exemplary level daylighting		1	0
Exemplary level criteria - Internal and external lighting levels, zoning and control		1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.65%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

It is assumed that a glare control assessment will be undertaken to determine the glare control strategy and sufficient control measures to be implemented where required.

Based on the proposed layouts and occupied rooms the view out criteria is not currently assumed but the daylighting criteria is - a detailed study will need to be undertaken to confirm the achievability of these, if this is not undertaken then the credit will not be achieved.

The internal and external lighting criteria is also assumed. This includes specific requirements for zoning and controls that will need to be reviewed by the electrical team.

Hea 02 Indoor Air Quality

No. of BREEAM credits available	4	Available contribution to overall score	3.29%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Prerequisite: Indoor air quality (IAQ) plan	Yes		
Ventilation	No	1	0
Emissions from building products	1	2	1
Post-construction indoor air quality measurement	Yes	1	1

Exemplary level criteria - Emissions from building products	No	1	0
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Key Performance Indicators: Indoor air quality

Formaldehyde concentration	10	µg/m ³
Total volatile organic compound (TVOC) concentration	10	µg/m ³

Total BREEAM credits achieved	2
Total contribution to overall building score	1.65%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

It's assumed that an Indoor Air Quality Plan will be produced and implemented as this is a pre-requisite of this issue. This must be produced no later than RIBA Stage 2.
It is not assumed that the ventilation criteria will be achieved due to the buildings location and adjacent car park.
It is assumed that 3 out of the 5 product types will meet the emissions levels specified in the manual e.g. paints and coatings, flooring materials and wood based products.
This can be confirmed in the materials specification. If all the materials meet, this a further credit is available.
Post construction testing of indoor air quality management is currently assumed, it should be noted that this will require a pre-occupancy flush-out prior to testing taking place.

Hea 04 Thermal comfort

No. of BREEAM credits available	3	Available contribution to overall score	2.47%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Thermal modelling	Yes	1	1
Design for future thermal comfort	Yes	1	1
Thermal zoning and control	Yes	1	1

Key Performance Indicators	Thermal comfort	For a projected climate scenario
Predicted Mean Vote (PMV)		
Predicted Percentage Dissatisfied (PPD)		

Total BREEAM credits achieved	3
Total contribution to overall building score	2.47%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is currently assumed that a thermal model will be developed to inform the temperature zoning and controls strategy and demonstrate thermal comfort for the proposed building in line with the required standards. It is also assumed that this will be demonstrated for the projected climate change scenario. Where this is not possible, credits can still be achieved so long as the additional future measures are passive and easy to implement.

The resultant modelling will need to be used to inform the temperature control strategy for the Proposed Development and its users.

Hea 05 Acoustic Performance

No. of BREEAM credits available	3	Available contribution to overall score	2.47%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Criteria performance requirements or SQA bespoke requirements?	Criteria performance requirements
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Assessment Criteria

	Credits	Credits available	Credits achieved
Sound insulation	1	1	1
Indoor ambient noise level	Yes	1	1
Room acoustics	Yes	1	1

Total BREEAM credits achieved	3
Total contribution to overall building score	2.47%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

There are up to 3 credits available for the assessed building - these require a suitably qualified acoustician to be appointed to demonstrate that the building will achieve the acoustic performance standards, indoor ambient noise level and reverberation times as stated in the BREEAM criteria. All three credits are currently assumed but will require further confirmation from a suitably qualified acoustician.

Hea 06 Security

No. of BREEAM credits available	1	Available contribution to overall score	0.82%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Security of site and building	Yes	1	1
Exemplary level criteria	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	0.82%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

It is assumed that a compliant Security Needs Assessment will be undertaken by a suitably qualified professional by RIBA Stage 2 and their recommendations will be incorporated into the design of the scheme. Where this is not possible within the specified timeframe, it must be confirmed that the suitably qualified professional's late appointment has not jeopardised the potential implementation of security measures.

Hea 07 Safe & Healthy Surroundings

No. of BREEAM credits available	2	Available contribution to overall score	0.82%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Safe Access	Yes	1	1
Outside Space	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	0.82%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is assumed that the safe access criteria will be achieved with dual paving leading from the building's main entrance, enveloping the car park and joining the main public highway. There is no cycle storage proposed and therefore no cycle paths are required.

A front/side lawn and garden have been retained from the original site plans, meeting the criteria for an outdoor space as long as this is a non smoking space with seating provided.

ENERGY

Ene 01 Reduction of energy use and carbon emissions

No. of BREEAM credits available	13	Available contribution to overall score	9.04%
No. of BREEAM exemplary credits available	5	Minimum standards applicable	Yes

Country of the UK where the building is located	England	
Actual building energy demand	126.240	MJ/m ² yr
Notional building energy demand	187.610	MJ/m ² yr
Actual building primary energy consumption	157.520	kWh/m ² yr
Notional building primary energy consumption	159.130	kWh/m ² yr
Actual building CO ₂ -eq emissions (BER)	27.300	KgCO ₂ -eq /m ² yr
Notional building CO ₂ -eq emissions (TER)	40.000	KgCO ₂ -eq /m ² yr
Does this building contain areas that require a SAP assessment?	No	
What % of the building's total floor area (GIA) does it apply to?		
SAP Actual building energy demand		MJ/m ² yr

SAP Notional building energy demand		MJ/m ² yr
SAP Actual building primary energy consumption		kWh/m ² yr
SAP Notional building primary energy consumption		kWh/m ² yr
SAP Actual building CO ₂ -eq emissions (BER)		KgCO ₂ -eq /m ² yr
SAP Notional building CO ₂ -eq emissions (TER)		KgCO ₂ -eq /m ² yr

Building Score

Total BREEAM credits achieved	4
Heating and cooling demand energy performance ratio (EPRdem)	0.218
Primary consumption energy performance ratio (EPRpc)	0.013
CO ₂ -eq energy performance ratio (EPRCO ₂ -eq)	0.205
Overall building energy performance ratio (EPRnc)	0.436
% improvement over building regulations (CO2-eq)	31.75%

Assessment criteria (exemplary credits)

	Compliant?	Credits available	Credits achieved
Zero net CO ₂ -eq emissions	No	3	0
Equivalent % of additional emissions from unregulated energy that are offset by LZC sources			
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?		kWh/yr	

Assessment criteria

	Compliant?	Credits available	Credits achieved
Has a design workshop focusing on operational energy performance been carried out?	No		
Additional energy modelling to generate predicted operational energy consumption figures carried out?		4	0
Predicted energy consumption targets by end use, design assumptions and input data reported?			
Risk assessment to highlight any significant design, technical, and process risks?			

Assessment criteria (exemplary credits)

	Compliant?	Credits available	Credits achieved
Maximum credits achieved in Ene 02 Energy monitoring?	Yes	2	0
The client or building occupier commits funds to pay for the post-occupancy stage?	No		
The energy model is submitted to BRE and retained by the building owner?	No		

Total BREEAM credits achieved	4
Total contribution to overall building score	2.78%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	Excellent level

Assessor comments/notes:

This issue has changed under BREEAM 2018 - now up to 9 credits are available for an improvement of building emission rate over target emission rate as demonstrated by the BRUKL, taking into account the building's heating and cooling demand, primary energy consumption and CO2 emissions. For the purpose of this pre-assessment we have assumed that a total of 4no. credits will be achieved but this will need to be reviewed by the building services team for achievability.

There are 4 further credits available for predicting operational energy consumption prior to the end of concept design stage and undertaking additional energy modelling during the design and post construction stage to predict and report operational energy including a risk assessment. This is not currently assumed but could be considered by the M&E team.

Ene 02 Energy monitoring

No. of BREEAM credits available	2	Available contribution to overall score	1.39%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	Yes

Assessment criteria

	Compliant?	Credits available	Credits achieved
Sub-metering of end use categories	Yes	1	1
Sub-metering of high energy load and tenancy areas	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.39%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

It is assumed that energy metering systems will be installed to allow at least 90% of the estimated annual energy consumption of each fuel to be assigned to the end use category with an appropriate energy monitoring and management system. It is also assumed that high energy load areas will be sub-metered and these will be connected into the same system.

Ene 03 External lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.70%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment criteria

	Compliant?	Credits available	Credits achieved
External lighting has been designed out	No		
Is external lighting specified in accordance with the relevant criteria?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.70%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Assumed that external lighting will have a luminous efficacy of no less than 70 luminaire lumens and will be automatically controlled to prevent operation during daylight hours and for presence detection in areas of intermittent pedestrian traffic.

Ene 04 Low carbon design

No. of BREEAM credits available	3	Available contribution to overall score	2.09%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment criteria	Compliant?	Credits available	Credits achieved
Has the first credit within Hea 04 been achieved?	Yes		
Passive design analysis	Yes	1	1
Free cooling	No	1	0
Low and zero carbon technologies	No	1	0

Key Performance Indicators - Low and/or zero carbon energy generation

Total on-site and/or near-site LDC energy generation		kWh/yr
Expected energy demand and CO ₂ -eq emissions reduction resulting from passive design measures as a percentage	Energy	
		kWh/m ² yr
	CO2 emissions	
		KgCO ₂ -eq/m ² yr
Expected energy demand and CO ₂ -eq emissions reduction resulting from passive design measures as a percentage	Energy	
		%
	CO2 emissions	
		%
Expected reduction in CO ₂ -eq emissions resulting from the LDC technologies		KgCO ₂ -eq/m ² yr
Expected reduction in CO ₂ -eq emissions resulting from the LDC technologies as a percentage		%

Total BREEAM credits achieved	1
Total contribution to overall building score	0.70%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

A passive design analysis has been included within the energy statement developed for planning. This has also reviewed the LDC technologies that are available and appropriate to the site, however in order for the LDC criteria to be achieved and credit awarded, one of the technologies will need to be incorporated into the scheme. Currently, no LDC technology has been included within the current plans.

Currently the free cooling has been deemed as unachievable due to the nature of the proposed development but should be considered as the details of the scheme develop.

Ene 05 Energy efficient cold storage

Assessment issue not applicable

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

Assessment criteria	Compliant?	Credits available	Credits achieved
Refrigeration energy consumption		N/A	N/A
Indirect greenhouse gas emissions		N/A	N/A
Total BREEAM credits achieved			N/A
Total contribution to overall building score			N/A
Total BREEAM exemplary credits achieved			N/A
Minimum standard(s) level			N/A

Assessor comments/notes:

Ene 06 Energy efficient transportation systems

No. of BREEAM credits available	2	Available contribution to overall score	1.39%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	N/A

Assessment criteria

	Compliant?	Credits available	Credits achieved
Energy consumption	Yes	1	1
Energy efficient features - Lifts	Yes	1	1
Energy efficient features - Escaltors or moving walks			

Total BREEAM credits achieved	2
Total contribution to overall building score	1.39%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

The current plans show 2no. lifts within the Proposed Development. If these are to have a rated speed >0.15m/s then they are assessed and a detailed analysis of the transportation demand will need to be undertaken by the manufacturer to determine the optimum size and type of lift. The 3no. energy efficiency features outlined within the BREEAM criteria will also need to be applied.

Ene 07 Energy efficient laboratory systems**Assessment issue not applicable**

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

Assessment criteria

	Compliant?	Credits available	Credits achieved
Design specification			
Laboratory containment devices and containment areas			
Best practice energy efficient measures (table 33)			
Fume cupboard volume flow rates			
Grouping / isolation of high filtration/ventilation activities			
Energy recovery - heat			
Energy recovery - cooling			
Grouping of cooling loads			
Free cooling			
Load responsiveness			
Clean rooms			

	Diversity	
	Room air-change rates	
	Fan power	

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

Assessor comments/notes:

Ene 08 Energy efficient equipment

No. of BREEAM credits available	2	Available contribution to overall score	1.39%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment criteria	Present?	Major impact
Swimming pool present?	No	
Laundry facilities with commercial-sized appliances present?	No	
Data centre present?	Yes	No
IT-intensive operating areas present?	Yes	No
Domestic scale appliances (individual and communal facilities) present?	Yes	Yes
Healthcare equipment present?	No	
Kitchen and catering facilities present?	No	
Other contributors		

	Compliant	Credits available	Credits achieved
Significant majority contributors BREEAM compliant	Yes	2	2

Total BREEAM credits achieved	2
Total contribution to overall building score	1.39%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is assumed that the buildings unregulated energy loads will be estimated and the highest loads identified. Following this there are suggested specification measures that can be followed to allow these credits to be achieved, e.g. for domestic white goods a requirement could be set that when these are procured they will have A+ ratings under the EU Energy Efficiency Labelling Scheme, alternatively the design team can demonstrate a meaningful reduction in a different way - as long as this is sensible and robust it should be acceptable.

TRANSPORT

Tra 01 Transport assessment and travel plan

No. of BREEAM credits available	2	Available contribution to overall score	1.67%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant	Credits available	Credits achieved
Travel plan	Yes	2	2

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It's assumed that a Transport Assessment will be undertaken and a Travel Plan developed based on this during the feasibility and design stages. Up to 2 credits are available if the recommendations of the Travel Plan are implemented. Note the manual lists specific measures that should be considered within the Travel Plan in order for it to be deemed to be compliant.

Tra 02 Sustainable transport measures

No. of BREEAM credits available	10	Available contribution to overall score	8.33%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Prerequisite - Issue Tra 01 'Transport assessment and travel plan' credits achieved	Yes		
Location type (based on existing AI)	25 ≤ AI < 40 (urban centres)		
Number of points achieved overall	6	10	8

Total BREEAM credits achieved	8
Total contribution to overall building score	6.67%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is anticipated that the assessed building will have a high AI due to its central location. The number of credits achieved depends on the number of points achieved for implementing various transport measures.

It is considered likely that option 1, 3, 4, 5 and 9 will be possible for the proposed scheme which will award up to 6 credits - these are currently assumed for the purpose of this pre-assessment; however this could increase to 8 should the AI be calculated to be >40.

WATER

Wat 01 Water Consumption

No. of BREEAM credits available	5	Available contribution to overall score	3.89%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	Yes

Assessment CriteriaCompliant?Credits availableCredits achieved

Please select the calculation procedure used	Standard approach		
Credits awarded	2	5	2
Exemplary performance		1	0

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		m ³ /person/yr
Default building occupancy		

Alternative approach data

Overall microcomponent performance level achieved	
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Total BREEAM credits achieved	2
Total contribution to overall building score	1.56%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

2 credits are currently assumed as from experience this is typically achievable based on sanitary specification alone. It should be noted that the benchmarks for this issue have changed from 2014 therefore these credits will be harder to achieve but 2 credits should still be achievable without the implementation of grey water / rainwater harvesting. If these types of technologies are included for the scheme this is likely to improve credits for this area further.

Wat 02 Water Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.78%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	Yes

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Water meter on the mains water supply to each building	Yes	1	1
Sub-metering/monitoring equipment on supply to plant/building areas	Yes		
Pulsed output or other open protocol communication output and BMS connection	Yes		
The water monitoring strategy used enables the identification of all water consumption for sanitary uses as assessed under Wat 01 (L/person/day)	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.78%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

It is assumed that all metering will comply with BREEAM criteria with appropriate meters and sub meters with a pulsed output connected to any potential BMS. This would require sub-metering of any areas where the water consumption is likely to exceed >10% of the total water demand for the building - is this likely for the kitchen at ground floor?

Wat 03 Water Leak Detection and Prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.56%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Leak detection system	Yes	1	1
Flow control devices	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.56%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

Assumed that a compliant leak detection system will be installed and that flow control devices will be installed on each WC area to regulate water to WC areas or sanitary facilities - note this includes single WCs.

Wat 04 Water Efficient Equipment

No. of BREEAM credits available	1	Available contribution to overall score	0.78%
No. of BREEAM exemplary credits available	No	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Water efficient consumption	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.78%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is assumed that there will be planting included within these proposals therefore potentially this will require irrigation. No other unregulated water use is currently assumed. If the planting is irrigated via rainwater collection then this criteria could be proven therefore it is assumed but this should be considered further by the team. If the planting will be specified to not need irrigation then it may be possible to achieve this criteria by default.

MATERIALS**Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA)**

No. of BREEAM credits available	7	Available contribution to overall score	7.50%
No. of BREEAM exemplary credits available	3	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Total Mat 01 credits achieved - taken from the Mat 01/02 Results Submission Tool	2	7	2
Total Exemplary credits achieved - taken from the Mat 01/02 Results Submission Tool	0	3	0

Total BREEAM credits achieved	2
Total contribution to overall building score	2.14%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

In order to achieve any credits for this type of building compliant third party LCA software must be used to review the following areas;

Superstructure Review - The first part requires the environmental performance of the superstructure of the building to be considered during Concept Stage. To claim credits here the Concept Stage review must be submitted to the BRE at the relevant stage. Further credits are available if this is then reviewed at Technical Design stage.

Options Appraisal - further credits are available if 2 to 4 significantly different superstructure design options are considered by the team at Concept Stage, again these must be submitted to the BRE at that stage. Further credits are available if this is then reviewed at Technical Design stage. Up to 6 credits are available for the above two studies (it is not currently clear how many are associated with each option, further clarity has been sought from the BRE). Substructure & Hard Landscaping - A single credit is available if at least 6 significantly different substructure or hard landscaping design options (at least 2 of each type) are reviewed at Concept Stage. No credits are currently assumed for the purpose of this pre-assessment but it is recommended that this is reviewed by the team soon as these credits carry a high weighting. If the Stage 2 deadline is missed we understand a total of 2 credits could be achieved for undertaking LCA during technical design stage therefore this has currently been assumed.

Mat 02 Environmental impacts from construction products - Environmental Product Declarations (EPD)

No. of BREEAM credits available	1	Available contribution to overall score	1.07%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Mat 02 credit achieved - Taken from the Mat 01/02 Results Submission Tool.	0	1	0

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

Assessor comments/notes:

A single credit is available for specifying materials with an EPD (environmental product declaration) - a worst case scenario states that at least 40 products must have a relevant EPD certificate so that a score is achieved in the calculator of at least 20. It is not currently known what products will be specified, therefore this credit has not been targeted, however this should be taken into consideration as the design develops and could be written into specification documentation although achievability should be reviewed.

Mat 03 Responsible sourcing of construction products

No. of BREEAM credits available	4	Available contribution to overall score	4.29%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	Yes

Assessment Criteria

	Compliant	Credits available	Credits achieved
Prerequisite - All timber and timber based products are 'Legally harvested and traded timber'	Yes		
Has the enabling sustainable procurement credit been achieved?	Yes	1	1
Percentage of available for percentage of RSM points achieved	10.00%	3	1
Exemplary level performance		1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	2.14%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

For the purpose of this pre-assessment it is assumed that a Sustainable Procurement Plan will be in place prior to Concept Design. It is also assumed that all timber will be sourced in line with BREEAM requirements and that overall the material specifications will allow at least 10% of the responsible sourcing credits to be achieved.

Mat 05 Designing for durability and resilience

No. of BREEAM credits available	1	Available contribution to overall score	1.07%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	N/A

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Protecting vulnerable parts of the building from damage and exposed parts of the building from material degradation	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.07%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

To achieve this credit the design team must consider what design measures can be incorporated to protect vulnerable parts of the building, internally and externally. This includes protection measures for the first part of this issue i.e. kick plates, raised kerbs etc and also external parts of the building that might be subject to material degradation (BS 7543 is a default standard if no specific standard is listed for the element in question). Convenient access must also be provided to the roof and facade for cleaning, replacement and repair with specific information regarding prevention of water damage, ingress and detrimental ponding confirmed. It is currently assumed that this will be covered by the design team in order to allow this credit to be achieved.

Mat 06 Material efficiency

No. of BREEAM credits available	1	Available contribution to overall score	1.07%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

Compliant? Credits available Credits achieved

Material optimisation measures investigated and implemented at all relevant stages	No	1	0
Total BREEAM credits achieved	0		
Total contribution to overall building score	0.00%		
Total BREEAM exemplary credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

This credit has been omitted to the time constrains that have expired - is there evidence that material efficiency considerations were set earlier on?

WASTE

Wst 01 Construction Waste Management

No. of BREEAM credits available	5	Available contribution to overall score	3.00%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	Yes

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed development?	Yes		
Pre-demolition audit	Yes	1	1
Compliant Resource Management Plan	Yes	3	2
Have waste materials been sorted into separate key waste groups?	Yes	1	1
Exemplary level criteria	No		
BREEAM exemplary level benchmark		1	0

Simple Buildings - Assessment Criteria

Simple Buildings - Assessment Criteria	Compliant?	Credits available	Credits achieved
Pre-demolition audit			
Construction resource efficiency - compliant Resource Management Plan			
RMP measurements and reporting			
Diversion of resources from landfill			
Exemplary level criteria			
BREEAM exemplary level benchmark			

Key Performance Indicators - Construction Waste

Measure/units for the data being reported	m3	
Non-hazardous construction waste (excluding demolition/excavation) - fill in to award "Construction resource efficiency" credits	7.50	m3/100m2
Total non-hazardous construction waste generated	0.00	m3
Non-hazardous non-demolition construction waste diverted from landfill - fill in to award diversion from landfill credit	70.00	%
Total non-hazardous non-demolition construction waste diverted from landfill	0.00	m3
Non-hazardous demolition waste diverted from landfill - fill in to award diversion of landfill credit	85.00	%
Total non-hazardous demolition waste generated	0.00	m3
Total non-hazardous demolition waste to disposal	0.00	m3
Non-hazardous excavation waste diverted from landfill - fill in to award credit	95.00	%
Material for reuse	0.00	m3
Material for recycling	0.00	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	2.40%

Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

A pre-demolition audit must be undertaken by a competent person prior to the end of Stage 2 in order for the first credit to be awarded. For construction resource efficiency, it is assumed that at least 7.5m3 of waste will be diverted from landfill per 100m2 GIA and targets for diversion of resources from landfill for waste will also be achieved. Targets could be set within the contract documentation as part of the design stage evidence but this will then need to be backed up with a Resource Management Plan (Site Waste Management Plan) and records from the appointed Contractor later on.

Wst 02 Use of recycled and sustainably sourced aggregates

No. of BREEAM credits available	1	Available contribution to overall score	0.60%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is demolition occurring under the developer's ownership for the purpose of enabling the assessed development?	Yes		
Pre-demolition audit	Yes		
Projects Sustainable Aggregate points	0	1	0
Exemplary performance credit		1	0

Key Performance Indicators

Total quantity of aggregate		Units - tonnes
% of high - grade aggregate that is recycled/ secondary aggregate by application		%

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

Assessor comments/notes:

This credit has not currently been assumed as the source of building materials is currently not known. However, there is potential to achieve a single credit through the reuse of waste generated by the demolition of the existing building and grinding it into recycled aggregate for the Proposed Development. Other opportunities for the use of secondary aggregate should also be explored where possible.

Wst 03 Operational Waste

No. of BREEAM credits available	1	Available contribution to overall score	0.60%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Compliant recycling and non-recyclable waste storage allocated	Yes	1	1
Static waste compactor(s) or baler(s)	N/A		
Vessel(s) for composting suitable organic waste and water outlet	N/A		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.60%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	Outstanding level

Assessor comments/notes:

This requires the provision of a dedicated and clearly labelled space to deal with recyclable and general waste. The current plans show the provision of a 10.1m2 bin store.

It should be noted that should there be a consistent stream of organic waste generated then dedicated compostable waste storage should be provided with a suitable water outlet provided within its vicinity for hygiene purposes - this is considered likely given the size of the proposed ground floor kitchen.

Wst 04 Speculative finishes (Offices only)

Assessment issue not applicable

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

Assessment Criteria	Compliant?	Credits available	Credits achieved

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

Assessor comments/notes:

Wst 05 Adaptation to climate change

No. of BREEAM credits available	1	Available contribution to overall score	0.60%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Resilience of structure, fabric, building services and renewables installation	No	1	0
Exemplary level - responding to climate change	No	1	0

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

Assessor comments/notes:

These criteria has not currently been assumed as it requires a systematic risk assessment related to climate change to be undertaken by the project team. This will need to consider the impacts of flooding, storms, cold events, warmer summers etc on the building with respect to structure and fabric resilience. This should be completed prior to the end of RIBA Stage 2 which it is understood is soon for the proposed development therefore this has not been assumed currently but should be considered for further credits.

Wst 06 Design for disassembly and adaptability

No. of BREEAM credits available	2	Available contribution to overall score	0.60%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	N/A

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Design for disassembly and functional adaptability - recommendations	Yes	1	1
Disassembly and functional adaptability - implementation	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	0.60%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is assumed that a compliant Functional Adaptability Study will be undertaken at Concept Design which will develop a set of recommendations and/or solutions which will be revisited at Detailed Design. It is also assumed that a building adaptability and disassembly guide will be produced to inform future building users.

LAND USE & ECOLOGY

LE 01 Site Selection

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant?	Credits available	Credits achieved
Percentage of proposed development's footprint on previously occupied land:	100.00%	1	1
Contaminated land	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	1.00%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

The Proposed Development is to be constructed on the site of the existing centre, therefore the first credit has been assumed.

It has been assumed that the site is unlikely to be contaminated and requiring remediation, therefore until a site investigation has been undertaken to prove otherwise, the credit has been withheld.

LE 02 Identifying and understanding the risks and opportunities for the site

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Prerequisite - Assessment route selection	Route 2		
Prerequisite - The client or contractor confirms monitoring of compliance with all relevant UK and EU or international legislation	Yes		
Survey and Evaluation	Yes	2	2
Determining the ecological outcomes of the site	Yes		
Exemplary level - Determining the ecological outcomes of the site	No	1	0
Total BREEAM credits achieved	2		
Total contribution to overall building score	2.00%		
Total BREEAM exemplary credits achieved	0		
Minimum standard(s) level	N/A		

Assessor comments/notes:

To achieve this credit it is assumed that an Ecologist will be appointed ASAP to undertake a site survey and evaluation to determine the ecological baseline. The requirements are that they are appointed prior to the completion of RIBA Stage 1 but so long as they can confirm that their late appointment has not impacted on their recommendations this should be acceptable. An appropriate member of the design team should also be appointed to oversee the ecological recommendations being implemented over the course of the project.

For the second credit it is assumed that during Concept Design the project team will liaise and collaborate with relevant stakeholders (such as the client, designers, facilities manager and possibly local government organisations and local wildlife groups) to identify and consider ecological outcomes for the site. Any existing trees that are deemed by the Ecologist to be 'ecologically valuable' will need to adequately protected throughout the course of the site works.

LE 03 Managing negative impacts on ecology

No. of BREEAM credits available	3	Available contribution to overall score	3.00%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Which assessment route is being followed?	Route 2		
Prerequisite - Identification and understanding the risks and opportunities for the site	Yes		
Planning, liaison and implementation	Yes	1	1
Managing negative impacts of the project	2	2	2
Total BREEAM credits achieved	3		

Total contribution to overall building score	3.00%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

For the purpose of this pre-assessment it is assumed that the pre-requisite will be met (Le 02 will be achieved). The first credit available for Planning, Liaison, Implementation and Data is assumed (and requires action prior to the completion of Concept Design) and two credits are assumed for Route 2 whereby there is to be no loss of ecological value - this will need to be confirmed by a suitably qualified ecologist.

LE 04 Change and enhancement of ecological value

No. of BREEAM credits available	4	Available contribution to overall score	4.00%
No. of BREEAM exemplary credits available	1	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Prerequisite - Assessment route selection	Route 2		
Prerequisite - Identification and understanding the risks and opportunities for the site	Yes		
Change and enhancement of ecology (Route 1 only)		0	0
Liaison, implementation and data collation (Route 2 only)	Yes	1	1
Change and enhancement of ecology (Route 2 only)	2	3	2
Exemplary level criteria (Route 2 only)	No	1	0

Total BREEAM credits achieved	3
Total contribution to overall building score	3.00%
Total BREEAM exemplary credits achieved	0
Minimum standard(s) level	N/A

Assessor comments/notes:

For the purpose of this pre-assessment it is assumed that a suitably qualified ecologist will be involved with the scheme and their recommendations for enhancement of ecological value of the site will be implemented. It is also assumed that they will undertake a compliant calculation to quantify this enhancement that will allow at least two credits to be achieved, there are a total of three available for this element so it may be that further are achieved when the calculation is undertaken.

LE 05 Long term ecology management and maintenance

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Prerequisite - Assessment route selection	Route 2		
Prerequisite - Roles and responsibilities, implementation, statutory obligations	Yes		
Liaison, monitoring implementation, evolving management and maintenance solutions	Yes	1	1
Landscape and ecology management plan development	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%
Total BREEAM exemplary credits achieved	N/A

Minimum standard(s) level	N/A
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Assessor comments/notes:

For the purpose of this pre-assessment it is assumed that the team will review the implementation and effectiveness of ecological factors including a consideration of ongoing maintenance and monitoring and reporting of ecological outcomes of the site. It is also assumed that a compliant Landscape and Habitat Management Plan will be developed and this will include a requirement to be updated as appropriate to support maintenance of the ecological value of the site.

POLLUTION

Pol 01 Impact of refrigerants

No. of BREEAM credits available	3	Available contribution to overall score	2.00%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

Assessment Criteria	Compliant?	Credits available	Credits achieved
Refrigerant containing systems installed in the assessed building?	Yes	2	0
All systems (with electric compressors) comply with BS EN 378:2016 (parts 2 and 3) and (where applicable) Institute of Refrigeration Ammonia Refrigeration Systems code of practice?	Yes		
Total Direct Effect Life Cycle CO ₂ -eq/kW emissions from the system	2088	kgCO ₂ eq/kW heating and cooling capacity	
Global Warming Potential of the specified refrigerant(s) 10 or less?	No		

Leak Detection

Are all the systems hermetically sealed?	No	1	0
BREEAM compliant automatic refrigerant leak detection system installed and able to manage the remaining refrigerant charge	No		

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

Assessor comments/notes:

It is currently assumed that refrigerants are to be installed in conjunction with the proposed VRF system discussed in early M&E report. The most common refrigerant currently in use is R410a which has a GWP 2088. Based upon this refrigerant, it is anticipated that no credits are to be achievable based upon the GWP and DELC, the credit available for installing a compliant leak detection system is also not assumed as this is understood to be difficult to achieve.

Pol 02 Local air quality

No. of BREEAM credits available	2	Available contribution to overall score	1.33%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria

	Compliant	Credits available	Credits achieved
How many credits have been achieved?	0	2	0
Total BREEAM credits achieved	0		
Total contribution to overall building score	0.00%		
Total BREEAM exemplary credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

Based upon the current M&E proposals, all space heating and cooling demand is to be met via non-combustion means, however water demand is to be met via a gas-fired boiler. For a single credit to be awarded, the boiler must achieve NOx levels of <27 mg/kWh. However, if all heating demands were to be met via electrical sources, 2no. credit would be able to be awarded by default.

Pol 03 Flood and surface water management

No. of BREEAM credits available	5	Available contribution to overall score	3.33%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Has an appropriate consultant demonstrated and confirmed the development's compliance with all sought credits?	Yes		
Has a site-specific flood risk assessment been conducted?	Yes		
Annual probability of flooding	Low	2	2
Has the pre-requisite for the Surface Water Run-Off credits been achieved?	Yes		
Has the Surface Water Run-Off - Rate credit been achieved?	Yes	1	1
Flooding of property will not occur in the event of local drainage system failure	Yes		
Has the Surface Water Run-Off - Volume credit been achieved?	Yes	1	1
Minimising watercourse pollution	No	1	0

Total BREEAM credits achieved	4
Total contribution to overall building score	2.67%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

A preliminary review using the Environment Agency Flood Risk Map shows that the site is located in an area with a 'low' risk of flooding from all sources. This will need to be confirmed by a Suitably Qualified Professional undertaking a Flood Risk Assessment (FRA). Two credits have been assumed based on a low flood risk being confirmed.

Two further credits are available for meeting surface water run-off rate and volume requirements, based upon the current plans, it has been assumed that the impermeable area of the site is not set to increase as a result of the Proposed Plans. This will need to be confirmed but these credits are currently targeted.

The final credit available for minimising watercourse pollution is not targeted as this requires there to be no discharge from the site for rainfall up to 5mm which is often only achievable with onsite soakaways.

Pol 04 Reduction of night time light pollution

No. of BREEAM credits available	1	Available contribution to overall score	0.67%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
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External lighting has been designed out	Yes	1	1
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Total BREEAM credits achieved	1
Total contribution to overall building score	0.67%
Total BREEAM exemplary credits achieved	N/A
Minimum standard(s) level	N/A

Assessor comments/notes:

It is currently assumed that external lighting will be designed in line with the requirements of the ILP Guidance Notes for the reduction of obtrusive light (2011). Also assumed that all external lighting will be switched off automatically between 23.00 and 07.00 - this includes an advertisements or feature lighting for the building. Note there is some flexibility for security and safety lighting.

Pol 05 Reduction of noise pollution

No. of BREEAM credits available	1	Available contribution to overall score	0.67%
No. of BREEAM exemplary credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant	Credits available	Credits achieved
Noise-sensitive areas/buildings within 800m radius of the development	Yes		
Is the site compliant with all relevant criteria?	Yes	1	1
Total BREEAM credits achieved	1		
Total contribution to overall building score	0.67%		
Total BREEAM exemplary credits achieved	N/A		
Minimum standard(s) level	N/A		

Assessor comments/notes:

For the purpose of this pre-assessment it is assumed that a noise impact assessment will be undertaken by a suitably qualified acoustician and compliance will be demonstrated.

INNOVATION

Inn 01 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
Man 01 BREEAM AP - Simply Buildings only	N/A	N/A	N/A
Man 03 Responsible construction practices	Yes	1	1
Hea 01 Visual Comfort	No	2	0
Hea 02 Indoor Air Quality	No	1	0
Hea 06 Security	No	1	0
Ene 01 Reduction of energy use and carbon emissions	No	5	0
Wat 01 Water Consumption	No	1	0
Mat 01 Environmental impacts from construction products - Building LCA	No	3	0
Mat 03 Responsible Sourcing of Materials	No	1	0
Wst 01 Construction Waste Management	No	1	0

Wst 01 Construction Waste Management - Simple Buildings only	N/A	N/A	N/A
Wst02 Recycled Aggregates	No	1	0
Wst 05 Adaptation to climate change	No	1	0
LE 02 Identifying and understanding the risks and opportunities for the site	No	1	0
LE 04 Change and enhancement of ecological value (Route 2 only)	No	1	0
Pol 03 Flood and surface water management - Simply Buildings only	N/A	N/A	N/A

Number of 'approved' innovation credits achieved?	0
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Total BREEAM innovation credits achieved	1
Total contribution to overall building score	1.00%
Minimum standard(s) level	N/A

Assessor comments/notes:

A single credit has been targeted for Man03.