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The BREEAM Domestic Refurbishment

Pre-Assessment Report

Prepared for

Mr Terence Kearney

422 Upper Richmond Road West

Eco Evolution Ltd

BREEAM DOMESTIC REFURBISHMENT 2012 COMPLIANCE STATEMENT FOR RESIDENTIAL DEVELOPMENT OF

7 PLOTS

AT

422 Upper Richmond Road West
London
SW14 7JX

FOR

Mr Terence Kearney
217 Mortlake Road
Richmond
Surrey
TW9 4EW

Prepared by: T Bridgwood, Accredited BREEAM-Assessor-318

Signature:

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Date of Report: 11/012/2019

Introduction

The purpose of the document is to demonstrate the inclusions that have been specified for the development to comply with the criteria of the **BREEAM Domestic Refurbishment.**

The report summarises the relevance of each section of the **BREEAM Domestic Refurbishment** and the credits that are calculated accordingly.

The version of the **BREEAM Domestic Refurbishment** which the development has been considered against is SD5072- 2012- 1.0.2 and the criteria together with the credits scored for each section is set out over the following pages.

The final pages of the report demonstrate the accrual of the credits to show that compliance to the current version of the **BREEAM Domestic Refurbishment Very Good Rating** has been achieved however; some assumptions have been made by the assessor.

BREEAM®

Scope of BREEAM Domestic Refurbishment

The BREEAM Domestic Refurbishment 2012 Scheme can be used to assess the environmental life cycle impacts of refurbishment projects including existing dwelling undergoing refurbishment, extensions, domestic and change of use projects in the UK only.

The BREEAM rating benchmark for domestic refurbishment projects assessed using the 2012 version of BREEAM domestic refurbishment are as follows:

- Outstanding ≥ 85%
- Excellent ≥ 70%
- Very Good ≥ 55%
- Good ≥ 45%
- Good ≥ 45%
- Pass ≥ 30%

BREEAM Domestic Refurbishment consists of thirty three individual assessment issues spanning the seven environmental categories, plus an eighth category called “Innovation”, all listed below:

- Management
  Steps that have been taken to allow good management of environmental impacts in the construction and operation of the home, along with impact of the dwelling on local eco-system, biodiversity and land use.

- Heath and well being
  The effect that the dwellings design and indoor environment has on its occupants

- Energy/CO2
  Operational Energy and the resulting emissions of carbon dioxide to the atmosphere

- Water
  The consumption of potable water from the public supply systems or other ground water resources

- Materials
  The embodied environmental impacts of construction materials for key construction elements

- Waste
  Waste generated as a result of the construction process and facilities encouraging recycling of domestic waste in the home

- Pollution
  Pollution resulting from the operation of the dwelling
  The change in surface water runoff patterns as a result of the development

- Innovation
  Innovation within the construction and refurbishment industry through the recognition of sustainability related to benefits which are not awarded by standard BREEAM issues.

In each of these categories, performance targets are proposed which are in excess of the minimum needed to satisfy Building Regulations, but are considered to be sound best practice, technically feasible, and within the capability of the building industry to supply.

In addition to the mandatory requirements, each design category scores a number of percentage points. The total number of percentage points establishes the rating for the dwelling. Formal assessment of dwellings using the BREEAM Domestic Refurbishment 2012 may only be carried out using licensed and registered individuals, who are qualified 'competent persons' for the purpose of carrying out Refurbishment assessments. Training, registration and licensing of these individuals is carried out by the Building Research Establishment according to a UKAS registered 'competent persons scheme' and under ISO 14001 and ISO 9001. BRE also carry out quality assurance of the assessments and issue certificates on behalf of Communities and Local Government.

Report Analysis

MANAGEMENT

Man 01 Home user guide
To encourage and reward provision of guidance enabling occupants to understand and operate their home efficiently and make the best use of local facilities.

Credits available 3
Credits achieved 3

This dwelling will be provided with a home user guide which includes information suitable with the criteria of The BREEAM Domestic Refurbishment which is to include information on following subjects;
Environmental strategy/ design and features, Energy, Water Use, Recycling and Waste
Sustainable DIY, Emergency Information (Smoke detectors), Links, References and Further Information,
And also
Statement of provision of information in alternative formats, Recycling and waste, public transport and local amenities, responsible purchasing, emergency information (hospitals, fire, ambulance etc), Links references and further information

Man 02 Considerate Constructors scheme
To recognise and encourage construction sites managed in an environmentally and socially considerate and accountable manner.

Credits available 2
Credits achieved 0

This credit is not being sought.

Man 03 Construction site impacts
To recognise and encourage construction sites managed in a manner that mitigates environmental impacts.

Credits available 1
Credits achieved 1

Where there are procedures that cover 2 or more of the following items;

Monitor and report CO_2 or energy arising from site activities;
Monitor and report CO_2 or energy arising from transport to and from site;
Monitor and report on water consumption from site activities;
Adopt best practice policies in respect of air (dust) pollution arising from the site;
Adopt best practice policies in respect of water (ground and surface) pollution occurring on the site.
80% of site timber is reclaimed, reused or responsibly sourced.

Man 04 Security
To encourage the design of developments where people feel safe and secure; where crime and disorder, or the fear of crime, does not undermine quality of life or community cohesion.

Credits available 2
Credits achieved 2

All the external door sets to meet the required security standard PAS 24-1 and the external windows to achieve the minimum security standard BS7950.
An Architectural Liaison Officer (ALO) will be consulted at the design stage and their recommendations will be incorporated into the refurbishment.

Man 05 Protection & Enhancement of Ecological features
To protect existing ecological features from substantial damage during the clearing of the site and the completion of construction works.

Credits available 1
Credits achieved 0

The inclusion of a Registered Ecological Consultant and the implementation of their recommendations would be necessary for the compliance of this credit; in addition the Ecological features of the site (if present) must be protected during the construction phase which is in accordance with the standards set in BS 5837.

Exemplary Credits
Credits available 1
A suitable qualified ecologist reccommends features to enhance ecology of the site:
Adopts all general ecology recomendations
Adopts 30% of additional recomendations.

Man 06 Project Management
To ensure delivery of a functional refurbishment, designed and built in accordance with performance expectations.

Credits available	2
Credits achieved	2

1st credit: where all the project team are involved in the project decision making and the project manager assigns responsibilities amongst the project team.
2nd credit: A site inspection within 3 months of occupation along with longer term after care for at least 12 months of occupation.

HEALTH AND WELLBEING

Hea 01 Daylighting
To improve the quality of life in homes through good daylighting and to reduce the need for energy to light the home.

Credits available 2
Credits achieved 1

Fist credit: The extention does not reduce lighting levels in the kitchen, living room, dining room and study.

Second credit: The dwelling achieves the minimum daylight levels in the Kichen, living room, dining room and study.

Hea 02 Sound Insulation
To ensure the provision of improved sound insulation to reduce the likelihood of noise complaints from neighbours.

Credits available 4
Credits achieved 2

Where existing separting walls and floors are designed to meet the requirements of Building Regulations with compliant construction details.

Hea 03 Volatile Organic Compounds
To recognise and encourage a healthy internal environment through the specification of the internal finishes and fittings with low emissions of volatile organic compounds (VOC`S)

Credits available 1
Credits achieved 1

Where all decorative paints & varnishes used in the refurbishment have met the requirement and where five of the eight remaining product categories listed have met the testing requirements & emission levels for VOC`S and these are specified within the refurbishment.

Hea 04 Inclusive Design (Excellent Rating)-Mandatory compliance in this section
Adopting an Inclusive design approach to optimise the accessibility of the home and its future adaptability to cope with changing needs of a household, such as old age,frailty,a short or long-term disability or a debilitating illness.

Credits available 2
Credits achieved 1

Where an access expert has completed an access statement which demonstrates reasonably provision to provide accessibility to the dwelling covering section 1 & 2 checklist A8 in accordance with CN3 & CN4.

Hea 05 Ventilation (Excellent Rating)-Mandatory compliance in this section
To recognise and encourage a healthy internal environment through the provision and appropriate ventilation levels to provide fresh air and avoid problems associated with the build up of pollutants and humidity levels without excessive heat loss.

Credits available 2
Credits achieved 2

Ventilation is provided for the dwelling that meets the requirements Section 5 of the Building Regulations Part F in all.

Hea 06 Safety
To reduce the risk to life, health and property resulting from fire and exposure to carbon monoxide.

Credits available 1
Credits achieved 1

Where a compliant fire detection and fire alarm system is provided in accordance with compliance notes 2-8.

ENERGY

Ene 01 Improvement in Energy Efficiency Rating
To recognise and encourage a reduction in CO_2 emissions through the improved energy efficiency of the dwelling and its services as a result of the refurbishment.

Credits available 6
Credits achieved 1

The following targets will be met in Energy Efficiency Rating as a result of refurbishment of (kWh/m^2/year) ≤ 9.

Ene 02 Energy Efficiency Rating Post Refurbishment (Excellent Rating)-Mandatory compliance in this section
To encourage high levels Energy Efficiency in the refurbished dwelling, thus reducing CO_2 emissions, running costs and fuel poverty.

Credits available 4
Credits Achieved 2.5

As a result of the refurbishment each dwelling will meet a minimum Energy Efficiency Rating of (kWh/m^2/year) ≤ 78 is required for Excellent Rating.

Ene 03 Primary Energy Demand
To encourage the reduction in absolute total regulated energy demand of a dwelling as a result of the refurbishment, thus reducing CO_2 emissions, running costs and fuel poverty.

Credits available 7
Credits Achieved 0.5

As a result of the refurbishment the dwelling will meet a minimum Primary Energy Demand target of (kWh/m^2/year) ≤ 400.

Ene 04 Renewable Technologies
To reduce carbon emissions and atmospheric pollution by encouraging local energy generation from renewable sources to supply a significant proportion of the energy demand.

Credits available 2
Credits achieved 2

Photovoltaics have been specified for this development, which are classed as a renewable energy source and the SAPS show an average of 20% of the primary energy demand will come from this energy source.

Ene 05 Energy labelled white goods
To encourage the provision or purchase of energy efficient white goods, thus reducing the CO_2 emissions from the dwelling.

Credits available 2
Credits achieved 1

1 credit- Fridges, freezers and **fridge/freezers** must have an **A+** rating under the EU Energy Efficiency Labelling Scheme.

And for the additional 1 credit:
Washing machines and **dishwashers** must have an **A** rating under the EU Energy Efficiency Labelling Scheme.
Plus
Washer dryers and **tumble dryers** must have a **B** rating under the EU Energy Efficiency Labelling Scheme.

OR
EU Energy Efficiency Labelling Scheme information leaflet to be provided to the occupants.

Ene 06 Drying space
To minimise the amount of energy used to dry clothes.

Credits available 1
Credits achieved 1

Each dwelling will have either an external or an internal drying line facility.
The drying line length will be – a minimum 4 metres in length.

External measures	Mounted hooks for line to be added
	Rotary Dryer
Internal measures	Pullout clothes dryer over bath e.g. 'Minky' (www.minky.co.uk)

Ene 07 Lighting
To encourage the provision of energy efficient lighting, thus reducing CO_2 emissions associated with the dwelling.

Credits available 2
Credits achieved 2

External Lighting
All external space lighting, including lighting in internal communal areas is provided by dedicated energy efficient fittings. It will have efficacy greater than 40 lumens per circuit watt. It will be switched by Photocell and by internal switching to prevent it activating when not required.

Internal Lighting
Where the energy required for internal lighting is minimised through the provision of a maximum average wattage across the total floor area of the dwelling of 9 watts/$m^{2.}$

Ene 08 Energy Display Devices
To promote the specification of equipment to display energy consumption data, thus empowering dwelling occupants to reduce energy use.

Credits available 2
Credits achieved 2

The current electricity and primary heating fuel consumption data will be displayed to occupants by a correctly specified energy display device

Exemplary Credit
The Energy display device must be capable of recording consumption data.

Credits achieved 1

Ene 09 Cycle Storage
To encourage the wider use of bicycles as transport by providing adequate and secure cycle storage facilities, thus reducing the need for short car journeys.

Credits available 2
Credits achieved 2

1 bedroom dwellings-storage for 1 cycle of which the cycle storage will be adequate, safe, secure, convenient and weather proof.

Ene 10 Home Office Space
To reduce the need to commute to work by providing residents with the necessary space and services to be able to work from home.

Credits available 1
Credits achieved 1

A home office facility shall have an area which can be utilised for a home office space should it be required. It shall include; 2no double electrical sockets; 2 telephone points (1 active, other wired to BT entry point but not connected) in addition to the specified sockets for the room; Window with daylight factor of 1.5%, 1.8m wall space & adequate ventilation (opening window etc).

WATER

Wat 1 Internal potable water use (Excellent Rating)-Mandatory compliance in this section

To reduce the consumption of potable water in the home.

Credits available 3
Credits achieved 3

It is mandatory that BREEAM Excellent Rating can only be achieved by limiting water use to 117 litres per person per day, and this can be achieved by a typical specification of follows:

- 4 / 2.6 litre dual flush toilets (water from the rainwater harvesting used to flush toilets)
- 6l/min wash hand basin taps
- 8l/min flow rate shower
- No bath installed
- 6l/min kitchen sink
- standard dish washer*
- standard washing machine*
- no outside tap fitted

BREEAM compliance 94.7 litres/person/day

* These items will not necessarily be supplied but need to be included within the assessment.

Wat 02 External Water use

To encourage the recycling of rainwater and reduce the amount of mains potable water used in landscape / garden watering.

Credits available 1
Credits achieved 1

Where a compliant rainwater collection system for external/internal irrigation use has been provide to the dwelling.

Wat 03 Water Meter

To encourage the provision of the equipment to measure water consumption of dwelling occupants, thereby encouraging them to reduce water use.

Credits available 1
Credits achieved 1

Where an appropriate water meter for measuring usage of mains portable water has been provided to the dwelling in accordance with CN1 or CN2.

MATERIALS

Mat 1 Environmental impact of materials

To encourage the retention and enhancement of existing elements and where new materials are required the use of materials with lower environmental impacts over their lifecycle whilst optimising the thermal performance of key building elements.

Credits available 25
Credits achieved 10

Credits are awarded according to the impact of new materials according to their Green Guide Rating and their impact on improving the thermal performance of the dwelling for the following elements:

1. Roof
2. External Walls
3. Internal Walls
4. Ground Floor
5. Upper Floor
6. Windows

Mat 02 Responsible sourcing of materials (Excellent Rating)-Mandatory compliance in this section

To recognise and encourage the reuse of materials and the specification of responsibly sourced materials for use where required in the refurbishment process.

Credits available 12
Credits achieved 8

Where the applicable new materials for refurnished building elements are assigned a responsible sourcing tier level, therefore all suppliers used must have an environmentally accredited supply chain (FSC/PEFC/ISO14001/Accredited EMS)

Mat 03 Insulation

To recognise and encourage the use of thermal insulation which has a low embodied environmental impact relative to its thermal properties and has been responsible sourced.

Credits available 8
Credits achieved 8

Any new insulation specified for use within the following building elements must be assessed:

1. External Walls
3. Ground Floor
5. Roof
6. Building Services

Where the insulation index for new insulation used in the building is ≥2 and 80% of the new thermal insulation used in the building elements is responsible sourced.

WASTE

Was 1 Household Waste Storage and Recycling Facilities

To recognise the importance of having adequate internal and external storage space for waste to enable its appropriate management.

Credits available 2
Credits achieved 2

Credits are awarded for the provision of storage space for household and recycling waste.

The local Authority/recycling schemes, containers should not be sacked to ensure ease of access and use, which are accessible to wheelchair users.

In addition to the above three internal recycling bins should be provided and should have a total minimum capacity of 30Litres, these should be labelled and placed in a dedicated position.

Was 2 Construction site waste management plan

To recognise the importance a Site Waste Management Plan has on the efficient use of resources during construction and demolition, and to promote the reduction and effective management of site waste.

Credits available 3
Credits achieved 3

An appropriately structured Level 2 Site waste management plan shall be prepared and implemented to monitor target and reduce waste generated on site in accordance with CN2 & CN8.

POLLUTION

Pol 01 Nitrogen Oxide Emissions

To reduce the emission of nitrogen oxides (NO_x) into the atmosphere.

Credits available 3
Credits achieved 3

Credits are awarded on the basis of NOx emissions arising from the operation of space heating and hot water systems for the refurbished dwelling.

The NO_X emissions arising from the operation of space and hot water systems will not exceed 40mg/kWh.

Pol 02 Surface water runoff

To reduce and delay water run-off from the hard surfaces of a housing development to public sewers and watercourses, thus reducing the risk of localised flooding, pollution and other environmental damage.

Credits available 3
Credits achieved 0

The new dewings will be build onto a previously permeable area , therefore a this will have a neuteral impact on the surface water.

Pol 03 Flood risk- (Excellent Rating)-Mandatory compliance in this section

To encourage developments in areas with low risk of flooding or if developments are to be situated in areas with a medium risk of flooding, that appropriate measures are taken to reduce the impact in an eventual case of flooding.

Credits available 2
Credits achieved 2

Where a Flood Risk Assessment has been carried out and the assessed dwelling is defined as having a low annual probability of flooding.

INNOVATION

Inn 01 Innovation

To support innovation within the construction and refurbishment industry through the recognition of sustainability related to benefits which are not awarded by standard BREEAM issues.

Credits available 10
Credits achieved 1

The following is required to demonstrate compliance:

Where the building demonstrates exemplary performance by meeting defined exemplary level performance criteria in one or more of the following BREEAM assessment issues:

a. Ene 2 Energy Efficiency Rating (2 credits available)
b. Ene 8 Display Energy Devices (1 credit available)
c. Wat 1 Internal Water Use (1 credit available)
d. Was 2 Refurbishment Site Waste Management (1 credit available)
e. Pol 2 Surface Water Run-Off (1 credit available)
f. Man 2 Responsible Construction Practices (1 credit available)
g. Man 5 Protection and Enhancement of Ecological Value (1 credit available)
h. Man 6 Project Management (2 credits available)
i. Hea 4 Inclusive Design (1 credit available)

One Innovative credit can be awarded for each innovation application approved by the BRE Global, where the building complies with the criteria defined within an Approved Innovative application form.

BREEAM Domestic Refurbishment 2012 Pre-Assessment Estimator v0.4

BREEAM

This assessment and indicative BREEAM rating is not a formal certified BREEAM assessment or rating and must not be communicated as such. The score presented is indicative of a dwelling's potential performance and is based on a simplified pre-formal BREEAM assessment and unverified commitments given at an early stage in the design process.

Building name	422 Upper Richmond Road West
Indicative building score (%)	70.88%
Indicative BREEAM rating	BREEAM Excellent
Indicative Minimum Standards level achieved	BREEAM Excellent

Management | Health & Wellbeing | Energy | Water | Materials | Waste | Pollution

INNOVATION

Section Weighting: 10% | Indicative Section Score: 1.00%

Comments

MANAGEMENT

Section Weighting: 12% | Indicative Section Score: 8.73%

Man 01 Home Users Guide

No. of BREEAM credits available	3	Available contribution to overall score	3.27%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where a Home Users Guide be provided to all dwellings, covering all issues set out in the 'Users Guide Contents list', three credits may be awarded

Indicative Credits Achieved
3

Comments

Man 02 Responsible Construction Practices

No. of BREEAM credits available	2	Available contribution to overall score	2.18%
No. of BREEAM innovation credits	1	Minimum Standards applicable	No

Assessment Criteria

Where a compliant considerate construction scheme will be used, credits are awarded depending the score achieved as outlined below:

Indicative Credits Achieved
0

Large Scale - project with more than 5 units

	One Credit	Two Credits
Considerate Constructors Scheme	Score of 24 - 31.5	Score of 32 - 35.5
Alternative Compliant Scheme	Compliance	Beyond Compliance

Small Scale - project with 5 units or fewer

	One Credit	Two Credits
Considerate Constructors Scheme	24 - 31.5	32 - 35.5
Alternative Compliant Scheme	Compliance	Beyond Compliance
Checklist A-4	50% of the optional items	80% of the optional items

Exemplary Credit

Considerate Constructors Scheme	Score of >36
Alternative Compliant Scheme	Exemplary Level Compliance
Checklist A-4*	All Items (Optional & Mandatory)

* Small Scale Project Only

Indicative Innovation Credits Achieved
0

Comments

Man 03 Construction Site Impacts

No. of BREEAM credits available	1	Available contribution to overall score	1.09%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where evidence demonstrate that site impacts will be monitored, as detailed below:

Indicative Credits Achieved
1

Requirements

	One Credit
Large Scale	Where there is evidence to demonstrate that **2 or more** of the sections in **Checklist A-5** are completed
Small Scale	Where there is evidence to demonstrate that **2 or more** of the sections in **Checklist A-6** are completed

Sections of Checklist	
Large Scale - Checklist A-5	**Small Scale - Checklist A-6**
Monitor, report and set targets for CO2 production of energy use arising from site activities	Set objectives for reducing CO2 production from energy use arising from site activities
Monitor, report and set targets for water consumption arising from site activities	Set objectives for reducing water use arising from site activities
A main contractor with an environmental materials policy	Main contractor environmental materials statement
A main contractor that operates an Environmental Management System	80% of site timber is reclaimed, re-used or responsibly sourced
80% of site timber is reclaimed, re-used or responsibly sourced	

Same definition of small and large scale as in Man 02

Comments

Man 04 Security

No. of BREEAM credits available	2	Available contribution to overall score	2.18%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where the following requirements will be met:

Indicative Credits Achieved
2

Requirements

One Credit Secure windows and doors	External doors and accessible windows meet minimum standards and appropriately certified
Two Credits Secured by design	Principles and guidance of Secured by Design Section 2 are complied with
	A suitably qualified security consultant is consulted at the design stage and their recommendations are incorporated into the refurbishment

Comments

Man 05 Protection and Enhancement of Ecological Features

No. of BREEAM credits available	1	Available contribution to overall score	1.09%
No. of BREEAM innovation credits	1	Minimum Standards applicable	No

Assessment Criteria

Where the following requirements will be met:

Indicative Credits Achieved
0

Requirements

One Credit Protecting Ecological Features	Site survey carried out to determine presence of ecological features
	Statutory Nature Conservation Organisation notified of protected species
	Features of ecological value protected during refurbishment works

Requirements

Exemplary Credit Ecological enhancement	A suitably qualified ecologist recommends features to enhance ecology of the site	**Indicative Innovation Credits Achieved**
	adopts all general ecological recommendations	0
	adopts 30% of additional recommendations	

Comments

Man 06 Project Management			
No. of BREEAM credits available	2	Available contribution to overall score	2.18%
No. of BREEAM innovation credits	2	Minimum Standards applicable	No

Assessment Criteria

Where the following requirements will be met:

Indicative Credits Achieved
2

	Requirements
One Credit Project Roles and Responsibilities	Where all of the project team are involved in the project decision making **Small Scale** - the project manager assigns individual and shared responsibilities amongst the project team including all trades on site **Large Scale** - the project manager assigns individual and shared responsibilities across the following key design and refurbishment stages: i. Planning and Building control notification ii. Design iii. Refurbishment iv. Commissioning and handover v. Occupation

Small Scale projects: five units or fewer or less than £100k

Large Scale projects: more than five units or more than £100k

	Requirements
One Credit Handover and Aftercare	Handover meeting arranged 2 or more of the following committed to: - A site inspection within 3 months of occupation - Conduct post occupancy interviews with building occupants or a survey via phone or posted information within 3 months of occupation - Longer term after care e.g. a helpline, nominated individual or other appropriate system to support building users for at least the first 12 months of occupation

Exemplary Credits

Indicative Credits Achieved
0

	Requirements
One Exemplary Credit Early Design Input	Where A BREEAM Accredited Professional has been appointed to oversee key stages within the project. OR Where a BREEAM Domestic Refurbishment Assessor has been appointed at an early stage of the project, prior to the production of a refurbishment specification

	Requirements
One Exemplary Credit Thermographic Surveying and Airtightness Testing	Where Thermographic surveying and Airtightness testing have been carried out at both pre and post refurbishment stages Where an improved air tightness target has been set at design stage and testing demonstrates that this has been achieved post refurbishment

Comments

HEALTH & WELLBEING

Section Weighting: 17% | Indicative Section Score: 11.33%

Hea 01 Daylighting

No. of BREEAM credits available	2	Available contribution to overall score	2.83%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where the refurbishment results in a neutral impact on daylighting or where minimum daylighting standards are met, up to two credits may be awarded as follows:

Indicative Credits Achieved
1

For Existing Dwellings and Change of Use Projects

First Credit Maintaining Good Daylighting	The refurbishment results in a neutral impact on the dwellings daylighting levels in the kitchen, living room, dining room and study

Where the property is being extended

First Credit Maintaining Good Daylighting	New spaces achieve minimum daylighting levels
	The extension does not reduce daylighting levels in the kitchen, living room, dining room or study of neighbouring properties

For All Properties

Second Credit Minimum Daylighting	The dwelling achieves minimum daylighting levels in the kitchen, living room, dining room and study

Comments

Hea 02 Sound Insulation

No. of BREEAM credits available	4	Available contribution to overall score	5.67%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

To ensure the provision of acceptable sound insulation standards and so minimise the likelihood of noise complaints.

Indicative Credits Achieved
2

Properties where sound testing has been carried out:

Up to Four Credits	Four credits awarded according to the improvement over building regulations. See table in additional information in Technical Manual

Properties where sound testing is not feasible and not required by the appointed Building Control body

Two Credits	Where existing separating walls and floors are designed to meet the requirements of Building Regulations with compliant construction details
Up to Four Credits	Where a Suitably Qualified Acoustician (SQA) provides recommendations for the specification of all existing separating walls and floors
	SQA confirms in their professional opinion that they have the potential to meet or exceed the sound insulation credit requirements
	Where these recommendations are implemented
	See table in additional information in Technical Manual

Historic Buildings

Up to Four Credits	Where the dwelling is a Historic Building and sound testing results demonstrate existing separating walls and floor meet the Historic Building credit requirements
	See table in additional information in Technical Manual

Detached Properties

Four Credits	By Default

Properties with separating walls or floors only between non habitable rooms OR Testing not required by building control body

Four Credits	By Default

Comments

Hea 03 Volatile Organic Compounds

No. of BREEAM credits available	1	Available contribution to overall score	1.42%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where the refurbishment avoids the use of VOCs with new products meeting the following requirements:

Indicative Credits Achieved
1

One Credit Avoiding the use of VOCs	Where all decorative paints and varnishes used in the refurbishment have met the requirement listed in table 5.4 in the Technical Manual
	Where at least five of the eight remaining product categories listed in table 5.4 have met the testing requirements and emission levels for Volatile Organic Compound (VOC) emissions against the relevant standards identified within table 5.4 in the Technical Manual
	Where five or less products are specified within the refurbishment, all must meet the requirements in order to achieve this credit.

Comments

Hea 04 Inclusive Design

No. of BREEAM credits available	2	Available contribution to overall score	2.83%
No. of BREEAM innovation credits	1	Minimum Standards applicable	No

Assessment Criteria

Where an access statement has been carried out using Checklist A-8 of the Technical Manual to optimise the accessibility of the home as follows:

Indicative Credits Achieved
1

	Checklist A-8 of the Technical Manual	
	Section 1	Section 2
One Credit Minimum Accessibility	Completed with Evidence	
Two Credits Advanced Accessibility	Completed with Evidence	Completed with Evidence

Exemplary Performance

Indicative Innovation Credits Achieved
0

One Credit	Where an access expert suitably qualified member of the design team has completed sections 1, 2 and 3 of Checklist A-8, access statement template with evidence provided of the measures implemented in the refurbishment

Comments

Hea 05 Ventilation

No. of BREEAM credits available	2	Available contribution to overall score	2.83%
No. of BREEAM innovation credits	0	Minimum Standards applicable	Yes

Assessment Criteria

Where the dwelling meets the following ventilation requirements:

Indicative Credits Achieved
2

One Credit Minimum Ventilation Requirements	A minimum level of background ventilation is provided (with trickle ventilators or other means of ventilation) for all habitable rooms, kitchens, utility rooms and bathrooms compliant with section 7, Building Regulations Approved Document Part F, 2010
	A minimum level of extract ventilation is provided in all wet rooms (e.g. kitchen, utility and bath-rooms), compliant with section 5, Building Regulations Approved Document Part F 2010.
	A minimum level of purge ventilation is provided in all habitable rooms and wet rooms, compliant with section 7, Building Regulations Approved Document Part F, 2010. It is an historic building and meets historic building requirements in CN4 of the technical manual

Two Credits Advanced Requirements	Ventilation is provided for the dwelling that meets the requirements of Section 5 of Building Regulations Part F in full
	Where the building is a historic building and meets the requirements for Historic Buildings in compliance note 4 of the technical manual

Comments

Hea 06 Safety			
No. of BREEAM credits available	1	Available contribution to overall score	1.42%
No. of BREEAM innovation credits	0	Minimum Standards applicable	Yes

Assessment Criteria

Where a fire and carbon monoxide (CO) detection and alarm system is specified as follows:

Indicative Credits Achieved
1

One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems	Carbon Monoxide detector installed if dwelling is supplied with mains gas or other fossil fuel
	Where a compliant fire detection and fire alarm system is provided
	Mains supplied fire detection and alarm system if project involves re-wiring
	Battery operated fire detection and alarm system if no re-wiring is to take place

Comments

ENERGY

Section Weighting: 43% | Indicative Section Score 25.21%

Ene 01 Improvement in Energy Efficiency Rating			
No. of BREEAM credits available	6	Available contribution to overall score	8.90%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where the following targets are met for the improvement in Energy Efficiency Rating achieved as a result of refurbishment:

Indicative Credits Achieved
1

Improvement in EER	Credits
≥ 5	0.5
≥ 9	1
≥ 13	1.5
≥ 17	2
≥ 21	2.5
≥ 26	3
≥ 31	3.5
≥ 36	4
≥ 42	4.5
≥ 48	5
≥ 54	5.5
≥ 60	6

Comments

Ene 02 Energy Efficiency Rating Post Refurbishment			
No. of BREEAM credits available	4	Available contribution to overall score	5.93%
No. of BREEAM innovation credits	2	Minimum Standards applicable	Yes

Assessment Criteria

Where the following Energy Efficiency Rating benchmarks will be met as a result of refurbishment:

Indicative Credits Achieved
2.5

EER post refurbishment	Credits	Minimum requirements
≥50	0.5	'Pass' level EER of 50
≥55	1	'Good' level EER of 58
≥60	1.5	
≥65	2	'Very Good level' EER of 65
≥70	2.5	'Excellent' level EER of 70
≥75	3	
≥80	3.5	'Outstanding' level EER of 81
≥85	4	

Exemplary	Credits
≥90	1
≥100	2

Indicative Innovation Credits Achieved
0

Comments

Ene 03 Primary energy demand

No. of BREEAM credits available	7	Available contribution to overall score	10.38%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Indicative Credits Achieved
2.5

Where the following Primary Energy Demand benchmarks will be met as a result of refurbishment:

Primary Energy Demand Post Refurbishment (kWh/m^2/year)	Credits
≤ 400	0.5
≤ 370	1
≤ 340	1.5
≤ 320	2
≤ 300	2.5
≤ 280	3
≤ 260	3.5
≤ 240	4
≤ 220	4.5
≤ 200	5
≤ 180	5.5
≤ 160	6
≤ 140	6.5
≤ 120	7

Comments

Ene 04 Renewable Technologies

No. of BREEAM credits available	2	Available contribution to overall score	2.97%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where the dwelling will meet the following % contribution from renewables and primary energy demand targets as a result of refurbishment

Indicative Credits Achieved
2

Dwelling Type	Primary Energy Demand	Percentage from Renewables	
		1 Credit	2 Credits
Detached	≤ 250 kWh/m^2/year	≥10%	≥20%
Semi-Detached		≥10%	≥20%
Bungalow		≥10%	≥20%
End of Terrace		≥10%	≥20%
Mid Terrace	≤ 220 kWh/m^2/year	≥10%	≥20%
Low Rise Flat		≥10%	≥20%
Mid Rise Flat		≥10%	≥15%
High Rise Flat		≥10%	≥15%

Comments

Ene 05 Energy Labelled White Goods

No. of BREEAM credits available	2	Available contribution to overall score	2.97%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where Energy Efficiency White goods are to be provided as follows:

Indicative Credits Achieved
1

First Credit

Appliance	Appliance provided	Appliance not to be provided
Fridges, Freezers and Fridge-Freezers	Energy Saving Trust Recommended appliances specified	EU Energy Efficiency Labelling Scheme Information Leaflet provided to all dwellings

Second Credit

Appliance	Appliance provided	Appliance not to be provided
Washing Machines and Dishwashers	Energy Saving Trust Recommended appliances specified	Second credit not achieved
Washer-Dryers and Tumble Dryers	Appliances specified with B Rating under EU Energy Efficiency Labelling Scheme	EU Energy Efficiency Labelling Scheme Information Leaflet provided to all dwellings

Comments

Ene 06 Drying Space

No. of BREEAM credits available	1	Available contribution to overall score	1.48%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where adequate, secure internal or external space with posts and footings or fixings is provided with the following:

Indicative Credits Achieved
1

1 Credit

Number of bedrooms	Drying line required
1-2	4m+
3+	6m+

Comments

Ene 07 Lighting

No. of BREEAM credits available	2	Available contribution to overall score	2.97%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where energy efficient internal and external lighting is provided as follows:

Indicative Credits Achieved
2

External Lighting - 1 Credit

Energy Efficient Space Lighting and Energy Efficient Security Lighting OR
Where Energy Efficient Space Lighting is provided ONLY

Internal Lighting - 1 Credit

Maximum average wattage across the total floor area of the dwelling of 9 watts/m2

Comments

Ene 08 Display Energy Devices

No. of BREEAM credits available	2	Available contribution to overall score	2.97%
No. of BREEAM innovation credits	1	Minimum Standards applicable	No

Assessment Criteria

Where consumption data is displayed to occupants by a compliant energy display device

Indicative Credits Achieved
2

Electricity usage data displayed	Primary Heating Fuel	
	Electricity	Other
Electricity usage data displayed	2 credits awarded	1 credit awarded
Primary Heating Fuel usage data displayed	N/A	1 credit awarded
Electricity & Primary Heating Fuel usage displayed	N/A	2 credits awarded

Exemplary Credits

		Indicative Innovation Credits Achieved
One credit Recording consumption data	Where any compliant Energy Display Device is capable of recording consumption data	1

Comments

Ene 09 Cycle Storage

No. of BREEAM credits available	2	Available contribution to overall score	2.97%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where individual or communal compliant cycle storage is provided as follows:

Indicative Credits Achieved
2

Dwelling Size	One Credit	Two Credits
Studios/ 1 bedroom	1 per two dwellings	1 per dwelling
2-3 bedrooms	1 per dwelling	2 per dwelling
4 bedrooms	2 per dwelling	4 per dwelling

Comments

Ene 10 Home Office

No. of BREEAM credits available	1	Available contribution to overall score	1.48%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation

Indicative Credits Achieved
1

Comments

WATER

Section Weighting: 11% | Indicative Section Score 11.00%

Wat 01 Internal Water Use

No. of BREEAM credits available	3	Available contribution to overall score	6.60%
No. of BREEAM innovation credits	1	Minimum Standards applicable	Yes

Assessment Criteria

Where the dwellings water consumption meets the following consumption benchmarks, or where terminal fittings meet the following water consumption standards:

Indicative Credits Achieved
3

Calculated Water Consumption (litres/person/day)	Equivalent terminal fitting standards	Minimum Standard	Credits
>150	Typical baseline performance	N/A	0
140-150	All showers specified to 'Good' **OR** All taps and WC's to 'Good' **OR** Kitchen fittings specified to 'Excellent'	N/A	0.5
129-139	All showers specified to 'Excellent' **OR** All showers and bathroom taps to 'Good'	BREEAM Very Good	1
118-128	All bathroom and WC room fittings specified to 'Good' **OR** All bathroom fittings specified to 'Excellent'	N/A	1.5
107-117	All Bathroom and WC room fittings specified to 'Excellent' **OR** All Bathroom fittings Specified to 'Excellent' and WC room fitting specified to 'Good' **OR** All Bathroom fittings, kitchen and utility sittings specified to 'Good'	BREEAM Excellent	2
96-106	All kitchen, bathroom, utility room and WC room fittings specified to 'Good' **OR** All bathrooms, kitchens and utility rooms specified to 'Excellent'	N/A	2.5
<95	All bathroom fittings specified to 'Excellent' and WC room, kitchen and utility room fittings specified to 'Good'	BREEAM Outstanding	3

NOTE: 'Good' fittings are equivalent to good practice fittings with "Excellent" fittings equivalent to best practice fittings (see the technical manual for full details.

Exemplary Credit	If the water consumption is less than 80l/person/day

Indicative Innovation Credits Achieved
0

Comments

Wat 02 External Water Use

No. of BREEAM credits available	1	Available contribution to overall score	2.20%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where the following requirements will be met:

Indicative Credits Achieved
1

	Requirements:
One Credit	Where a compliant rainwater collection system for external/internal irrigation use has been provided to dwellings. **OR** Where dwellings have no individual or communal garden space.

Comments

Wat 03 Water Meter			
No. of BREEAM credits available	1	Available contribution to overall score	2.20%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where an appropriate water meter for measuring usage of mains potable water meter has been provided to dwelling(s), one credit may be awarded

Indicative Credits Achieved
1

Comments

MATERIALS

Section Weighting: 8% | Indicative Section Score 4.62%

Mat 01 Environmental Impact of Materials			
No. of BREEAM credits available	25	Available contribution to overall score	4.44%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Up to 25 credits can be awarded, with credits calculated using the Mat 01 calculator tool. The table below shows the maximum number of credits available for each element:

Indicative Credits Achieved
10

Elements	Green Guide Rating credits available	Thermal performance credits available*
Roof	5	3
External walls	5	3.8
Internal walls (including separating walls)	5	-
Upper and Ground Floor	5	1.2
Windows	5	2

The full 25 credits represents all of the elements containing refurbished or existing materials that meet the Green Guide Rating of A+(6)

GG Rating	Points for existing / refurbished elements	Points for new elements
A+ (6)	5	
A+ (5)	4.6	
A+ (4)	4.2	
A+ (3)	3.8	
A+ (2)	3.4	
A+	3	3
A	2	2
B	1	1
C	0.5	0.5
D	0.25	0.25
E	0	0

Where the full 25 credits cannot be achieved the score can be 'topped up' with thermal performance credits. The full number of thermal performance credits for each element can be achieved when achieving the minimum U-values shown below.

Elements	Minimum U-Value (W/m2K)
Roof	0.11
External walls	0.15
Internal walls (including separating walls)	-
Upper and Ground Floor	0.15
Windows	1.4

Comments

Mat 02 Responsible Sourcing of Materials

No. of BREEAM credits available	12	Available contribution to overall score	2.13%
No. of BREEAM innovation credits	0	Minimum Standards applicable	Yes

Assessment Criteria

Indicative Credits Achieved
8

Where new materials are responsibly sourced, up to 12 credits may be awarded where 80% of new materials for an element are responsibly sourced. The credits achieved are dependent on % of point achieved which is based upon the responsible sourcing tier level of each material sourced as detailed below:

Table 1

Tier level	Points
1	4
2	3.5
3	3
4	2.5
5	2
6	1.5
7	1
8	0

Table 2

BREEAM credits	% of available points achieved
12	≥54%
10	≥45%
8	≥36%
6	≥ 27%
4	≥ 18%
2	≥ 9%

Will all new timber used in the project be sourced in accordance with the UK Government's Timber Procurement Policy
Yes

Comments

Mat 03 Insulation

No. of BREEAM credits available	8	Available contribution to overall score	1.42%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where any new insulation specified for use within external walls, ground floor, roof and buildings services meet the following requirements:

Indicative Credits Achieved
8

	Requirements
4 Credits	Where the Insulation Index for new insulation used in the buildings is ≥2
	Where Green Guide ratings are determined using the Green Guide to specification tool

	Requirements
4 Credits	Where ≥ 80% of the new thermal insulation used in the building elements is responsibly sourced.

Comments

WASTE	Section Weighting: 3%	Indicative Section Score	3.00%

Was 01 Household Waste

No. of BREEAM credits available	2	Available contribution to overall score	1.20%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where compliant recycling and composting facilities are provided, up to two credits may be awarded as follows

Indicative Credits Achieved
2

First Credit - Recycling Facilities	
Scenario	**Internal recycling storage requirements**
Compliant collection scheme in place	3 internal recycling containers provided where recycling is not sorted post collection
	1 internal recycling container provided where recycling is sorted post collection
	Minimum 30 litre total capacity, no single container less than 7 litre capacity
	Dedicated position in accordance with compliance note 1
No compliant collection scheme in place No adequate external storage	3 internal recycling containers provided
	Minimum 60 litre total capacity
	Dedicated position in accordance with compliance note 1
No compliant collection scheme in place Adequate external storage provided	3 internal recycling containers provided
	Minimum 30 litre total capacity, no single container smaller than 7 litre capacity
	Dedicated position in accordance with compliance note 1

Second credit - Composting facilities	
With external space	**Without external space**
Where a composting service or facility is provided for green/garden waste	Where a composting service or facility is provided for kitchen waste
Where a composting service or facility is provided for kitchen waste	Where an interior container is provided for kitchen composting waste of at least
Where an interior container is provided for kitchen composting waste of at least 7 litres	

Comments

Was 02	Refurbishment Site Waste Management			
No. of BREEAM credits available	3	Available contribution to overall score	1.80%	
No. of BREEAM innovation credits	1	Minimum Standards applicable	No	

Assessment Criteria

Up to three credits are available depending on the site waste management plan to be implemented as follows

Indicative Credits Achieved
3

Projects up to £100k

		Indicative Innovation Credits Achieved
Three Credits	Where waste generated through the refurbishment process is managed in accordance with Checklist A-9	
Exemplary Credit	Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place	

Projects up to £300k

Three Credits	Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place
Exemplary Credit	Where a compliant Level 2; Site Waste Management Plan (SWMP) is in place
	Non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the resource efficiency benchmark
	The percentage of non-hazardous construction waste and demolition waste generated by the project has been diverted from landfill and meets or exceeds the refurbishment & demolition waste diversion benchmarks

Projects over £300k

First Credit Management Plan	Where a compliant Level 2; Site Waste Management Plan (SWMP) is in place
Second Credit Good Practice Waste Benchmarks	First credit achieved
	Non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the resource efficiency benchmark
	Amount of waste generated against £100,000 of project value is recorded in the SWMP
	Pre-refurbishment audit of the existing building is completed
	If demolition is included as part of the refurbishment programme, then the audit should also cover demolition materials
Third Credit Best Practice Waste Benchmarks	Where the first two credits have been achieved achieved
	Where Non-hazardous demolition waste generated by the dwellings refurbishment meets or exceeds the refurbishment & demolition waste diversion benchmarks
Exemplary Credit	Where non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the *exemplary level resource efficiency benchmark*
	Where Non-hazardous demolition waste generated by the dwellings refurbishment meets or exceeds the exemplary level diversion benchmarks

Comments

POLLUTION

Section Weighting: 6% | Indicative Section Score 6.00%

Pol 01 NOx Emissions

No. of BREEAM credits available	3	Available contribution to overall score	2.25%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Credits are awarded on the basis of NOx emissions arising from the operation of space heating and hot water systems for each refurbished dwelling as follows:

Indicative Credits Achieved
3

	Dry NOx Emissions
One Credit	≤100 mg/kWh (NOx class 4 boiler)
Two Credits	≤70 mg/kWh (NOx class 5 boiler)
Three Credits	≤40 mg/kWh

Comments

Pol 02 Surface Water Runoff

No. of BREEAM credits available	3	Available contribution to overall score	2.25%
No. of BREEAM innovation credits	1	Minimum Standards applicable	No

Assessment Criteria

Where impacts of the refurbishment on surface water runoff are neutralised or where runoff is reduced as a result of refurbishment, up to three credits can be awarded as follows:

Indicative Credits Achieved
3

	Requirements
First Credit Neutral Impact on Surface Water	New hard standing areas must be permeable
	If building on to previously permeable area additional run-off must be managed on site
	Calculations should be carried out by an appropriately qualified professional

	Requirements
Second Credit Reducing Run-Off From Site: Basic	Where all run-off from the roof for rainfall depths up to 5 mm, have been managed on site using source control methods
	Include runoff from all existing and new parts of the roof.
	An appropriately qualified professional should be used to design an appropriate drainage strategy for the site

	Requirements
Third Credit Reducing Run-Off From Site: Advanced	Where run-off as a result of the refurbishment is managed on site using source control
	An appropriately qualified professional should be used to design an appropriate drainage strategy for the site.
	The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event has been reduced by 75% from the existing site.
	The total volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration has been reduced by 75%.
	An allowance for climate change must be included for all of the above calculations, in accordance with current best practice (PPS25, 2010).

	Requirements	Indicative Credits Achieved
Exemplary Credit	Where all run-off from the developed site is managed on site using source control	0
	The peak rate of run-off as a result of the refurbishment for the 1 in 1 year event is reduced to zero.	
	The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event is reduced to zero.	
	There is no volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration.	
	An allowance for climate change must be included for all of the above calculations, in accordance with current best practice (PPS25, 2010).	

Comments

Pol 03	Flooding			
No. of BREEAM credits available	2	Available contribution to overall score	1.50%	
No. of BREEAM innovation credits	0	Minimum Standards applicable	Yes	

Assessment Criteria

Indicative Credits Achieved
2

Where the dwelling is located in a low flood risk zone, or where in a medium to high flood risk zone and a flood resilience/resistance strategy has been implemented, up to two credits can be awarded as follows:

Minimum Standards	A minimum of two credits must be achieved for this issue at the Excellent and Outstanding levels

Option 1 - Low Flood Risk

Two Credits	Where a Flood Risk Assessment (FRA) has been carried out and the assessed dwellings are defined as having a low annual probability of flooding.

Option 2 - Medium / High Flood Risk

Two Credits	Where a Flood Risk Assessment (FRA) has been carried out and the assessed dwellings are defined as having a medium or high annual probability of flooding.
	Two credits are awarded where as a result of the dwellings floor level or measures to keep water away the dwelling is defined as achieving avoidance from flooding by following Checklist A-10; Decision Strategy Flow Chart.
	Where avoidance is not possible, two credits are achieved where a full flood resilience/resistance strategy is implemented for the dwellings in accordance with recommendations made by a Suitably Qualified Building Professional

Comments