

BREEAM DOMESTIC REFURBISHMENT PRE- ASSESSMENT

41 London
Street, London,
RG1 4PS

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PREPARED BY
G. Reed (Licensed BREEAM Assessor)

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Executive Summary

This report sets out how the development will address seven key environmental concerns and sustainability issues listed in the BREEAM Domestic Refurbishment Assessment Tool to achieve a “Very Good” rating, in line with the requirements of the local planning authority and the Decision Notice.

For refurbishment and change of use in general, meeting a level of Very Good (for large scale refurbishment) is a suitable standard, as the tool has been designed for this type of project. The BREEAM Domestic Refurbishment Buildings Technical manual - 2012 SD5072:1.0.2 states that, the tool is a whole house assessment methodology. It further states “for some extension projects, it may not be appropriate to assess the scheme where no improvements are being made to the existing dwelling as a whole”.

The proposed conversion of the existing building to 7 flats will only meet the requirements of “Very Good” rating if major improvements are made to the existing building. The existing building has a basement, Ground Floor, First Floor and Second Floor. 1 flat on the Ground floor and basement, and 7 rooms as House of multiple occupancy on First and Second Floor. The Flat has a separate entrance to the House of multiple occupancy.

The purpose of the strategy outlined in this report is to determine which credits can be achieved in order to get a “Very Good” BREEAM rating.

Proposal

The proposal is for the conversion of an existing building. The existing building has a basement, Ground Floor, First Floor and Second Floor. 1 flat on the Ground floor and basement, and 7 rooms as House of multiple occupancy on First and Second Floor. The Flat has a separate entrance to the House of multiple occupancy.

The works are mainly consisting of internal works, and the building structure remains as existing.

Minimum Requirements for BDR

“Very Good” Rating

- 1. Ene2 – Energy Efficiency rating Post Refurbishment:** 2 credits are mandatory for Very Good, and this will mean achieving a post refurbishment energy rating score of 65.
 - 2. Wat 1- Internal Water Use:** Calculated Water consumption of 129-139l/p/d or all new showers specified to 6l/min or all new showers specified to 8l/min and bathroom taps specified at 4.5l/min.
 - 3. Hea 5- Ventilation:** A minimum level of background ventilation must be provided (with trickle ventilation or other ventilation) for all habitable rooms, kitchens, utility rooms and bathrooms. A minimum level of extract ventilation with heat recovery must be provided in wet rooms (e.g. kitchens, utility and bathrooms) which comply with Building Regulations Approved Document Part F. A minimum level of purge ventilation is provided in habitable rooms and wet rooms.
 - 4. Hea 6 - Safety:** A compliant fire detection fire alarm system must be provided in accordance with BREEAM requirements. Where the building is supplied with mains gas or where any other form of fossil fuel is used within the building e.g. coal, a compliant fire and carbon monoxide detector and alarm system must be provided in accordance with BREEAM requirements.
 - 5. Mat: Environmental Impacts of Materials:** Criterion 3 only: All new timber used in the project must be sourced in accordance with the UK Government's Timber Policy Procurement Policy.
 - 6. Waste Target: 80% of Unweighted Credits:** In order to achieve 80% 4 out of 5 Credits must be achieved within waste section.
 - Was 1 – Household Waste : Compliant Recycling Facilities Compliant Composting Facilities
 - Refurbishment Site Waste- Projects less than £100k, waste generated through refurbishment process must be managed in accordance with Checklist A-9 and Projects over £300k a compliant Level 1 Site Waste Management Plan is in place. Non – hazardous demolition waste generated as a result of the refurbishment must meet or exceed the refurbishment and demolition waste diversion benchmarks in accordance with CN8
 - 7. Wat 1- Internal Water Use-** Calculated Water consumption of 129-139litres/person/day.
-

Assessment Methodology

The following section provides a summary of the BREEAM Domestic Refurbishment Assessment framework.

What is BREEAM?

BREEAM (Building Research Establishment's Environmental Assessment Method) is considered to be the world's leading and most widely used environmental assessment method for buildings, with over 115,000 buildings certified and nearly 700,000 registered. It was developed by the Building Research Establishment to set the standard for best practice in sustainable design and has become the nationally accepted measure used to describe environmental performance.

A BREEAM assessment uses nationally recognised measures of performance, which are set against well-established benchmarks, to evaluate environmental specification, design, and construction and use. The measures used cover a broad range of categories and criteria from energy to ecology.

The BREEAM Domestic Refurbishment Scheme is a sustainability appraisal designed to assess the environmental life cycle impact of refurbishment projects including existing dwellings undergoing refurbishment, extensions, domestic conversions and change of use projects.

Domestic refurbishment is classified under two categories:

- Alterations to existing dwellings and extensions.
- Domestic conversions and change of use projects.

The primary aim of the scheme is to improve the environmental performance and sustainability of existing dwellings in a robust and cost effective way. It identifies eight categories of environmental concerns and sustainable design.

- Energy
- Health and Wellbeing
- Water
- Waste
- Materials
- Management
- Pollution
- Innovation

There are nine minimum standards for the following Issues;

- Safety
 - Energy efficiency rating post refurbishment
 - Internal water use
 - Responsible sourcing of materials
 - Flooding
-

The ratings benchmark is as follows:

Table 3: BDR Rating Scores

BREEAM Rating	% Score
Outstanding	>85
Excellent	>70
Very Good	>55
Good	>45
Pass	>30
Unclassified	<30

Advantages of Meeting the BREEAM standards

1. Reduced Maintenance Costs.
2. Reduced Greenhouse gases.
3. Reduced impact on the environment.
4. Provide affordable warmth.
5. Healthy and comfortable internal environment.
6. Improved Sustainability credentials.
7. Increased level of occupant satisfaction.
8. Outperforms open market housing in terms of energy demand, increased sale-ability.
9. Demonstrates forward thinking and environmental awareness on the part of the developers and housing providers.

Table 4: Minimum BREEAM Domestic Refurbishment Standards

BREEAM ISSUE	PASS	GOOD	VERY GOOD	EXCELLENT	OUTSTANDING
Ene 02 Energy Efficiency Rating post Construction	0.5	1.0	2.0	2.5	3.5
Wat 01 Internal Water Use	-	-	1 Credit	2 Credits	3 Credits
Hea 05 Ventilation	1 Credit	1 Credit	1 Credit	1 Credit	1 Credit
Hea06 Safety	1 Credit	1Credit	1Credit	1Credit	1 Credit
Pol 03	-	-	-	2 Credits	2 Credits

Flooding					
Mat 02 Responsible Sourcing of Materials	Criteria 3 only	Criteria 3 only	Criteria 3 only	Criteria 3 only	Criteria 3 only

In addition to the seven areas above, Innovation Credits are available. These are worth 10% (1% each for up to 10 credits) and are achieved on top of the 100% assessment weighting. These are

- Ene 2 - Energy Efficiency Rating (2 credits available) Ene 8 - Display Energy Devices (1 credit available)
- Wat 1 - Internal Water Use (1 credit available)
- Was 2 - Refurbishment Site Waste Management (1credit available)
- Pol 2 - Surface Water Run-off (1 credit available)
- Man 2 - Responsible Construction Practice (1 credit available)
- Man 5 - Protection and Enhancement of Ecological Value (1 credit available)
- Man 6 - Project Management (2 credits available)
- Hea 4 - Inclusive Design (1 credit available).

BREEAM DOMESTIC REFURBISHMENT ASSESSMENT SCORES

Issue	Notes	Available Credits	Credits Achieved
Management			
Man 01	Home Users Guide. Home users guide will be provided covering all issues set out in the User's Guide contents list.	3	3
Man 02	Responsible Construction Practices. Considerate Construction Scheme will be used, target score of over 32. 50% of optional items Checklist A-4.	2	2
Man 03	Construction Site impacts. Measures will be in place to monitor 2 or more site impacts detailed in Check list A6	1	1
Man 04	Security. Principles and guidance of Secure by Design Section 2 and their recommendations will be followed. External doors and accessible windows will meet minimum standards.	2	0
Man 05	Protection and Enhancement of Ecological Features	1	0
Man 06	Project Management: Project team will be involved in the project decision making and the project manager will assign roles and responsibilities.	2	2
Total		11	8
Health and Wellbeing			
Hea 01	Daylighting	2	1

Issue	Notes	Available Credits	Credits Achieved
Hea 02	Sound Insulation A Suitably Qualified Acoustician (SQA) will be appointed to provide recommendations for the specification of all existing separating walls and floors.	4	2
Hea 03	Volatile Organic Compounds The use of VOCs will be avoided by sourcing suitable certified finished products.	1	1
Hea 04	Inclusive Design	2	0
Hea 05	Ventilation The dwelling will meet the minimum ventilation requirements	2	1
Hea 06	Safety Fire and Carbon Monoxide Detection and Alarm System will be incorporated.	1	1
Total		12	5

Energy

Ene 01	Improvement in Energy Efficiency Rating	6	4
Ene 02	Energy Efficiency Rating Post Refurbishment	4	3
Ene 03	Primary Energy Demand Calculations have been undertaken and a primary energy demand of 280kWh/sqm/year have been achieved.	7	5
Ene 04	Renewable Technologies (Low and Zero Carbon Technologies).	2	0
Ene 05	Energy labeled White Goods	2	2
Ene 06	Drying Space No credits sought	1	1
Ene 07	Lighting Energy efficient internal and external lighting will be provided with the average wattage across the project will be less than 9 watts/m2	2	2
Ene 08	Display Energy Devices Energy display devices will be installed within the dwelling to enable occupants monitor energy usage. Devise will be capable of recording consumption data.	2	2
Ene 09	Cycle Storage	2	1
Ene 10	Home Office Room available with adequate ventilation, 2 power sockets, telephone points and access to broadband for use as office.	1	1
Total		29	21

Water

Wat 01	Internal Water Use Dwelling will achieve less than 139 litres/person/day.	3	2
Wat 02	External Water Use	1	1

Issue	Notes	Available Credits	Credits Achieved
Wat 03	Water meter- Standard Water meter to be installed	1	1
Total		5	4

Materials

Mat 01	Environmental Impact of Materials The project will achieve high U- values for Roof, Walls and Windows.	25	8
Mat 02	Responsible sourcing of Materials EMS/FCS certificates for new materials- responsible sourcing. All new timber used in the project will be in accordance with UK Government's Timber Procurement Policy.	15	4
Mat 03	Insulation New insulation used will meet Green Guide ratings for walls, floor etc. 80% of thermal insulation used will be responsibly sourced.	8	2
Total		48	14

Waste

Wat 01	Household Waste Compliant recycling and composting facilities will be in place.	2	2
Wat 02	Refurbishment Site Waste Management A compliant Site waste management plan will be in place.	3	3
Total		5	5

Pollution

Pol 01	Nitrogen Oxide Emissions The project will incorporate a Class 5 boiler.	3	3
Pol 02	Surface Water Runoff	3	0
Pol 03	Flooding	2	2
Total		8	5

Innovation

Inn 01	MAN – BREEAM AP Appointed to work on scheme	10	1
Total		10	1

41 London Street RG1 4PS, London

BREEAM Scores Summary

BREEAM UK Domestic Refurbishment 2014 Pre-Assessment Estimator v0.1: Results Summary

BREEAM® UK

Building name	41 London Street, London, RG1 4PS
Indicative Building Score	66.64%
Indicative Building Rating	BREEAM Very Good

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.

	Issue	Credits Available	Indicative Credits Achieved	Weighting	Section Score
Management	Man 01	3	3	12%	8.73%
	Man 02	2	2		
	Man 03	1	1		
	Man 04	2	0		
	Man 05	1	0		
	Man 06	2	2		

Health and Wellbeing	Hea 01	2	1	17%	8.50%
	Hea 02	4	2		
	Hea 03	1	1		
	Hea 04	2	0		
	Hea 05	2	1		
	Hea 06	1	1		

Energy	Ene 01	6	4	43%	31.14%
	Ene 02	4	3		
	Ene 03	7	5		
	Ene 04	2	0		
	Ene 05	2	2		
	Ene 06	1	1		
	Ene 07	2	2		
	Ene 08	2	2		
	Ene 09	2	1		
	Ene 10	1	1		

Water	Wat 01	3	2	11%	8.80%
	Wat 02	1	1		
	Wat 03	1	1		

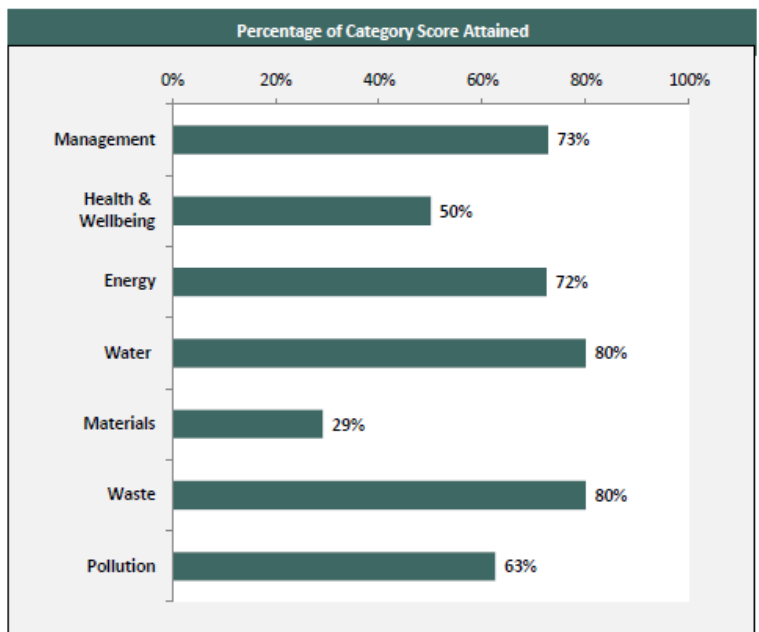
Materials	Mat 01	25	8	8%	2.33%
	Mat 02	15	2		
	Mat 03	8	4		

Waste	Was 01	2	2	3%	2.40%
	Was 02	3	2		

Pollution	Pol 01	3	3	6%	3.75%
	Pol 02	3	0		
	Pol 02	2	2		

Innovation	10	1	N/A	1.00%
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	Minimum Standards				
	Pass	Good	Very Good	Excellent	Outstanding
Ene 02	✓	✓	✓	✓	✗
Wat 01	✓	✓	✓	✓	✗
Hea 05	✓	✓	✓	✓	✓
Hea 06	✓	✓	✓	✓	✓
Pol 03	✓	✓	✓	✓	✓
Mat 02	✓	✓	✓	✓	✓



Conclusion

Following the Preliminary Assessment, the project will score **66.64%**, Very Good Rating under BREEAM Domestic Refurbishment Assessment subject to the recommendations being carried out.

PRE-ASSESSMENT ESTIMATOR

BREEAM UK Domestic Refurbishment 2014 Pre-Assessment Estimator v0.1



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		41 London Street, London, RG1 4PS	Minimum Standards				
Indicative building score (%)		66.64%	Pass	Good	Very Good	Excellent	Outstanding
Indicative BREEAM rating		BREEAM Very Good					
Management	Health & Wellbeing	Energy	Water	Materials	Waste	Pollution	
Ene 02	Wat 01	Hea 05	Hea 06	Pol 03	Mat 02		
✓	✓	✓	✓	✓	✓	✓	✗
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓

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: 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	No

Assessment Criteria

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

Large Scale - project with more than 5 units

	One Credit	Two Credits
Considerate Constructors Scheme	Score of 25-34 with a score of 5 in each section	Score of 35-39 with a score of 7 in each section
Alternative Compliant Scheme	Compliance	Beyond Compliance

Small Scale - project with 5 units or fewer

	One Credit	Two Credits
Considerate Constructors Scheme	Score of 25-34 with a score of 5 in each section	Score of 35-39 with a score of 7 in each section
Alternative Compliant Scheme	Compliance	Beyond Compliance
Checklist A-3	50% of the optional items	80% of the optional items

Exemplary Credit

Considerate Constructors Scheme	Score of 40 or more with a score of 7 in each section
Alternative Compliant Scheme	Exemplary Level Compliance
Checklist A-3*	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:

	One Credit
Large Scale	Where there is evidence to demonstrate that 2 or more of the sections in Checklist A-4 are completed
Small Scale	Where there is evidence to demonstrate that 2 or more of the sections in Checklist A-5 are completed

Sections of Checklist	
Large Scale - Checklist A-4	Small Scale - Checklist A-5
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			Indicative Credits
Where the following requirements will be met:			0
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			Indicative Credits
Where the following requirements will be met:			0
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		
Exemplary Credit Ecological enhancement	A suitably qualified ecologist recommends features to enhance ecology of the site		Indicative Innovation Credits Achieved 0
	adopts all general ecological recommendations		
	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			Indicative Credits
Where the following requirements will be met:			2
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 and less than £100k		Large Scale projects: more than five units and more than £100k	
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 Innovation Credits Achieved 1
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		
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 8.50%	
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				Indicative Credits	
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:				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 significantly 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				Indicative Credits	
To ensure the provision of acceptable sound insulation standards and so minimise the likelihood of noise complaints.				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			
		Where sound testing is not feasible and not required by the appointed Building Control body meeting criteria 2 and 3 using Table 12			
		Properties where sound testing has been carried out, credits awarded according to the improvement over building regulations. See table in additional information in Technical Manual			
		Where the dwelling is a detached property			
		Where the dwelling is a property with separating walls or floors only between non habitable rooms OR Testing not required by building control body			
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				Indicative Credits	
Where the refurbishment avoids the use of VOCs with new products meeting the following requirements:				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			Indicative Credits																										
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:			0																										
<table border="1"> <thead> <tr> <th colspan="3">Checklist A-8 of the Technical Manual</th> </tr> <tr> <th></th> <th>Section 1</th> <th>Section 2</th> </tr> </thead> <tbody> <tr> <td>One Credit</td> <td>Completed with Evidence</td> <td></td> </tr> <tr> <td>Minimum Accessibility</td> <td></td> <td></td> </tr> <tr> <td>Two Credits</td> <td>Completed with Evidence</td> <td>Completed with Evidence</td> </tr> <tr> <td>Advanced Accessibility</td> <td></td> <td></td> </tr> </tbody> </table>				Checklist A-8 of the Technical Manual				Section 1	Section 2	One Credit	Completed with Evidence		Minimum Accessibility			Two Credits	Completed with Evidence	Completed with Evidence	Advanced Accessibility										
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Two Credits	Completed with Evidence	Completed with Evidence																											
Advanced Accessibility																													
Exemplary Performance			Indicative Innovation Credits Achieved																										
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		0																										
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			Indicative Credits																										
Where the dwelling meets the following ventilation requirements:			1																										
<table border="1"> <tbody> <tr> <td rowspan="4">One Credit Minimum Ventilation Requirements</td> <td>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</td> </tr> <tr> <td>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.</td> </tr> <tr> <td>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.</td> </tr> <tr> <td>It is an historic building and meets historic building requirements in CN4 of the technical manual</td> </tr> <tr> <td rowspan="2">Two Credits Advanced Requirements</td> <td>Ventilation is provided for the dwelling that meets the requirements of Section 5 of Building Regulations Part F in full</td> </tr> <tr> <td>Where the building is a historic building and meets the requirements for Historic Buildings in compliance note 4 of the technical manual</td> </tr> </tbody> </table>				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																		
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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			Indicative Credits																										
Where a fire and carbon monoxide (CO) detection and alarm system is specified as follows:			1																										
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* see CN9 in Hea 06 for the definition of re-wiring																													
Comments																													
ENERGY Section Weighting: 43% Indicative Section Score 31.14%																													
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			Indicative Credits																										
Where the following targets are met for the improvement in Energy Efficiency Rating achieved as a result of refurbishment:			4																										
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≥ 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				Indicative Credits
Where the following Energy Efficiency Rating benchmarks will be met as a result of refurbishment:				3
	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		Indicative Innovation Credits Achieved
	≥90	1		0
	≥100	2		
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
Where the following Primary Energy Demand benchmarks will be met as a result of refurbishment:				5
	Primary Energy Demand Post Refurbishment	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				Indicative Credits
Where the dwelling will meet the following % contribution from renewables and primary energy demand targets as a result of refurbishment				0
	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		≥10%	≥20%
	Low Rise Flat	≤ 220 kWh/m ² /year	≥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				Indicative Credits
Where Energy Efficiency White goods are to be provided as follows:				2
First Credit				
	Appliance	Appliance provided	Appliance not to be provided	
	Fridges, Freezers and Fridge-Freezers	A+ Rating under EU Energy Efficiency Labelling Scheme	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	Washing Machine A++ under EU Energy Efficiency Labelling Scheme AND Dishwasher A+ under EU Energy Efficiency Labelling Scheme	Second credit not achieved	
	Washer-Dryers and Tumble Dryers	Appliances specified with A 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				Indicative Credits
Where adequate, secure internal or external space with posts and footings is provided with the following:				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				Indicative Credits
Where energy efficient internal and external lighting is provided as follows:				2
External Lighting - 1				
Energy Efficient Space Lighting of more than 45 lumens per circuit watt and Energy Efficient Security Lighting OR				
Where Energy Efficient Space Lighting is provided ONLY				
Internal Lighting - 1				
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				Indicative Credits
Where consumption data is displayed to occupants by a compliant energy display device				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				
One credit		Where the first two credits are achieved		
Recording consumption data		Where any compliant Energy Display Device is capable of recording consumption data		
				Indicative Innovation Credits Achieved
				0
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				Indicative Credits
Where individual or communal compliant cycle storage is provided as follows:				1
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				Indicative Credits
Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation				1
Comments				

WATER		Section Weighting: 11%		Indicative Section Score 8.80%	
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				Indicative Credits	
Where the dwellings water consumption meets the following consumption benchmarks, or where terminal fittings meet the following water consumption standards:				2	
Calculated Water Consumption (litres/person/day)	Equivalent terminal fitting standards	Minimum Standard	Credits		
>150	Typical baseline performance	N/A	0		
from 140 to ≤ 150	All showers specified to 'Good' OR All taps and WC's to 'Good' OR Kitchen fittings specified to 'Excellent'	N/A	0.5		
from 129 to < 140	All showers specified to 'Excellent' OR All showers and bathroom taps to 'Good'	BREEAM Very Good	1		
from 118 to < 129	All bathroom and WC room fittings specified to 'Good' OR All bathroom fittings specified to 'Excellent'	N/A	1.5		
from 107 to < 118	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		
from 96 to < 107	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		
< 96	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				Indicative Credits	
Where the following requirements will be met:				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				Indicative Credits	
Where an appropriate water meter for measuring usage of mains potable water meter has been provided to dwelling(s), one credit may be awarded				1	
Comments					
MATERIALS		Section Weighting: 8%		Indicative Section Score 2.33%	
Mat 01 Environmental Impact of Materials					
No. of BREEAM credits available	25	Available contribution to overall score	4.16%		
No. of BREEAM innovation credits	0	Minimum Standards applicable	No		
Assessment Criteria				Indicative Credits	
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:				8	
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			

	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	15	Available contribution to overall score	2.50%																	
No. of BREEAM innovation credits	0	Minimum Standards applicable	Yes																	
Assessment Criteria			Indicative Credits																	
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:			2																	
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Comments																				
Mat 03 Insulation																				
No. of BREEAM credits available	8	Available contribution to overall score	1.33%																	
No. of BREEAM innovation credits	0	Minimum Standards applicable	No																	
Assessment Criteria			Indicative Credits																	
Where any new insulation specified for use within external walls, ground floor, roof and buildings services meet the following requirements:			4																	
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WASTE Section Weighting: 3% Indicative Section Score 2.40%																				
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			Indicative Credits																	
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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			Indicative Credits																	
Up to three credits are available depending on the site waste management plan to be implemented as follows			2																	
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Indicative Innovation Credits Achieved			0																	

Exemplary Credit	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
Third Credit Best Practice Waste Benchmarks	If demolition is included as part of the refurbishment programme, then the audit should also cover demolition materials
	Where the first two credits have been achieved
Exemplary Credit	Where Non-hazardous demolition waste generated by the dwellings refurbishment meets or exceeds the refurbishment & demolition waste diversion benchmarks
	Where non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the <i>exemplary level resource efficiency benchmark</i>
Comments	

POLLUTION		Section Weighting: 6%		Indicative Section Score 3.75%																																
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				Indicative Credits																																
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:				3																																
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Pol 02 Surface Water Runoff																																				
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No. of BREEAM innovation credits	1	Minimum Standards applicable	No																																	
Assessment Criteria				Indicative Credits																																
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:				0																																
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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																																
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:				2																																
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																																				
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		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																																		
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