

BREEAM Domestic Refurbishment Scheme

Pre-Assessment Report for 533-535 OXFORD ROAD

READING

RG30 1HJ

Ref: BREEAM/PLAN/BHATTI

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Prepared for: MCS DESIGN Architectural Services

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1.0 Introduction

SAUD AHMAD AND ASSOCIATES has been commissioned by M C S DESIGN Architectural Services to produce a BREEAM Domestic Refurbishment Scheme pre-assessment report on the proposed conversion of the first floor into 3 self-contained flats at 533-535 Oxford Road, Reading, RG30 1HJ.

The purpose of this pre-assessment report is to show how the site in question could achieve an 'Excellent' under the BREEAM Domestic Refurbishment 2014 rating.

BREEAM Domestic Refurbishment is a comprehensive tool for analysing and improving the environmental performance of domestic refurbishments from design through to management. This method analyses the environmental performance against criteria set by BRE, awarding 'credits' based on the building's individual performance.

The predicted score within this report is subject to change throughout the course of this project, should relevant criteria not be met or should further credits become achievable.

It should be noted that this is not a formal BREEAM assessment and will not be submitted to BRE for certification purposes.

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1.0 BREEAM Domestic Refurbishment Overview

BREEAM Domestic Refurbishment 2014 is a part of the BREEAM family of environmental assessment methods (BRE's Environmental Assessment Method) and is a voluntary scheme that aims to quantify and reduce the environmental burdens of domestic refurbishments by rewarding those designs that take positive steps to minimise their environmental impact and operational costs. The scheme also helps planners, regulators and asset managers to set standards for refurbishment, and provides a market-focused label for more sustainable and higher quality refurbishments.

BREEAM Domestic Refurbishment uses a standard set of criteria applicable to the following types of domestic refurbishment:

- ☐ Existing domestic dwellings undergoing refurbishment
- ☐ Change of use projects from non-domestic to domestic
- ☐ Extensions to domestic dwellings

Projects are assessed using a system of credits. The credits are awarded for the different issues that are grouped within the following categories:

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

Within each category there are a number of credit requirements that reflect the options available to designers and managers of buildings. Credits are awarded where evidence has been provided to confirm that the specific requirements have been met. The number of credits within each of the above categories does not reflect the relative importance of these issues; this is given by the weighting factors applied by the methodology.

The overall classification of the building's performance is given as a rating; 'Unclassified', 'Pass', 'Good', 'Very Good', 'Excellent' and 'Outstanding'.

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2.1 Scoring and Rating Overview

BREEAM Domestic Refurbishment 2014 covers nine environmental categories and within each category there are a number of individual assessment issues. Each issue addresses a specific building related environmental impact or issue and has a number of 'credits' assigned to it. 'BREEAM credits' are awarded where a building demonstrates that it meets the best practice performance levels defined for that issue.

The number of 'credits' available for an individual assessment issue will vary and generally the higher the number there are for a given issue, the more important that issue is in terms of mitigating its impact. In most cases, where there are multiple 'credits' available, the number awarded is based on a sliding scale or benchmark, where progressively higher standards of building performance are rewarded with a higher number of 'credits'.

Within each issue category, credits are awarded where evidence has been provided to confirm the specific requirements have been met. A score for each category is calculated based on the percentage of credits awarded within that category. An environmental weighting is applied to each category score to reflect the relative environmental importance of the category. These 'weighted' scores are then combined to give an overall single percentage score.

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The final BREEAM rating is awarded based on this overall score as follows:

BREEAM Domestic Refurbishment Rating	Percentage Score
Unclassified	<30%
Pass	≥30%
Good	≥45%
Very Good	≥55%
Excellent	≥70%
Outstanding	≥85%

Table 2.1 BREEAM Rating Benchmarks

Table 2.2 below, outlines the environmental weightings that are adopted in each section to convert awarded credits into an overall percentage score:

BREEAM Domestic Refurbishment Category	Category Weighting
Management	12%
Health and Wellbeing	17%
Energy	43%
Water	11%
Materials	8%
Waste	3%
Pollution	6%
Innovation	10%

Table 2.2 BREEAM Category Weightings

In order to achieve a particular BREEAM Domestic Refurbishment rating, the minimum percentage score must be achieved (Table 2.1) and minimum standards applicable to that rating level as detailed in the Table 2.3 below:

BREEAM Issue	Mandatory Minimum Standards by Rating Level (Minimum credits required)				
	Pass	Good	Very Good	Excellent	Outstanding
ENE 02: Energy Efficiency Rating Post Refurbishment	0.5	1.0	2.0	2.5	3.5
WAT 01: Internal Water Use	-	-	1.0	2.0	3.0
HEA 05: Ventilation	1.0	1.0	1.0	1.0	1.0
HEA 06: Safety	1.0	1.0	1.0	1.0	1.0
POL 03: Flooding	-	-	-	2.0	2.0
MAT 02: Responsible Sourcing of Materials	Criterion 3 only	Criterion 3 only	Criterion 3 only	Criterion 3 only	Criterion 3 only

Table 2.3: BREEAM Minimum Standards

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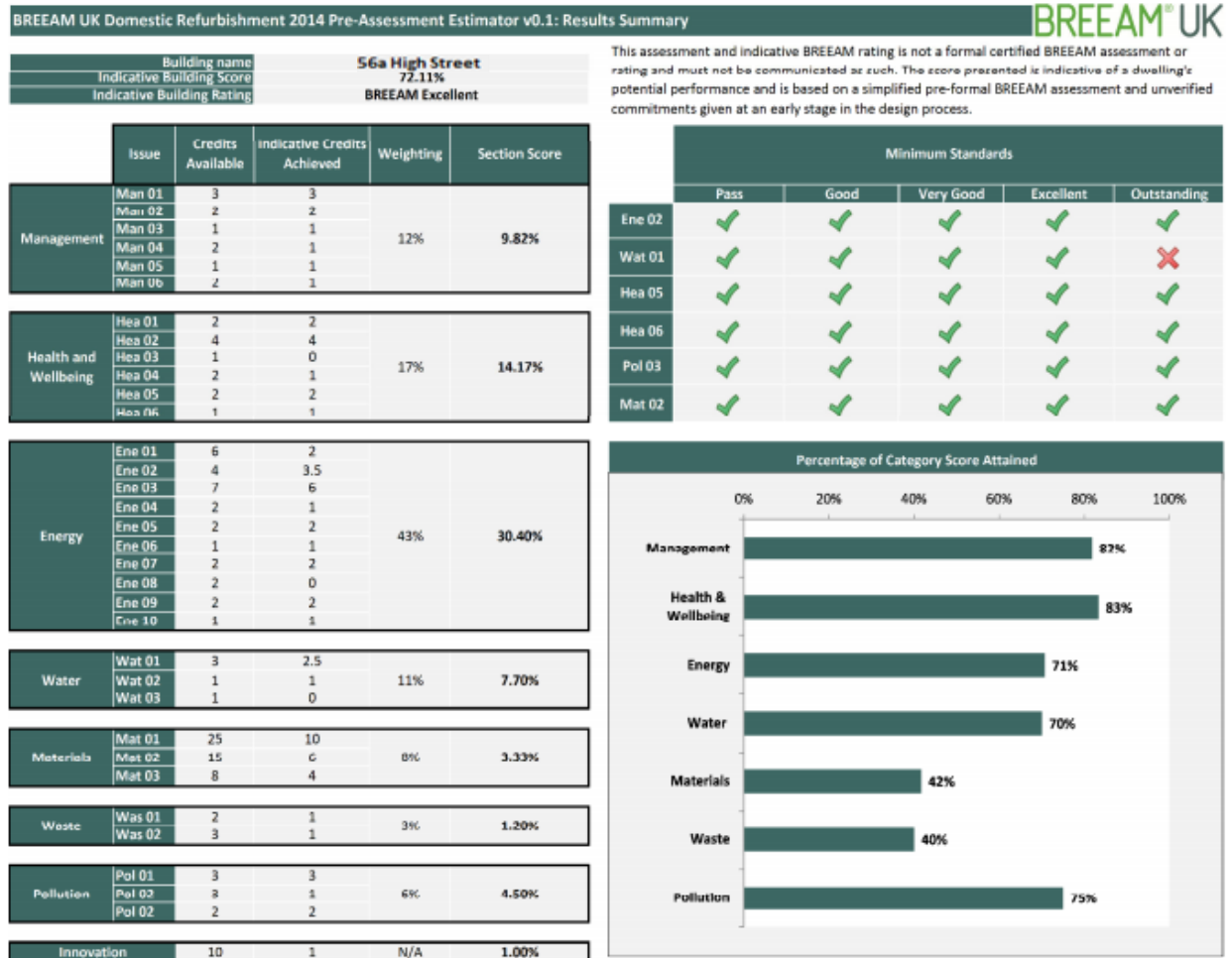
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3.0 Assessment

The following is a summary of the targeted credits:



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3.1 Management

MAN 01 – Home Users Guide	Credits Assumed
Three credits have been assumed for providing a detailed Home User Guide to all properties, which complies with all requirements listed in the BDR Technical Manual.	3
MAN 02 – Responsible Construction Practices	Credits Assumed
The developer should aim to achieve a beyond best-practice score under the Considerate Constructors Scheme, with a total final score of between 35 and 39, with a minimum score of 7 in each category. Alternatively the developer should comply with all mandatory and 80% of optional items from checklist A3.	2
MAN 03 – Construction Site Impacts	Credits Assumed
The developer should aim to comply with 2 of the available 5 construction site impact criteria from Checklist A-5	1
MAN 04 – Security	Credits Assumed
It has been assumed that external doors and accessible windows will meet minimum standards and will be appropriately certified.	3
MAN 05 – Protection and Enhancement of Ecological Features	Credits Assumed
A site survey will be carried out by a member of design team or a Suitably Qualified Ecologist, in order to determine presence of ecological features. The survey must be carried out prior to commencement of refurbishment works.	1
Exemplary Performance Credit:	1
Where a developer adopts all key and 30% of additional recommendations made by Suitably Qualified Ecologist.	

3.2 Health and Wellbeing

HEA 01 – Daylighting	Credits Assumed
One credit can be awarded where the refurbishment has a neutral impact on daylighting levels in the kitchen, living room, dining room and home office and new spaces (extension) achieve minimum daylighting levels.	1
Second credit – It is assumed that the dwelling will achieve minimum daylighting levels in the kitchen, living room, dining room and study.	1

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Second credit – It is assumed that the dwelling will achieve minimum daylighting levels in the kitchen, living room, dining room and study.	1
HEA 02 – Sound Insulation	Credits Assumed
It has been assumed that four credits will be gained within this issue by ensuring that acoustic performance is improved by a minimum of 5dB over building regulations requirements. This will be confirmed by undertaking pre-completion testing by a Suitably Qualified Acoustician.	4
HEA 03 – Volatile Organic Compounds	Credits Assumed
Assumed credits not sought in this category.	0
HEA 04 – Inclusive Design	Credits Assumed
Accessibility standards to be achieved in accordance with section 1 of Checklist A8	1
HEA 05 – Ventilation	Credits Assumed
Mandatory Minimum Standard: Minimum level of background ventilation and purge ventilation on will meet requirements of Section 7 of Building Regulations Part F AND minimum levels of extract ventilation in all wet rooms will be compliant with section 5 of Part F. Assumed that the ventilation system will be compliant with section 5 of Building Regulations Part F in full.	2
HEA 06 – Safety	Credits Assumed
Mandatory Minimum Standard: Provision of a compliant fire detection and fire alarm system. If dwelling is supplied with mains gas or other fossil fuel also provision of Carbon Monoxide detector.	1

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☐ If project involves re-wiring, fire detection and alarm system must be mains supplied ☐ If no re-wiring is to take place, battery operated fire detection and alarm system should be supplied	
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3.3 Energy

ENE 01 – Improvement in Energy Efficiency Rating	Credits Assumed
It has been assumed that the improvement of the Energy Efficiency Rating achieved as a result of refurbishment will be greater than or equal to 17.	2

ENE 02 – Energy Efficiency Rating Post Refurbishment	Credits Assumed
Mandatory Minimum Standard: BREEAM 'Excellent' requires a minimum EER of 70. It has been assumed the EER will be greater than or equal to 80.	3.5

ENE 03 – Primary Energy Demand	Credits Assumed
It has been assumed that the average Primary Energy Demand post refurbishment will be no greater than or equal to 160 kWh/m ² /year	6

ENE 04 – Renewable Technologies	Credits Assumed
Assumed credits not sought in this category.	0

ENE 05 – Energy Labelled White Goods	Credits Assumed
It is assumed that the following white goods will be supplied to new dwellings: - Fridges and freezers or fridge-freezers (A+ rating) - Washing machines (A++ rating) - Dishwashers (A+ rating) - Optionally Washer-dryer or tumble dryer (A rating) Additionally all properties will be provided with EU Energy Efficiency Labelling Scheme Information Leaflet	2

ENE 06 – Drying Space	Credits Assumed
Secure internal or external drying space should be installed, minimum lengths of the drying line to be 4m for properties of 1-2 bedrooms and 6m+ for properties with 3 or more bedrooms.	1

ENE 07 – Lighting	Credits Assumed
Provision of energy efficient internal and external lighting that meet the following criteria: External Lighting (1 credit): Provision of Energy Efficient Space Lighting (Luminous efficacy no greater than 45 lumens per circuit watt) and Energy Efficient Security Lighting (where provided), with the appropriate control systems in place Internal Lighting (1 credit): Provision of internal lighting with the maximum average wattage of 9 Watts/m² across the total floor area of the dwelling	2

NE 08 – Display Energy Devices	Credits Assumed
Assumed credits not sought in this category.	0

ENE 09 – Cycle Storage	Credits Assumed
Two credits can be awarded for provision of 4 compliant cycle spaces.	2

3.4 Water

WAT 01 – Internal Water Use	Credits Assumed
It is assumed that the internal water consumption level will be reduced below 107 litres/person/day	2.5

WAT 02 – External Water Use	Credits Assumed
It is assumed that there will provision of a compliant rainwater collection system that will allow rainwater to be used for external/internal irrigation.	1

WAT 03 – Water Meter	Credits Assumed
It is assumed water meter for each flat will be installed	1

3.5 Materials

MAT 01 – Environmental Impact of Materials	Credits Assumed
No formal assessment of the construction types has yet been undertaken at this stage. It has been estimated that 10 out of a possible 25 credits could be achieved	10

MAT 02 – Responsible Sourcing of Materials	Credits Assumed
Mandatory Minimum Standard: All new timber and wood derived products used in the project must be sourced in accordance with the UK Government's Timber Procurement Policy. It has been estimated that 6 out of a possible 12 credits could be achieved. Appropriate certification will be required from the developer, such as FSC/PEFC for timber and ISO 14001 or BES 6001 for other materials e.g. concrete, brick, block, windows etc.	6

MAT 03 – Insulation	Credits Assumed
It is assumed that ≥80% of the new thermal insulation used in external walls, ground floor, roof and building services (i.e. primary pipework and the hot water cylinder) will be responsibly sourced	4

3.6 Waste

WAS 01 – Household Waste	Credits Assumed
It has been assumed that a compliant collection scheme will be in place and there will be a provision of correctly specified internal storage for recycling waste in line with BDR Technical Manual requirements	1

WAS 02 – Refurbishment Site Waste Management	Credits Assumed
Assumed that a compliant Level 2 Site Waste Management Plan will be in place	1

3.7 Pollution

POL 01 – Nitrogen Oxide Emissions	Credits Assumed
It has been assumed that three credits could be awarded for the provision of space heating and hot water systems with dry NOx emissions level of less than 40mg/kWh	3

POL 02 – Surface Water Run-off	Credits Assumed
It has been assumed that the development will have a neutral impact on Surface water run-off. All new hard standing areas must be permeable. Any additional run-off must be managed on site using SUDS. Calculations should be carried out by an appropriately qualified professional.	1

POL 03 – Flooding	Credits Assumed
The development does not lie within zone of high annual probability of flooding. Assumed credits not sought in this category.	0

4.0 Appendix A – BREEAM Estimator Tool

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BREEAM UK

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	56a High Street	Minimum Standards				
Indicative building score (%)	72.11%	Pass	Good	Very Good	Excellent	Outstanding
Indicative BREEAM rating	BREEAM Excellent	Ena 02	✓	✓	✓	✓
		Wat 02	✓	✓	✓	✗
		Hea 05	✓	✓	✓	✓
		Hea 06	✓	✓	✓	✓
		Pol 03	✓	✓	✓	✓
		Mat 02	✓	✓	✓	✓

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: 9.82%

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: Reasonable 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:

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	Indicative Innovation Credits Achieved: 0
Alternative Compliant Scheme	Exemplary Level Compliance	
Checklist A-3*	All items (Optional & Mandatory)	

* Small Scale Project Only

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

HEALTH & WELLBEING		Section Weighting: 17%		Indicative Section Score: 34.37%	
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:				2	
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				4	
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	1.62%		
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:				0	
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					

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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:			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		
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:			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 Ch4 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			Indicative Credits
Where a fire and carbon monoxide (CO) detection and alarm system is specified as follows:			1
One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems	Where a compliant fire detection and fire alarm system is provided Carbon Monoxide detector installed if dwelling is supplied with mains gas or other fossil fuel 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		
* see Ch9 in Hea 06 for the definition of re-wiring			
Comments			
ENERGY			
Section Weighting: 43%		Indicative Section Score 30.40%	
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:			2
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			

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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:				3.5
	EER post refurbishment	Credits	Minimum requirements	
	≥50	0.5	'Poor' 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 80	
	≥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	10.18%	
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:				6
	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:				1
	Dwelling Type	Primary Energy Demand	Percentage from Renewables	
			1 Credit	2 Credits
	Detached	≤ 250 kWh/m ² /year	≥10%	≥10%
	Semi-Detached		≥10%	≥10%
	Flat/Flat		≥10%	≥10%
	End of Terrace		≥10%	≥10%
	Mid Terrace		≥10%	≥10%
	Low Rise Flat	≤ 220 kWh/m ² /year	≥10%	≥10%
	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				

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Line D6: Drying Space																								
No. of BREEAM credits available	1	Available contribution to overall score	1.68%																					
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 or tubes is provided with the following		⇒ 1																						
<table border="1"> <tr> <td colspan="2">1 Credit</td> </tr> <tr> <td>Number of bedrooms</td> <td>Drying line required</td> </tr> <tr> <td>1-2</td> <td>4m+</td> </tr> <tr> <td>3+</td> <td>6m+</td> </tr> </table>		1 Credit		Number of bedrooms	Drying line required	1-2	4m+	3+	6m+															
1 Credit																								
Number of bedrooms	Drying line required																							
1-2	4m+																							
3+	6m+																							
Comments																								
Line D7: 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																						
<table border="1"> <tr> <td colspan="2">External Lighting - 1</td> </tr> <tr> <td colspan="2">Energy Efficient Space Lighting of more than 45 lumens per circuit watt and Energy Efficient Security Lighting OR</td> </tr> <tr> <td colspan="2">(Where Energy Efficient Space Lighting is provided ONLY)</td> </tr> <tr> <td colspan="2">Internal Lighting - 1</td> </tr> <tr> <td colspan="2">Maximum average wattage across the total floor area of the dwelling of 9 watts/m²</td> </tr> </table>		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/m ²														
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Internal Lighting - 1																								
Maximum average wattage across the total floor area of the dwelling of 9 watts/m ²																								
Comments																								
Line D8: 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		⇒ 0																						
<table border="1"> <tr> <th>Electricity usage data displayed</th> <th colspan="2">Primary Heating Fuel</th> </tr> <tr> <td></td> <th>Electricity</th> <th>Other</th> </tr> <tr> <td>Electricity usage data displayed</td> <td>2 credits awarded</td> <td>1 credit awarded</td> </tr> <tr> <td>Primary Heating Fuel usage data displayed</td> <td>N/A</td> <td>1 credit awarded</td> </tr> <tr> <td>Electricity & Primary Heating Fuel usage displayed</td> <td>N/A</td> <td>2 credits awarded</td> </tr> <tr> <td colspan="3">Exemplary Credits</td> </tr> <tr> <td>One credit: Recording consumption data</td> <td colspan="2">Where the first two credits are achieved Where any compliant Energy Display Device is capable of recording consumption data</td> </tr> </table>		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: Recording consumption data	Where the first two credits are achieved Where any compliant Energy Display Device is capable of recording consumption data		Indicative Innovation Credits Achieved ⇒ 0	
Electricity usage data displayed	Primary Heating Fuel																							
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Exemplary Credits																								
One credit: Recording consumption data	Where the first two credits are achieved Where any compliant Energy Display Device is capable of recording consumption data																							
Comments																								
Line D9: 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:		⇒ 2																						
<table border="1"> <tr> <th>Dwelling Size</th> <th>One Credit</th> <th>Two Credits</th> </tr> <tr> <td>Studios/ 1 bedroom</td> <td>1 per two dwellings</td> <td>1 per dwelling</td> </tr> <tr> <td>2-3 bedrooms</td> <td>1 per dwelling</td> <td>2 per dwelling</td> </tr> <tr> <td>4 bedrooms</td> <td>2 per dwelling</td> <td>4 per dwelling</td> </tr> </table>		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											
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Comments																								
Line D10: Home Office																								
No. of BREEAM credits available	1	Available contribution to overall score	1.68%																					
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																								

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WATER		Section Weighting: 11%	Indicative Section Score: 7.70%
Water 01: Internal Water Use			
No. of BREEM credits available	3	Available contribution to overall score	4.65%
No. of BREEM 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:			2.5
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 WCs 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'	BREEM 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 fittings specified to 'Good'	BREEM Excellent	2
from 96 to < 107	All kitchen, bathroom, utility room and WC room fittings specified to 'Good' OR All bathrooms, kitchen 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'	BREEM Outstanding	3
NOTES: 'Good' fittings are equivalent to good practice fittings with 'Excellent' fittings equivalent to best practice fittings (see the technical manual for full details).			Indicative Innovation Credits Achieved
Exemplary Credit If the water consumption is less than 80litres/person/day			0
Comments			
Water 02: External Water Use			
No. of BREEM credits available	1	Available contribution to overall score	2.30%
No. of BREEM 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			
Water 03: Water Meter			
No. of BREEM credits available	1	Available contribution to overall score	2.30%
No. of BREEM 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			0
Comments			
MATERIALS		Section Weighting: 8%	Indicative Section Score: 3.84%
Material 01: Environmental Impact of Materials			
No. of BREEM credits available	25	Available contribution to overall score	4.36%
No. of BREEM 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:			10
Elements	Green Guide Rating credits available	Thermal performance credits	
Roof	5	3	
External walls	5	3.8	
Internal walls (including separating walls)	5	-	
Upper and Ground floor windows	5	2.0	
Windows	5	2	
The full 25 credits represent all of the elements comprising a building or building materials that meet the Green Guide Rating of A+(6) or 3 stars (7 or 8 thermal elements)			
A+ (6)	5	7	
A+ (5)	4.8	6	
A+ (4)	4.2	5	
A+ (3)	3.8	4	
A+ (2)	3.6	3	
A+	3	2	
A	2	1	
B	1	0	
C	0.5	0.5	
D	0.15	0.15	
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	0.18		
External walls	0.18		
Internal walls (including separating walls)	-		
Upper and Ground floor	0.18		

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Mat 02: Responsible Sourcing of Materials																												
No. of BREEM credits available	15	Available contribution to overall score	2.50%																									
No. of BREEM innovation credits	0	Minimum Standards applicable	No																									
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 points achieved which is based upon the responsible sourcing tier level of each material sourced as detailed below:		5																										
Sustainable Procurement Plan (3 BREEM credits) The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan OR Where the principal contractor is a Small Company (up to 3 BREEM credits) Checklist A-6 is filled in with supporting evidence		Will all new timber used in the project be sourced in accordance with the UK Government's Timber Procurement Yes																										
Table 1: <table border="1"> <thead> <tr> <th>BREEM credits</th> <th>% of available points achieved</th> </tr> </thead> <tbody> <tr> <td>12</td> <td>≥54%</td> </tr> <tr> <td>10</td> <td>≥45%</td> </tr> <tr> <td>8</td> <td>≥36%</td> </tr> <tr> <td>6</td> <td>≥27%</td> </tr> <tr> <td>4</td> <td>≥18%</td> </tr> <tr> <td>2</td> <td>≥9%</td> </tr> </tbody> </table>		BREEM credits	% of available points achieved	12	≥54%	10	≥45%	8	≥36%	6	≥27%	4	≥18%	2	≥9%													
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Comments																												
Mat 03: Insulation																												
No. of BREEM credits available	8	Available contribution to overall score	1.33%																									
No. of BREEM 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																										
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 a 80% of the new thermal insulation used in the building elements is responsibly sourced.																												
Comments																												
SWASTE: Section Verification: Yes																												
Indicative Section Score: 1.20%																												
Was 01: Household Waste																												
No. of BREEM credits available	3	Available contribution to overall score	1.20%																									
No. of BREEM innovation credits	0	Minimum Standards applicable	No																									
Assessment Criteria		Indicative Credits																										
Where compliant recycling and composting facilities are provided, up to two credits may be awarded as follow		1																										
First Credit - Recycling facilities <table border="1"> <thead> <tr> <th>Scenario</th> <th>Internal recycling internal requirements</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Compliant collection scheme in place</td> <td>3 internal recycling containers provided where recycling is not sorted post collection</td> </tr> <tr> <td>1 internal recycling container provided where recycling is sorted post collection</td> </tr> <tr> <td>Minimum 30 litre total capacity, no single container less than 7 litre capacity</td> </tr> <tr> <td>Dedicated position in accordance with compliance note 1</td> </tr> <tr> <td rowspan="2">No compliant collection scheme in place No adequate external storage</td> <td>3 internal recycling containers provided</td> </tr> <tr> <td>Minimum 30 litre total capacity</td> </tr> <tr> <td rowspan="2">No compliant collection scheme in place Adequate external storage provided</td> <td>Dedicated position in accordance with compliance note 1</td> </tr> <tr> <td>3 internal recycling containers provided</td> </tr> <tr> <td></td> <td>Minimum 30 litre total capacity, no single container smaller than 7 litre</td> </tr> <tr> <td></td> <td>Dedicated position in accordance with compliance note 1</td> </tr> </tbody> </table> Second credit - Composting facilities <table border="1"> <thead> <tr> <th>With external space</th> <th>Without external space</th> </tr> </thead> <tbody> <tr> <td>Where a composting service or facility is provided for green/garden waste</td> <td>Where a composting service or facility is provided for kitchen waste</td> </tr> <tr> <td>Where a composting service or facility is provided for kitchen waste</td> <td>Where an interior container is provided for kitchen composting waste of at least 7 litres</td> </tr> <tr> <td>Where an interior container is provided for kitchen composting waste of at least 7 litres</td> <td></td> </tr> </tbody> </table>		Scenario	Internal recycling internal 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 30 litre total capacity	No compliant collection scheme in place Adequate external storage provided	Dedicated position in accordance with compliance note 1	3 internal recycling containers provided		Minimum 30 litre total capacity, no single container smaller than 7 litre		Dedicated position in accordance with compliance note 1	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 7 litres	Where an interior container is provided for kitchen composting waste of at least 7 litres			
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Comments																												
Was 02: Refurbishment Site Waste Management																												
No. of BREEM credits available	3	Available contribution to overall score	1.00%																									
No. of BREEM 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 follow		1																										
Projects up to £100k <table border="1"> <tbody> <tr> <td>Three Credits</td> <td>Where waste generated through the refurbishment process is managed in accordance with Checklist A-6</td> </tr> <tr> <td>Exemplary Credit</td> <td>Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place</td> </tr> </tbody> </table> Projects up to £100k <table border="1"> <tbody> <tr> <td>Three Credits</td> <td>Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place</td> </tr> <tr> <td>Two Credits</td> <td>Where a compliant Level 2; Site Waste Management Plan (SWMP) is in place</td> </tr> <tr> <td>Exemplary Credit</td> <td>Non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the resource efficiency benchmark</td> </tr> </tbody> </table>		Three Credits	Where waste generated through the refurbishment process is managed in accordance with Checklist A-6	Exemplary Credit	Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place	Three Credits	Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place	Two Credits	Where a compliant Level 2; Site Waste Management Plan (SWMP) is in place	Exemplary Credit	Non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the resource efficiency benchmark	Indicative Innovation Credits Achieved 0																
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	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>
Exemplary Credit	Where Non-hazardous demolition waste generated by the dwellings refurbishment meets or exceeds the <i>exemplary level diversion benchmarks</i>
Comments	

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POLLUTION		Section Weighting: 6%		Indicative Section Score 4.50%											
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 3											
		<table border="1"> <thead> <tr> <th colspan="2">Dry/NOx Emissions</th> </tr> </thead> <tbody> <tr> <td>One Credit</td> <td>≤100 mg/kWh (NOx class 4 boiler)</td> </tr> <tr> <td>Two Credits</td> <td>≤70 mg/kWh (NOx class 5 boiler)</td> </tr> <tr> <td>Three Credits</td> <td>≤40 mg/kWh</td> </tr> </tbody> </table>				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		
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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 1											
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				Indicative Innovation Credits Achieved 0											
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 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:				Indicative Credits 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															
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-02; 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															

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