



Greenwood Place, 96-98 Shoot Up Hill

Sustainability Statement

January 2016
Job Ref. 1213 Greenwood Place



SHOOT UP HILL

SUSTAINABILITY STATEMENT

REVISION B

Final version by Stewart Park, reviewed by Alex Maguire, issued 08 January 2016

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1.0 INTRODUCTION

1.1 PREAMBLE

A team of construction professional are developing proposals for the refurbishment 96-98 Shoot Up Hill.

TGA consulting Engineers LLP has been engaged, as part of the Tibbalds multi-disciplinary team, to provide professional design services associated with the redevelopment of the Shoot Up Hill property. TGA's role includes development of the energy and building engineering services strategies for the development.

Development proposals are currently at RIBA stage D

1.2 CAMDEN COUNCIL PLANNING POLICIES

All new and refurbished building developments in the London Borough of Camden are required to meet minimum standards relating to sustainability, energy efficiency and carbon reduction. This is in line with London wide and national aspirations set by the London Mayor and the UK Government.

In the London Borough of Camden area, sustainability, energy efficiency and carbon reduction all feature in the planning process. Planning guidance on these matters is set out in the Local Development Framework and, in particular, in the following inter-related policy documents:

- CPG3 - Sustainability
- CS13 - Tackling Climate Change Through Promoting Higher Environmental Standards
- DP22 - Promoting Sustainable Design and Construction
- DP23 - Water
- CS16 - Improving Camden's Health and Wellbeing
- DP32 - Air Quality & Camden's Clear Zone

The formulation of a viable design strategy for this project, as defined in this Sustainability Statement, takes into account guidance contained in the above listed documentation.

1.3 SUSTAINABILITY ASSESSMENT TOOLS

Existing buildings which feature in this project have been assessed using BRE environmental and sustainability standard, BREEAM assessments tools.

1.4 THIS REPORT

The purpose of this report is to identify design strategies and features relating to sustainable design, construction and operation which have been embodied into the development proposals and will be carried forward into the detail design and construction phases of the project and beyond.

In the first instance, the information contained in this report is will enable the local authority Planning Team to consider and understand the measures and features, relating to sustainability, that have been incorporated into the development proposals thus far.

The emphasis in this report is on sustainable design, construction and operation. The specific issue of energy, which come under the general heading of 'sustainability' has been covered in a separate document. Refer to a separate document entitled 'Energy Statement'.

2.0 DEVELOPMENT PROPOSALS

2.1 PROJECT DESCRIPTION

96-98 Shoot-up Hill is a Camden Council owned buildings located in the Kentish Town area of London. Community facilities provided in this buildings will become redundant following completion of the Greenwood Estate development.

Proposals have been developed to convert the Shoot up Hill property into residential apartments and the building is to be designed to achieve a BREEAM 'Very Good' rating.

The following section of the report describes the key strategies that have been adopted under the general heading of sustainability.

2.2 SUSTAINABILITY FEATURES

Sustainability issues relating to design, construction and operation of the refurbished buildings, has been carefully considered during the early design stages.

The building and its building services proposals reflect and incorporate many of the required features and facilities that will ultimately be included in the completed buildings. The next stage in the design process will involve incorporating those features which, of necessity, are not confirmed until the later design stages.

Issues that have been considered in detail include

- Building envelope and building services installations
- Energy conservation, energy efficiency and energy supply
- Materials
- Water conservation
- Pollution, air quality and noise
- Wastes
- Construction site impacts

All of the above items are addressed in the BREEAM assessment tool.

3.0 BREEAM PRE ASSESSMENT OUTCOMES

3.1 96-98 SHOOT UP HILL

A preliminary assessment under the BRE environmental and sustainability standard BREEAM, Domestic Refurbishment 2014, has been produced for this building. A copy of the pre-assessment results summary, produced by RSK Group, is included in appendix A.

The building achieves BREEAM 'Very Good' rating with a score of 55.4%. A minimum required score of 55% must be achieved,

Specific design features that have been incorporated into the stage D design include

- Improved building u values
- Individual high-efficiency, condensing gas-fired boiler units located in each dwelling
- New energy efficient building engineering services installations.

4.0 CONCLUDING REMARKS

As part of a planning submission for this development, a Sustainability Statement is required to be prepared and submitted. This document is intended to fulfil that requirement.

Development proposals are at RIBA stage D and the information included in the attached pre assessment results summary, produced by RSF Group, describes the design features that have been included into the project.

BREEAM pre-assessment has been included in appendix A.

As the design process moves forward into the next stage and beyond, the appointed design team will be required to develop the design proposals in a manner compatible with the expectations set out in the pre-assessment documentation included with this document.

In conclusion, TGA Consulting Engineers believe that the sustainable design, construction and operating standards described in this sustainability statement represents a pragmatic and feasible plan for the development.

APPENDIX A – 96-98 SHOOT UP HILL BREEAM PRE ASSESSMENT



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	
Indicative building score (%)	55.40%
Indicative BREEAM rating	BREEAM Very Good

	Minimum Standards				
	Pass	Good	Very Good	Excellent	Outstanding
Ene 02	✓	✓	✓	✗	✗
Wat 01	✓	✓	✓	✗	✗
Hea 05	✓	✓	✓	✓	✓
Hea 06	✓	✓	✓	✓	✓
Pol 03	✓	✓	✓	✗	✗
Mat 02	✓	✓	✓	✓	✓

Management	Health & Wellbeing	Energy	Water	Materials	Waste	Pollution
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INNOVATION Section Weighting: 10% Indicative Section Score: 0.00%

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	Indicative Credits
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	3

Comments

All 3 credits targeted for compliant Home User Guides for residents

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	Indicative Credits
Where a compliant considerate construction scheme will be used, credits are awarded depending the score achieved as outlined below:	2

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 Please Select
Alternative Compliant Scheme	Exemplary Level Compliance	
Checklist A-3*	All Items (Optional & Mandatory)	

* Small Scale Project Only

Comments

2 credits targeted which requires the main contractor to register the site with the Considerate Constructors Scheme and achieve a score of 35-39, with no individual section scoring less than 7.

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	Indicative Credits
Where evidence demonstrate that site impacts will be monitored, as detailed below:	1

	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

2 credits targeted which requires the Principal Contractor to complying with at least two of the items in BREEAM checklist A-5.

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:	1

One Credit	External doors and accessible windows meet minimum standards and appropriately certified
Secure windows and doors	

<p>Two Credits Secured by design</p>		<p>Principles and guidance of Secured by Design Section 2 are complied with</p> <p>A suitably qualified security consultant is consulted at the design stage and their recommendations are incorporated into the refurbishment</p>								
<p>Comments</p> <p>1st credit only targeted for compliant doors and windows. Potential for 2nd credit for Secured by Design Section 2 compliance plus design input from qualified security consultant</p>										
<p>Man 05 Protection and Enhancement of Ecological Features</p> <table border="1"> <tr> <td>No. of BREEAM credits available</td> <td>1</td> <td>Available contribution to overall score:</td> <td>1.09%</td> </tr> <tr> <td>No. of BREEAM innovation credits</td> <td>1</td> <td>Minimum Standards applicable:</td> <td>No</td> </tr> </table>			No. of BREEAM credits available	1	Available contribution to overall score:	1.09%	No. of BREEAM innovation credits	1	Minimum Standards applicable:	No
No. of BREEAM credits available	1	Available contribution to overall score:	1.09%							
No. of BREEAM innovation credits	1	Minimum Standards applicable:	No							
<p>Assessment Criteria</p> <p>Where the following requirements will be met:</p>		<p>Indicative Credits 1</p>								
<p>One Credit Protecting Ecological Features</p>		<p>Site survey carried out to determine presence of ecological features</p> <p>Statutory Nature Conservation Organisation notified of protected species</p> <p>Features of ecological value protected during refurbishment works</p>								
<p>Exemplary Credit Ecological enhancement</p>		<p>A suitably qualified ecologist recommends features to enhance ecology of the site</p> <p>adopts all general ecological recommendations</p> <p>adopts 30% of additional recommendations</p>								
		<p>Indicative Innovation Credits Achieved Please Select</p>								
<p>Comments</p> <p>An ecological survey of the site will be undertaken to determine if there any features of ecological value are present. The existing mature trees on site will be protected during the works.</p>										
<p>Man 06 Project Management</p> <table border="1"> <tr> <td>No. of BREEAM credits available</td> <td>2</td> <td>Available contribution to overall score:</td> <td>2.18%</td> </tr> <tr> <td>No. of BREEAM innovation credits</td> <td>2</td> <td>Minimum Standards applicable:</td> <td>No</td> </tr> </table>			No. of BREEAM credits available	2	Available contribution to overall score:	2.18%	No. of BREEAM innovation credits	2	Minimum Standards applicable:	No
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No. of BREEAM innovation credits	2	Minimum Standards applicable:	No							
<p>Assessment Criteria</p> <p>Where the following requirements will be met:</p>		<p>Indicative Credits Please Select</p>								
<p>One Credit Project Roles and Responsibilities</p>		<p>Where all of the project team are involved in the project decision making</p> <p>Small Scale - the project manager assigns individual and shared responsibilities amongst the project team including all trades on site</p> <p>Large Scale - the project manager assigns individual and shared responsibilities across the following key design and refurbishment stages:</p> <ul style="list-style-type: none"> i. Planning and Building control notification ii. Design iii. Refurbishment iv. Commissioning and handover v. Occupation 								
<p>Small Scale projects: five units or fewer and less than £100k</p>		<p>Large Scale projects: more than five units and more than £100k</p>								
<p>One Credit Handover and Aftercare</p>		<p>Handover meeting arranged</p> <p>2 or more of the following committed to:</p> <ul style="list-style-type: none"> - 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 								
		<p>Indicative Innovation Credits Achieved 0</p>								
<p>Exemplary Credits</p>										
<p>One Exemplary Credit Early Design Input</p>		<p>Where A BREEAM Accredited Professional has been appointed to oversee key stages within the project.</p> <p>OR</p> <p>Where a BREEAM Domestic Refurbishment Assessor has been appointed at an early stage of the project, prior to the production of a refurbishment specification</p>								
<p>One Exemplary Credit Thermographic Surveying and Airtightness Testing</p>		<p>Where Thermographic surveying and Airtightness testing have been carried out at both pre and post refurbishment stages</p> <p>Where an improved air tightness target has been set at design stage and testing demonstrates that this has been achieved post refurbishment</p>								
<p>Comments</p> <p>Not targeted.</p>										
<p>HEALTH & WELLBEING Section Weighting: 17% Indicative Section Score 9.92%</p>										
<p>Hea 01 Daylighting</p> <table border="1"> <tr> <td>No. of BREEAM credits available</td> <td>2</td> <td>Available contribution to overall score:</td> <td>2.83%</td> </tr> <tr> <td>No. of BREEAM innovation credits</td> <td>0</td> <td>Minimum Standards applicable:</td> <td>No</td> </tr> </table>			No. of BREEAM credits available	2	Available contribution to overall score:	2.83%	No. of BREEAM innovation credits	0	Minimum Standards applicable:	No
No. of BREEAM credits available	2	Available contribution to overall score:	2.83%							
No. of BREEAM innovation credits	0	Minimum Standards applicable:	No							
<p>Assessment Criteria</p> <p>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:</p> <p>For Existing Dwellings and Change of Use Projects</p>		<p>Indicative Credits 0</p>								
<p>First Credit Maintaining Good Daylighting</p>		<p>The refurbishment results in a neutral impact on the dwellings daylighting levels in the kitchen, living room, dining room and study</p>								
<p>Where the property is being extended</p>										
<p>First Credit Maintaining Good Daylighting</p>		<p>New spaces achieve minimum daylighting levels</p> <p>The extension does not significantly reduce daylighting levels in the kitchen, living room, dining room or study of neighbouring properties</p>								
<p>For All Properties</p>										

Second Credit Minimum Daylighting	The dwelling achieves minimum daylighting levels in the kitchen, living room, dining room and study		
Comments	Not targeted. Potential additional credit(s).		
Hea 02 Sound Insulation			
No. of BREEAM credits available	4	Available contribution to overall score	5.67%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No
Assessment Criteria	To ensure the provision of acceptable sound insulation standards and so minimise the likelihood of noise complaints		Indicative Credits
Properties where sound testing has been carried out:			2
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		
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	2 credits targeted for compliance with Building Regulations Part E via compliant construction details.		
Hea 03 Volatile Organic Compounds			
No. of BREEAM credits available	1	Available contribution to overall score	1.42%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No
Assessment Criteria	Where the refurbishment avoids the use of VOCs with new products meeting the following requirements:		Indicative Credits
One Credit Avoiding the use of VOCs			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	The dwellings will be designed so that all internal finishes comply with Table 16 of BREEAM Domestic Refurbishment Technical Guide.		
Hea 04 Inclusive Design			
No. of BREEAM credits available	2	Available contribution to overall score	2.83%
No. of BREEAM innovation credits	1	Minimum Standards applicable	No
Assessment Criteria	Where an access statement has been carried out using Checklist A-8 of the Technical Manual to optimise the accessibility of the home as follows:		Indicative Credits
			2
Checklist A-8 of the Technical Manual			
		Section 1	Section 2
One Credit Minimum Accessibility	Completed with Evidence		
Two Credits Advanced Accessibility	Completed with Evidence	Completed with Evidence	
Exemplary Performance			
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		Indicative Innovation Credits Achieved Please Select

Comments			
The dwellings will comply with Building Regulations Part M and BS 8300 and a member of the design team will prepare the access statement in accordance with BREEAM requirements.			
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
One Credit Minimum Ventilation Requirements	A minimum level of background ventilation is provided (with trickle ventilators or other means of ventilation) for all habitable rooms, kitchens, utility rooms and bathrooms compliant with section 7, Building Regulations Approved Document Part F, 2010		
	A minimum level of extract ventilation is provided in all wet rooms (e.g. kitchen, utility and bath-rooms), compliant with section 5, Building Regulations Approved Document Part F 2010.		
	A minimum level of purge ventilation is provided in all habitable rooms and wet rooms, compliant with section 7, Building Regulations Approved Document Part F, 2010.		
	It is an historic building and meets historic building requirements in CN4 of the technical manual		
Two Credits Advanced Requirements	Ventilation is provided for the dwelling that meets the requirements of Section 5 of Building Regulations Part F in full		
	Where the building is a historic building and meets the requirements for Historic Buildings in compliance note 4 of the technical manual		
Comments			
The 1st mandatory credit is targeted and background, extract and purge ventilation will comply with Part F for existing buildings. Wet rooms must either be supplied with an occupant controlled opening window for purge ventilation or a single room extract vent with heat recovery should be installed.			
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 CN9 in Hea 06 for the definition of re-wiring			
Comments			
Compliant CO and fire detection/alarm systems will be installed within each dwelling.			
ENERGY Section Weighting: 43% Indicative Section Score 20.76%			
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:			3
	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			
An improvement in EER of 28 is predicted which equates to 3 credits.			
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:			2
	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	Please Select
	≥100	2	
Comments			

AN EER of 67 is predicted for the proposed dwellings, equating to 2 credits which is meet the minimum mandatory standard for Very Good.

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:			Please Select	
	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				
The proposed dwellings have a predicted primary energy demand of 183.47 kWh/m ² /year which equates to 5 credits.				
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	≤ 220 kWh/m ² /year	≥10%	≥20%
	Low Rise Flat		≥10%	≥20%
	Mid Rise Flat		≥10%	≥15%
	High Rise Flat		≥10%	≥15%
Comments				
Renewable energy technology not proposed.				
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				
Energy Saving Trust recommended white goods likely be provided plus information on the EU Energy Efficiency Labelling scheme.				
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 or fixings is provided with the following:			1	
	1 Credit			
	Number of bedrooms	Drying line required		
	1-2	4m+		
	3+	6m+		
Comments				
Compliant drying facilities proposed for all dwellings e.g. retractable lines above baths assuming ventilation complies with Building Regulations Part F.				
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/m ²			

	One Credit	been provided to dwellings. OR Where dwellings have no individual or communal garden space.																																																																			
Comments																																																																					
Rainwater harvesting is not proposed.																																																																					
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			0																																																																		
Comments																																																																					
Only statutory water meters are anticipated for each dwelling which are not fully compliant with BREEAM requirements.																																																																					
MATERIALS		Section Weighting: 8%	Indicative Section Score 4.50%																																																																		
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																																																																		
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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																																																																		
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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:			9																																																																		
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9 credits remain targeted although it should be noted that 15 credits are now available compared to 12 in the 2012 version. The Principle Contractor will be required to manage the process and provide suitable evidence.																																																																					
Mat 03 Insulation																																																																					
No. of BREEAM credits available	8	Available contribution to overall score	1.33%																																																																		
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Where any new insulation specified for use within external walls, ground floor, roof and buildings services meet the following requirements:			8																																																																		
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A commitment has been made so specify a significant proportion of insulating materials with an A or A+ Green Guide rating and from manufacturers who responsibly source and manufacture materials.																																																																					

manufacture materials.

WASTE		Section Weighting: 3%	Indicative Section Score 3.00%
Was 01 Household Waste			
No. of BREEAM credits available	2	Available contribution to overall score	1.20%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No
Assessment Criteria			Indicative Credits
Where compliant recycling and composting facilities are provided, up to two credits may be awarded as follows			2
First Credit - Recycling Facilities			
Scenario	Internal recycling storage requirements		
Compliant collection scheme in place	3 internal recycling containers provided where recycling is not sorted post collection		
	1 internal recycling container provided where recycling is sorted post collection		
	Minimum 30 litre total capacity, no single container less than 7 litre capacity		
No compliant collection scheme in place No adequate external storage	Dedicated position in accordance with compliance note 1		
	3 internal recycling containers provided		
	Minimum 60 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		
Second credit - Composting facilities			
With external space		Without external space	
Where a composting service or facility is provided for green/garden waste		Where a composting service or facility is provided for kitchen waste	
Where a composting service or facility is provided for kitchen waste		Where an interior container is provided for kitchen composting waste of at least 7 litres	
Where an interior container is provided for kitchen composting waste of at least 7 litres			
Comments			
Both credits are targeted. The development includes sufficient internal recycling containers and external storage (where required) for Local Authority collection. Individual composting bins are also anticipated for dwelling gardens.			
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			3
Projects up to £100k			
Three Credits	Where waste generated through the refurbishment process is managed in accordance with Checklist A-9		
Exemplary Credit	Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place		
Projects up to £300k			
Three Credits	Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place		
Exemplary Credit	Where a compliant Level 2; Site Waste Management Plan (SWMP) is in place		
	Non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the resource efficiency benchmark		
	The percentage of non-hazardous construction waste and demolition waste generated by the project has been diverted from landfill and meets or exceeds the refurbishment & demolition waste diversion benchmarks		
Projects over £300k			
First Credit Management Plan	Where a compliant Level 2; Site Waste Management Plan (SWMP) is in place		
Second Credit Good Practice Waste Benchmarks	First credit achieved		
	Non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the resource efficiency benchmark		
	Amount of waste generated against £100,000 of project value is recorded in the SWMP		
	Pre-refurbishment audit of the existing building is completed		
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>		
Where Non-hazardous demolition waste generated by the dwellings refurbishment meets or exceeds the <i>exemplary level diversion benchmarks</i>			
Comments			
It is anticipated that an obligation will be placed on the Principal Contractor to prepare a compliant Site Waste Management Plan (SWMP) to achieve all 3 credits.			
POLLUTION		Section Weighting: 6%	Indicative Section Score 3.00%

Pol 01 NOx Emissions			
No. of BREEAM credits available	3	Available contribution to overall score	2.25%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No
Assessment Criteria			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
		Dry NOx Emissions	
	One Credit	≤100 mg/kWh (NOx class 4 boiler)	
	Two Credits	≤70 mg/kWh (NOx class 5 boiler)	
	Three Credits	≤40 mg/kWh	
Comments			
Dry NOx emissions for space heating and hot water heating <40 mg/kWh are anticipated.			
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			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:			1
Requirements			
One Credit Neutral Impact on Surface Water	New hard standing areas must be permeable		
	If building on to previously permeable area additional run-off must be managed on site		
	Calculations should be carried out by an appropriately qualified professional		
Requirements			
OR Second Credits Reducing Run-Off From Site: Basic	Where the criteria needed for One Credit has been achieved		
	Where all run-off from the roof for rainfall depths up to 5 mm, have been managed on site using source control methods		
	Include runoff from all existing and new parts of the roof.		
Requirements			
OR Three Credits Reducing Run-Off From Site: Advanced	Where run-off as a result of the refurbishment is managed on site using source control		
	An appropriately qualified professional should be used to design an appropriate drainage strategy for the site.		
	The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event has been reduced by 75% from the existing site.		
	The total volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration has been reduced by 75%.		
Requirements			
Exemplary Credit	Where all run-off from the developed site is managed on site using source control		
	The peak rate of run-off as a result of the refurbishment for the 1 in 1 year event is reduced to zero.		
	The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event is reduced to zero.		
	There is no volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration.		
An allowance for climate change must be included for all of the above calculations, in accordance with current best practice (PPS25, 2010).			
			Indicative Innovation Credits Achieved
			Please Select
Comments			
The development will have a neutral impact on surface water as the area of hard landscape will not be increased - this achieves the first credit. Input from engineers required to advise if second or third credits may be achievable. POTENTIAL ADDITIONAL CREDIT(S).			
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:			Please Select
Minimum Standards	A minimum of two credits must be achieved for this issue at the Excellent and Outstanding levels		
Option 1 - Low Flood Risk			
Two Credits	Where a Flood Risk Assessment (FRA) has been carried out and the assessed dwellings are defined as having a low annual probability of flooding.		
Option 2 - Medium / High Flood Risk			
Two Credits	Where a Flood Risk Assessment (FRA) has been carried out and the assessed dwellings are defined as having a medium or high annual probability of flooding.		
	Two credits are awarded where as a result of the dwellings floor level or measures to keep water away the dwelling is defined as achieving avoidance from flooding by following Checklist A-10; Decision Strategy Flow Chart.		
	Where avoidance is not possible, two credits are achieved where a full flood resilience/resistance strategy is implemented for the dwellings in accordance with recommendations made by a Suitably Qualified Building Professional		
Comments			
Flood Risk Assessment required for the site. Site considered unlikely to be located within an area at medium or high risk of flood, hence POTENTIAL ADDITIONAL CREDITS.			

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



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	
Indicative Building Score	55.40%
Indicative Building Rating	BREEAM Very Good

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

Hea 01	2	0		
Hea 02	4	2		
Hea 03	1	1	17%	9.92%
Hea 04	2	2		
Hea 05	2	1		
Hea 06	1	1		

Ene 01	6	3		
Ene 02	4	2		
Ene 03	7	0		
Ene 04	2	0		
Ene 05	2	2	43%	20.76%
Ene 06	1	1		
Ene 07	2	2		
Ene 08	2	2		
Ene 09	2	1		
Ene 10	1	1		

Wat 01	3	2.5		
Wat 02	1	0	11%	5.50%
Wat 03	1	0		

Mat 01	25	10		
Mat 02	15	9	8%	4.50%
Mat 03	8	8		

Was 01	2	2		
Was 02	3	3	3%	3.00%

Pol 01	3	3		
Pol 02	3	1	6%	3.00%
Pol 02	2	0		

Innovation	10	0	N/A	0.00%
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	Minimum Standards				
	Pass	Good	Very Good	Excellent	Outstanding
Ene 02	✓	✓	✓	✗	✗
Wat 01	✓	✓	✓	✓	✗
Hea 05	✓	✓	✓	✓	✓
Hea 06	✓	✓	✓	✓	✓
Pol 03	✓	✓	✓	✗	✗
Mat 02	✓	✓	✓	✓	✓

