KINGS COLLEGE HAMPSTEAD CAMPUS

KIDDERPORE AVENUE

SUSTAINABILITY PLAN PURSUANT TO CLAUSE 26 OF S106 – 2015/3936/P

Envisions Sustainability Ltd
25 Manchester Square
London
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Reference: P15180

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CONTENTS

1 INTRODUCTION

1.1 Envision has been instructed by MKP Consultants Ltd. to prepare the Sustainability Implementation Plan for its development proposals at Kidderpore Avenue. The Strategy will discharge obligations under Clause 2.14 of the Section 106 (2015/3936/P).

1.2 Through the development of the scheme, sustainability has been an important issue which the design team have considered through a comprehensive process. Mount Anvil Ltd have appointed a design team with skills necessary to deliver the Sustainability Strategy. Since planning consent has been granted the team has been giving further consideration to the achievement of sustainability targets relevant to the scheme, including BREEAM 'Very-Good' for certain buildings on the site.

1.3 This document is structured against the exact sustainability requirements of the Section 106.

1.4 Clause 26 of the S106 requires a plan securing the incorporation of sustainability measures In the carrying out of the development in its fabric and in its subsequent management and occupation which shall include:-

I. (26.1.1) achieve the targets set out in the submission document entitled 'Sustainability Statement' dated July 2015 and sustainable design measures and climate change adaptation measures in line with policies contained in the Council's Core Strategy policy CS13 (Tackling climate change through promoting higher environmental standards) and Development Policy DP22 (Sustainable design and construction); The targets listed in section 2.2 of this Sustainability Plan demonstrate this.

II. (26.1.2) Achieve a maximum internal water use of 105 litres/person/day, allowing 5 litres/person/day for external water use; The Water calculations listed in Appendix 2 demonstrate this, for new build units.

III. (26.1.3) in relation to the Dudin Brown Building and the Lady Chapman Hall Building, include a design stage Building Research Establishment Environmental Assessment Method (BREEAM) review report completed by a licensed BREEAM assessor in respect of the Property with a target of achieving a Very Good rating and attaining at least 60% of the credits in each of Energy and Water and 40% of the credits in Materials categories; The preliminary BREEAM Review in Section 2.3 and Appendix 1 includes this.

IV. (26.1.4) include a pre-implementation review by an appropriately qualified recognised and independent professional in respect of the Property certifying that the measures incorporated in the Sustainability Plan are achievable in the Development and satisfy the aims and objectives of the Council's strategic policies on sustainability contained within its Development Plan; A preliminary Review has been provided in Appendix 1.

V. (26.1.5) Include details of maintenance and management relative to sustainability measures included in the Sustainability Plan; A short summary is given in Section 2.13.

VI. (26.1.6) include measures to secure a post construction review of the Development by an appropriately qualified recognised and independent professional in respect of the Property (including a written report, photographs and installation contracts) certifying that the measures

incorporated in the Sustainability Plan have been achieved in the Development and will be maintainable in the Development's future management and occupation; The proposals for this is given in clause 2.15.

VII. (26.1.7) Identifying means of ensuring the provision of information to the Council and provision of a mechanism for review and update as required from time to time. The information to be passed back to the council is given in clause 2.16.

2 SUSTAINABILITY IMPLEMENTATION PLAN

Sustainability Targets

2.1 Section 26.1.1 of the S106 requires the Sustainability Plan to demonstrate the achievement of the targets set out in the submission document entitled 'Sustainability Statement' dated July 2015 and sustainable design measures and climate change adaptation measures in line with policies contained in the Council's Core Strategy policy CS13 (Tackling climate change through promoting higher environmental standards) and Development Policy DP22 (Sustainable design and construction);

2.2 The following targets are proposed for the development which follows the principles established in the Sustainability Statement by NLG Associates, dated 03.07.2015.

- BREEAM Very Good for Dudin Brown Building and the Lady Chapman Hall.
- Achieve a 35% reduction in emissions for new build units from Part L 2013.
- Achieve a 35% reduction in emissions from the baseline measurements of the existing buildings to be retained and refurbished.
- Achieve a water consumption target of 105 litres / person day plus for the new build units, allowing 5 litres/person/day for external water use.
- Achieve a 118 litres / person / day for the litres/person/day (l/p/d) for the refurbished units in accordance with BREEAM.

Attaining BREEAM 'Very Good' for Dudin Brown Building and the Lady Chapman Hall Building

2.3 Clause 26.1.3 in the Section 106 stipulates that the Dudin Brown Building and the Lady Chapman Hall Building must achieve a BREEAM score of at least 'Very Good (with at least 60% of the credits in each of Energy and Water and 40% of the credits In Materials categories.

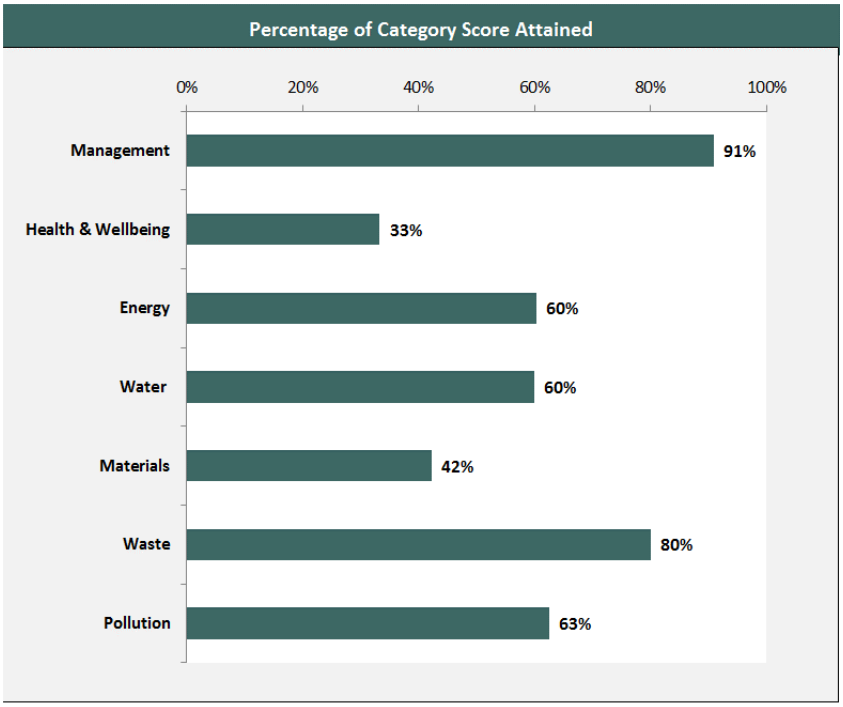
2.4 This section will detail how both of these targets will be attained with specific attention paid to the Energy, Water and Material categories as well as key targets in other categories.

2.5 A target of Very Good is expected possible for the development with a score of 61.6%.

2.6 The performance graph below demonstrates that 60% of the energy and water credits can be achieved, and 40% of the materials credits. A predictive assessment and full list of credits is given in Appendix 1.

Table 2.1 – Summary of BREEAM Performance by Topic

Building name	Dudin Brown / Lady Chapman Hall
Indicative Building Score	61.65%
Indicative Building Rating	BREEAM Very Good



Achieve a 35% reduction in emissions for new build units from Part L 2013 and a 35% reduction in emissions from the baseline measurements of the existing buildings to be retained and refurbished.

2.7 The attainment of these targets is detailed in a separate Energy Efficiency and Renewable Energy Plan. The reader is referred to this document for further details on the achievement of these targets.

Achieve a water consumption target of 105 litres / person day plus for the new build units, allowing 5 litres/person/day for external water use.

2.8 The new build elements will be achieve a water efficiency standard equivalent to Code 4 of the now retracted Code for Sustainable Homes. The water calculator to demonstrate compliance with this target is given in Appendix 2. This is in accordance with section ii of clause 26.1.2.

Achieve a 118 litres / person / day for the litres/person/day (l/p/d) for the refurbished units in accordance with BREEAM.

2.9 The refurbished elements will achieve water efficiency in accordance with the BREEAM methodology as outlined within the Sustainability Statement page 14. In order to achieve this all bathroom and WC room fittings will be to an 'Excellent' standard, as follows:

- Showers - 6 litres per minute
- Baths – 140 litre capacity
- WCs 3 litre effective flush volume
- Taps 3 litres per minute or less.

Pre-implementation review

2.10 Clause 26.1.4 requires a Pre Implementation Review by an appropriately qualified recognised and independent professional in respect of the property certifying that the measures incorporated in the Sustainability Plan are achievable in the Development and satisfy the aims and objectives of the Council's strategic policies on sustainability contained within its Development Plan. MKP and Envision have reviewed these requirements in the development of this Sustainability Plan.

2.11 Envision is a BREEAM accredited assessment organisation and employs BREEAM accredited professionals. Envision has been trained within the domestic refurbishment criteria 2012. The measures set out in Appendix 1 are the BREEAM credits targeted for the project, which are realistic and achievable and in accordance with the requirements of the Sustainability Statement.

2.12 MKP have reviewed the Sustainability Statement prepared by NLG Associates, dated 03.07.2015 and can confirm that the measures set out in the document are accommodated within the design.

Maintenance and Management

2.13 Clause 26.1.5 requires that the maintenance and management of the sustainability measures included in the Sustainability Plan. The Energy Efficiency and Renewable Energy Strategy includes reference to how the energy systems will be operated and maintained, including the centralised energy centre and PV. The remaining measures to achieve BREEAM Very Good and water efficiency documented by this Sustainability Plan will be limited, and generally fall as obligations on the homeowners.

2.14 The dwellings would be subject to the usual aftercare, including the provision of a home user guide will include details of the fixtures and fittings. These will generally have operational life expectancy of between 10 – 25 year, and the internal fixtures will be of low maintenance.

Measures to secure a post construction review

2.15 At post construction, prior to building occupancy a review will be undertaken by an appropriately qualified recognised and independent professional in respect of the Property to demonstrate that the BREEAM measures outlined in Appendix 1, including the water efficiency requirements in Appendix 2 and in section 2.9 have been satisfied. The evidence will include a written report, photographs and installation contracts certifying that the measures incorporated in the Sustainability Plan have been achieved in the Development.

Provision of Information

2.16 Not to Occupy or permit Occupation of the Property until a satisfactory post-completion review has been submitted to and approved by the Council in writing confirming that the measures incorporated in Sustainability Plan as approved by the Council have been incorporated into the Property.

2.17 Prior to first occupation of the development, a pack of information as outlined in section 2.14 will be provided to the council. The pack of information will include:

- Photos of equipment including CHP / PV
- Water efficiency calculations
- Final 'As Built' Plans showing rooftop PV.
- Material 1 calculations.
- Letters of conformity by the design team.

3 CONCLUSION

3.1 This document has sought to address the Sustainability Requirements of the Section 106 by detailing how each one will be achieved through further design and construction.

3.2 Key Energy and Sustainability implementation points are;

I. The new build aspects of the development will achieve a 35% reduction in CO_2 emissions over a Part L 2013 baseline by incorporating sustainable design features such as communal heating, low u-values and PV. The refurbished units will achieve a 35% reduction from the baseline conditions by sympathetic upgrades to existing fabric, new lighting and connection into the site wide energy network.

II. Dudin Brown Building and the Lady Chapman Hall Building will achieve a score equivalent to BRREAM Very Good against the BREEAM non domestic refurbishment criteria. With a score of 61.65%. The blocks will also score 60% in the energy and water categories, and 40% in the materials categories of BREEAM.

III. The units will be designed to be water efficient and achieve a 105 litres / person / day for the new build units, and 118 litres per day for the refurbished elements.

APPENDIX 1

BREEAM Preliminary Assessment

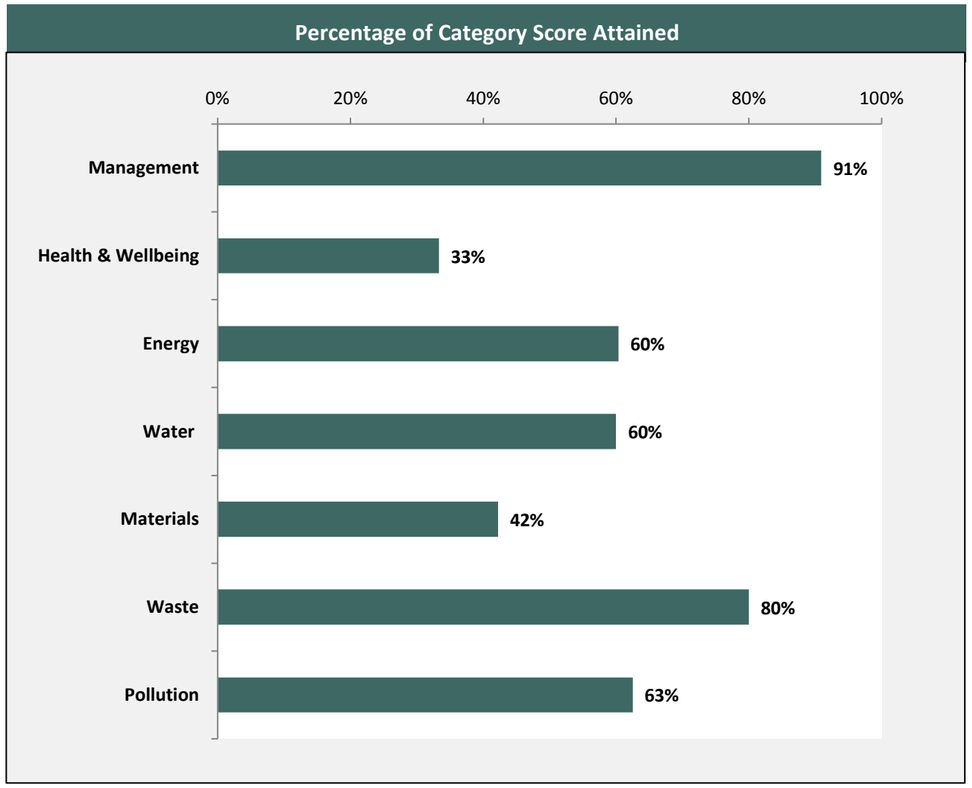
BREEAM Domestic Refurbishment 2012 Pre-Assessment Estimator v0.6: Results Summary

Building name	Dudin Brown / Lady Chapman Hall
Indicative Building Score	61.65%
Indicative Building Rating	BREEAM Very Good

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

	Issue	Credits Available	Indicative Credits Achieved	Weighting	Section Score
Management	Man 01	3	3	12%	10.91%
	Man 02	2	2		
	Man 03	1	1		
	Man 04	2	1		
	Man 05	1	1		
	Man 06	2	2		
Health and Wellbeing	Hea 01	2	1	17%	5.67%
	Hea 02	4	0		
	Hea 03	1	1		
	Hea 04	2	0		
	Hea 05	2	1		
	Hea 06	1	1		
Energy	Ene 01	6	2	43%	25.95%
	Ene 02	4	2.5		
	Ene 03	7	5		
	Ene 04	2	0		
	Ene 05	2	2		
	Ene 06	1	1		
	Ene 07	2	1		
	Ene 08	2	2		
	Ene 09	2	1		
	Ene 10	1	1		
Water	Wat 01	3	2	11%	6.60%
	Wat 02	1	0		
	Wat 03	1	1		
Materials	Mat 01	25	8	8%	3.38%
	Mat 02	12	3		
	Mat 03	8	8		
Waste	Was 01	2	2	3%	2.40%
	Was 02	3	2		
Pollution	Pol 01	3	3	6%	3.75%
	Pol 02	3	0		
	Pol 02	2	2		
Innovation		10	3	N/A	3.00%

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



BREEAM Domestic Refurbishment 2012 Pre-Assessment Estimator v0.7

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	Dudin Brown / Lady Chapman Hall
Indicative building score (%)	61.65%
Indicative BREEAM rating	BREEAM Very Good

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

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

INNOVATION

Section Weighting: 10%

Indicative Section Score: 3.00%

Comments

At this stage no innovation credits have been identified. The opportunity for innovation credits should be kept under review.

MANAGEMENT

Section Weighting: 12%

Indicative Section Score: 10.91%

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

A home user guide can be developed at relatively low cost. This can be passed to future occupants.

Man 02 Responsible Construction Practices

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

Assessment Criteria

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

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

* Small Scale Project Only

Indicative Innovation Credits Achieved
1

Comments

The contractor would be registered with the Considerate Constructors Scheme and achieve a score of 40 points in accordance with current best practices.

Man 03 Construction Site Impacts

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

Assessment Criteria

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

Indicative Credits
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 CO_2 production of energy use arising from site activities	Set objectives for reducing CO_2 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

The main contractor will address construction environmental management in accordance with Checklist A4, relevant to large scale projects.

Man 04 Security

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

Assessment Criteria

Where the following requirements will be met:

		Indicative Credits
One Credit Secure windows and doors	External doors and accessible windows meet minimum standards and appropriately certified	1
Two Credits Secured by design	Principles and guidance of Secured by Design Section 2 are complied with	
	A suitably qualified security consultant is consulted at the design stage and their recommendations are incorporated into the refurbishment	

Comments

An initial site survey was undertaken to gain an understanding of this issue. In general the external openings will be upgraded in accordance with this standard.

Man 05 Protection and Enhancement of Ecological Features

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

Assessment Criteria

Where the following requirements will be met:

		Achieved
One Credit Protecting Ecological Features	Site survey carried out to determine presence of ecological features	1
	Statutory Nature Conservation Organisation notified of protected species	
	Features of ecological value protected during refurbishment works	

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

Comments

One credit as features of ecological value will be protected during the works.

Man 06 Project Management

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

Assessment Criteria

Where the following requirements will be met:

		Indicative Credits
One Credit Project Roles and Responsibilities	Where all of the project team are involved in the project decision making	2
	Small Scale - the project manager assigns individual and shared responsibilities amongst the project team including all trades on site	
	Large Scale - the project manager assigns individual and shared responsibilities across the following key design and refurbishment stages: i. Planning and Building control notification ii. Design iii. Refurbishment iv. Commissioning and handover v. Occupation	

Small Scale projects: five units or fewer and less than £100k **Large Scale projects: more than five units and more than £100k**

		Indicative Innovation Credits Achieved
One Credit Handover and Aftercare	Handover meeting arranged	1
	2 or more of the following committed to: - A site inspection within 3 months of occupation - Conduct post occupancy interviews with building occupants or a survey via phone or posted information within 3 months of occupation - Longer term after care e.g. a helpline, nominated individual or other appropriate system to support building users for at least the first 12 months of occupation	

Exemplary Credits

One Exemplary Credit Early Design Input	Where A BREEAM Accredited Professional has been appointed to oversee key stages within the project. OR Where a BREEAM Domestic Refurbishment Assessor has been appointed at an early stage of the project, prior to the production of a refurbishment specification
One Exemplary Credit Thermographic Surveying and Airtightness Testing	Where Thermographic surveying and Airtightness testing have been carried out at both pre and post refurbishment stages Where an improved air tightness target has been set at design stage and testing demonstrates that this has been achieved post refurbishment

Comments

The credits can be awarded based on the handover and aftercare proposed by Mount Anvil.

HEALTH & WELLBEING

Section Weighting: 17%

Indicative Section Score 5.67%

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: 1

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:

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

The proposed development would have no impact on the availability of daylight within the existing dwelling. One credit can be awarded.

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: 0

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

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 propertywith 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

No creduts targetted.

Hea 03 Volatile Organic Compounds

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

Assessment Criteria

Indicative Credits: 1

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

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

All paints and finishing materials must be specified in accordance with BREEAM VOC criteria. The list of materials must be reviewed by the assessor prior to application.

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:

	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

Indicative Credits

0

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

0

Comments

Not targetted.

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 ventillation levels in the existing property could be made compliant to one credit.

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

At this stage, it is expected that the property would undergo electrical re-wiring. A mains powered fire alarm will be required in line with BREEAM and should be linked to the mains electrics. A carbon monoxide detector should be installed.

ENERGY

Section Weighting: 43%

Indicative Section Score 25.95%

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

SAPs demonstrate an improvement of 20 points.

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: → 2.5

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

Exemplary	Credits
≥90	1
≥100	2

Indicative Innovation Credits Achieved → Please Select

Comments

The units are expected to achieve an EPC C rating at post refurbishment.

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: 5

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

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

Comments

Primary Energy Demand assessed to be less than 200, with some units achieving considerably lower. 5 credits are targetted at this stage.

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: 0

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

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

No renewable energy is proposed on the scheme although a community heating scheme is 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: 2

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

First Credit

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

Second Credit

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

Comments

The compliant white goods will be provided by Mount Anvil.

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: 1

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

1 Credit

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

Comments

Space for laundry drying is available.

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: 1

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

External Lighting - 1 Credit

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 Credit

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

Comments

Credits for external lighting are achievable. The maximum average wattage is not expected to be posible.

Ene 08 Display Energy Devices

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

Assessment Criteria

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

Indicative Credits → 2

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

Exemplary Credits

One credit 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 → 1

Comments

It is possible to install an energy display monitor within the property to monitor energy use associated with electricity and heating An additional credit is possible for this device being able to record and store historic consumption

Ene 09 Cycle Storage

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

Assessment Criteria

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

Indicative Credits → 1

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

Comments

The majority of cycle parking requirements will be accommodated in the basement, amounting to 312 spaces. Cycle allocation will be provided to Dudin Brown and Lady Chapman Hall.

Ene 10 Home Office

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

Assessment Criteria

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

Indicative Credits → 1

Comments

The units includes sufficient space to be classified as a home office.

WATER

Section Weighting: 11% **Indicative Section Score 6.60%**

Wat 01 Internal Water Use

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

Assessment Criteria

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

Indicative Credits → 2

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

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

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

Indicative Innovation Credits Achieved → Please Select

Comments

Target 118 litres / day. All bathroom and WC room fittings to Excellent.

Wat 02 External Water Use

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

Assessment Criteria

Where the following requirements will be met:

Indicative Credits → 0

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

This credit is not currently targetted.

Wat 03 Water Meter

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

Assessment Criteria

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

Indicative Credits → 1

Comments

Water meteres will be upgraded in compliance with this standard.

MATERIALS

Section Weighting: 8%

Indicative Section Score 3.38%

Mat 01 Environmental Impact of Materials

No. of BREEAM credits available	25	Available contribution to overall score	4.44%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

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

Indicative Credits
8

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

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

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

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

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

Comments

An initial assessment has been made againt the materials credits on the assumption that new thermal elements will be of at least a C rating and existing elements are retained with an A rating.

Mat 02 Responsible Sourcing of Materials

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

Assessment Criteria

Indicative Credits
3

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

Table 1

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

sourced in accordance with the UK Government's Timber Procurement Policy?
Yes

Table 2

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

Comments

The materials schedule should be reviewed with the BREEAM assessor before orders are placed.

Mat 03 Insulation

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

Assessment Criteria

Indicative Credits
8

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

Requirements

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

Requirements

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

Comments

New insulation will be responsibly sourced and specified in accordance with the Green Guide to have an insulation index <2. The requirements of this credit must be reviewed with the assessor during detailed design and procurement.

WASTE — Section Weighting: 3% — Indicative Section Score 2.40%

Was 01 Household Waste

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

Assessment Criteria

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

Indicative Credits
2

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

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

Comments

Internal space is available. A local composting service is available bythe local authority.

Was 02 Refurbishment Site Waste Management

No. of BREEAM credits available	3	Available contribution to overall score	1.80%
No. of BREEAM innovation credits	1	Minimum Standards applicable	No

Assessment Criteria

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

Indicative Credits
2

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

Indicative Innovation Credits Achieved
0

Projects up to £300k

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

Projects over £300k

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

Comments

SWMP must be put in place in accordance with checklist A9.

POLLUTION — Section Weighting: 6% — Indicative Section Score 3.75%

Pol 01 NOx Emissions

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

Assessment Criteria

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

	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

Community boiler to be low Nox. emissions that are less than 40 mg/kWh.

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: 0

	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
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.
	An appropriately qualified professional should be used to design an appropriate drainage strategy for the site
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%.
	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

	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).

Comments

There is worsening of the existing situation.

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-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

A flood risk assessment has been undertaken by a suitably qualified engineer to demonstrate that there is no flood risk.

APPENDIX 2

Code for Sustainable Homes – Water Calculator

Job no:	NA
Assessment date:	Apr-16
Assessor name:	Envision
Registration no:	NA
Development name:	Kidderpore Avenue
Issue Date:	Apr-16

WATER EFFICIENCY CALCULATOR FOR NEW DWELLINGS - EXCEL CALCULATOR TOOL (BASIC CALCULATOR)

	House Type:	Type 1		Type 2		Type 3		Type 4		Type 5		Type 6		Type 7		Type 8		Type 9		Type 10	
	Description:	1 bed flat																			
Installation Type	**Unit of measure**	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day	Capacity/ flow rate	Litres/ person/ day
Is a dual or single flush WC specified?		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:	
WC	Full flush volume	6	8.76		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
	Part flush volume	4	11.84		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Taps (excluding kitchen and external taps)	Flow rate (litres / minute)	5.5	10.27		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Are both a Bath & Shower Present?		Bath & Shower		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:		Select option:	
Bath	Capacity to overflow	140	15.40		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Shower	Flow rate (litres / minute)	6	26.22		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Kitchen sink taps	Flow rate (litres / minute)	6	13.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Has a washing machine been specified?		Yes																			
Washing Machine	Litres / kg	8	16.80		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Has a dishwasher been specified?		Yes																			
Dishwasher	Litres / place setting	2	7.20		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Has a waste disposal unit been specified?		No	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
Water Softener	Litres / person / day	0	0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00		0.00
	Calculated Use		109.5		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0		0.0
	Normalisation factor		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91		0.91
Code for Sustainable Homes	**Total Consumption**		**99.6**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**		**0.0**
Part G	External use		5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0		5.0
	Total Consumption		**104.6**		**5.0**		**5.0**		**5.0**		**5.0**		**5.0**		**5.0**		**5.0**		**5.0**		**5.0**