

BREEAM DOMESTIC REFURBISHMENT - 2014

THE ENVIRONMENTAL RATING FOR REFURBISHED HOMES

PRELIMINARY ASSESSMENT

INCLUDING ASSUMPTIONS AND BASIS FOR DATA

23-24 Montague St, WC1B 5BH

FOR The Bedford Estates

Issue Date: 23/02/2016

Version: Revision A, for Planning

BREEAM Registration: ongoing





INTRODUCTION

This document was commissioned by Marlene Martins of FT Architects, on behalf of The Bedford Estates and written by Julian Williams of Abba Energy Ltd. There are <u>six</u> units being assessed on this site.

This report reviews the current standing of this scheme, employing verbal and available design information. Sufficient evidence is not yet available to enable an Interim Stage assessment to be undertaken.

Following this report (and where issued by Abba Energy), it will be the project team's responsibility to ensure that the drawings and specifications follow and clearly state the requirements for the relevant BREEAM Domestic Refurbishment Issues. Information should then be submitted to the Assessor for the Final report to be made. Please note that without the evidence the assessor cannot award the credits. Reference should be made to the BREEAM Domestic Refurbishment Technical Guide.

Project name Client Assessment Type

23-24 Montague St, WC1B 5BH	
The Bedford Estates	Target Rating
Preliminary	Preliminary Rating Achieved

2014
Excellent
Excellent

PRELIMINARY ASSESSMENT

The report table on the following pages includes the basis of data input, sources and assumptions. Each issue is 'weighted' differently, to reflect considered importance, according to the following equivalent percentage scores per credit point: Management – (Man) 1.09%; Health & Wellbeing (Hea) – 1.42%; Energy (Ene) – 1.48%; Water (Wat) – 2.75%; Materials (Mat) – 0.18%; Waste (Was) – 0.60%; Pollution (Pol) – 0.75%; Innovation (Ino) – 1.00%. Where credits have been awarded, it is assumed that the criteria (detailed within the relevant version of the BREEAM Domestic Refurbishment Technical Guide) will be met.

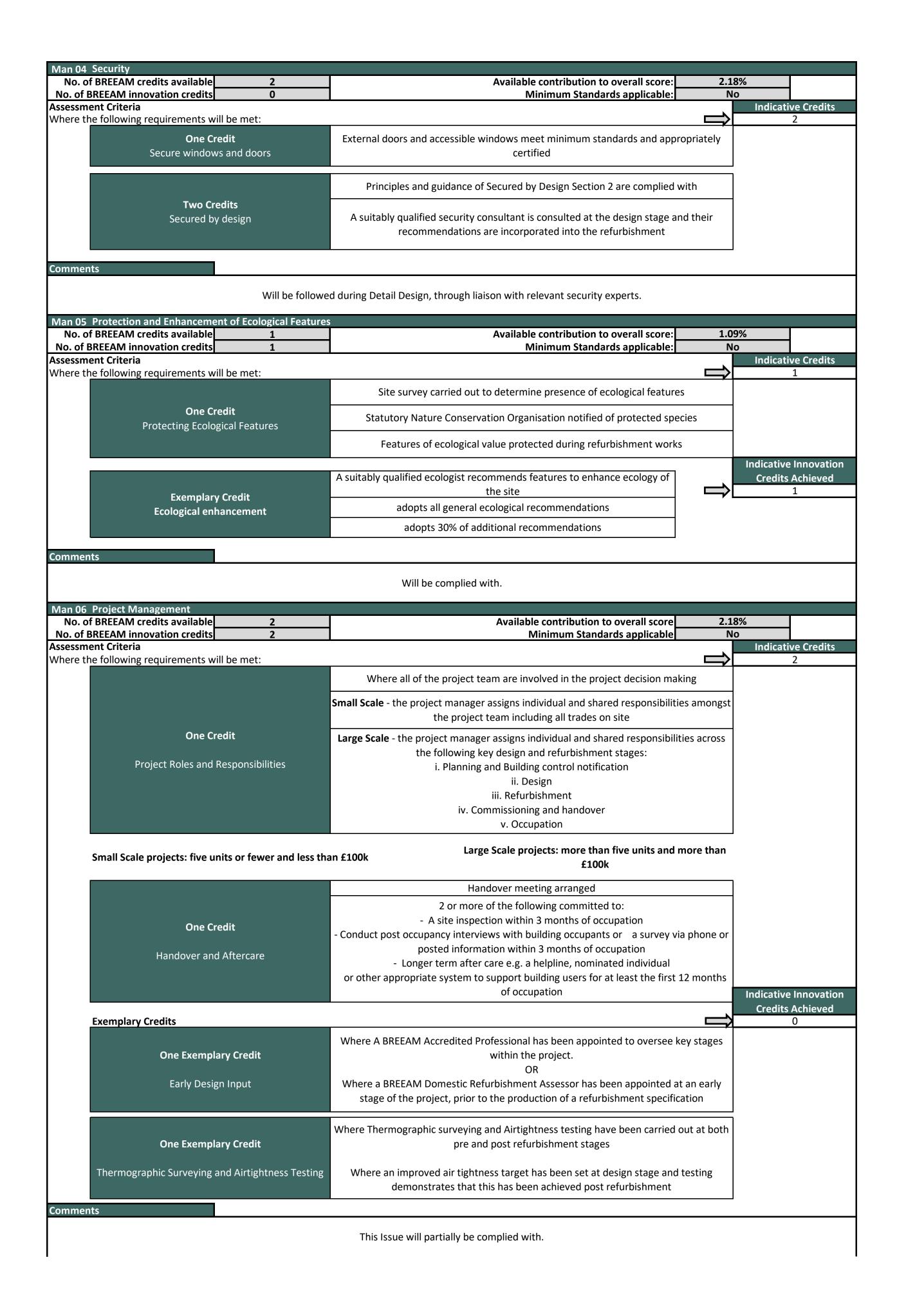
Please note – Client= The Bedofrd Estates [BE], Architect = FT Architects [FT], BREEAM Consultant = Abba Energy [AE].

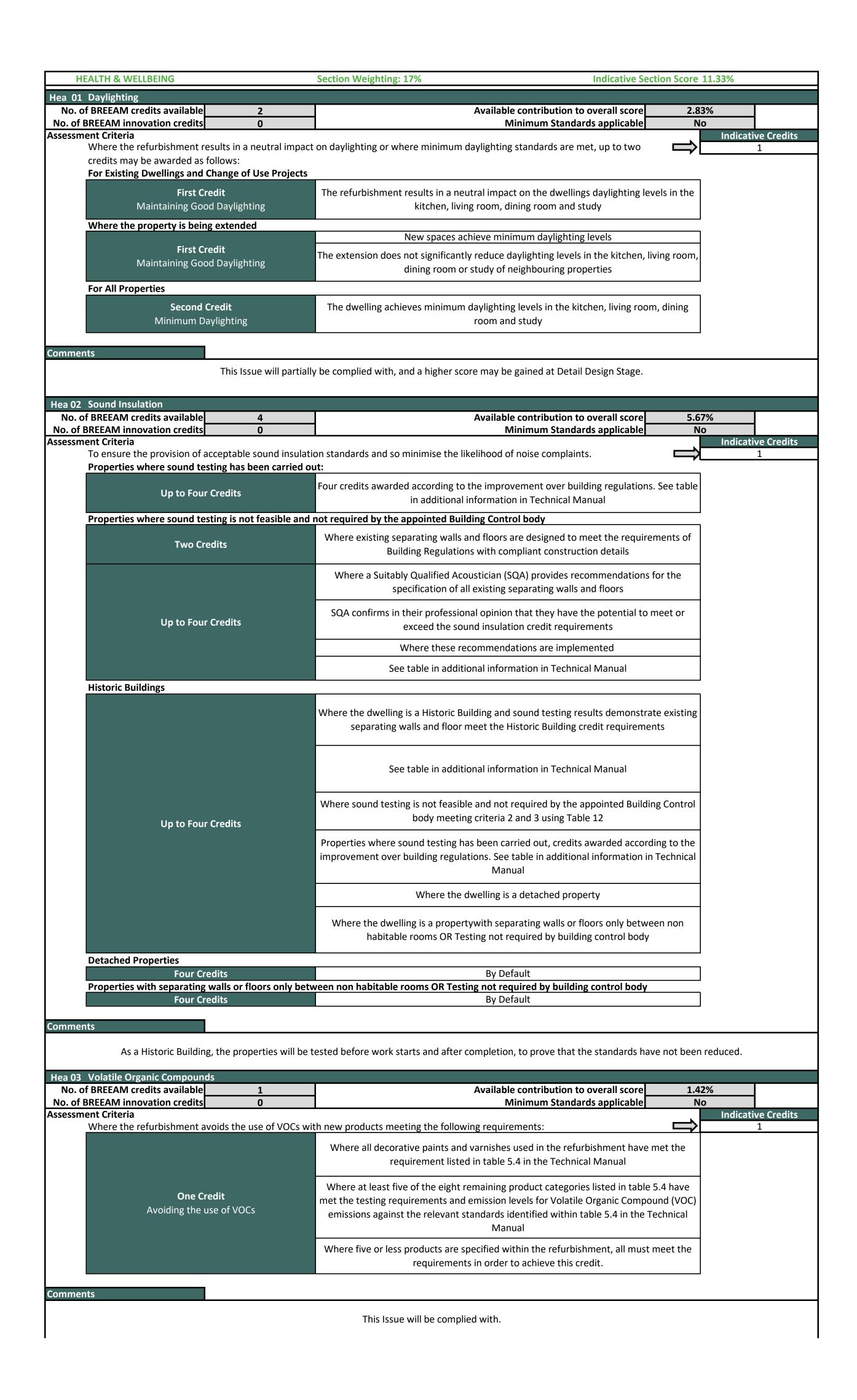
References to 'dwelling' mean a unit of accommodation, house or flat.

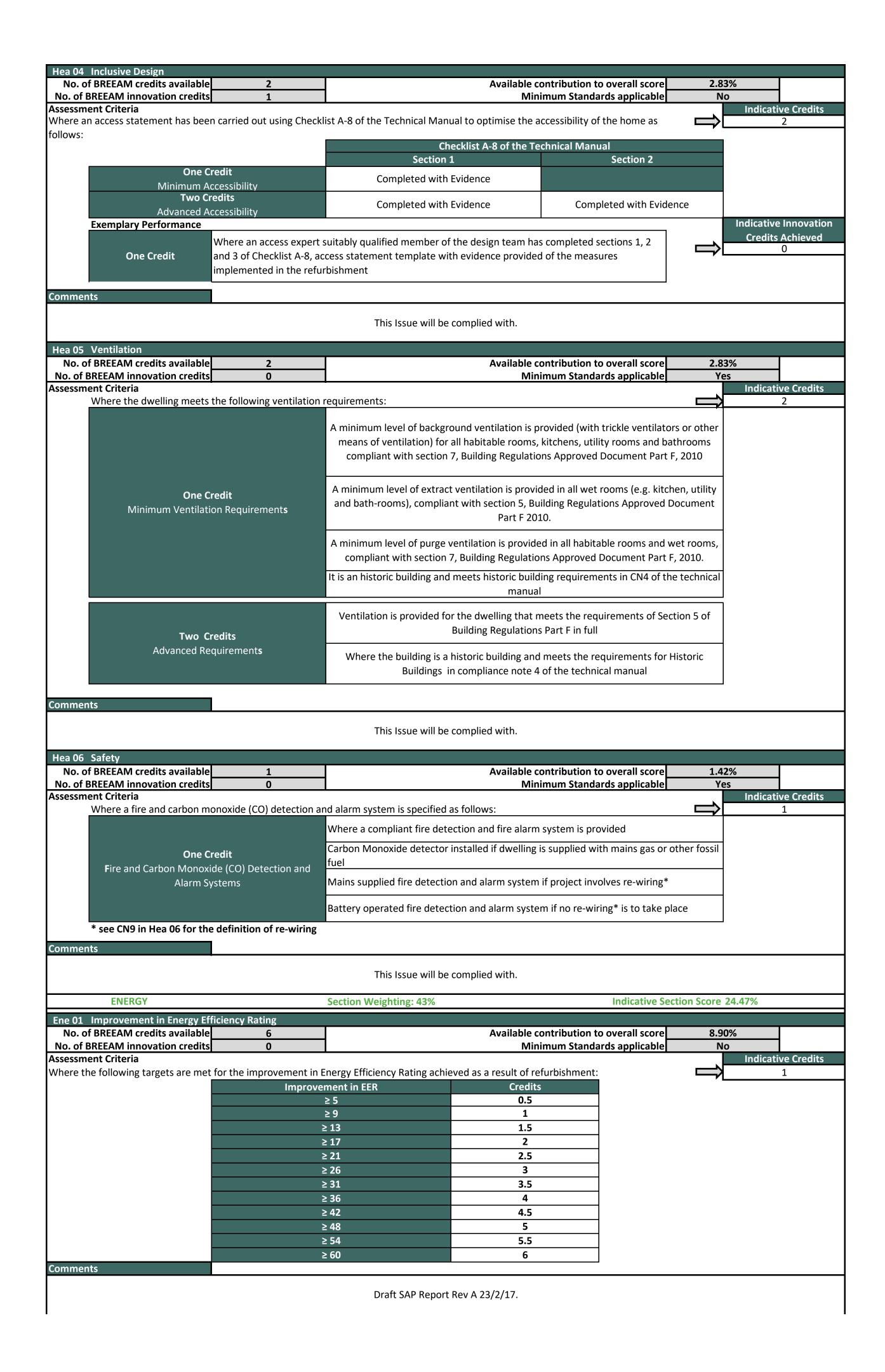
CATEGORY TARGETS FOR PLANNING

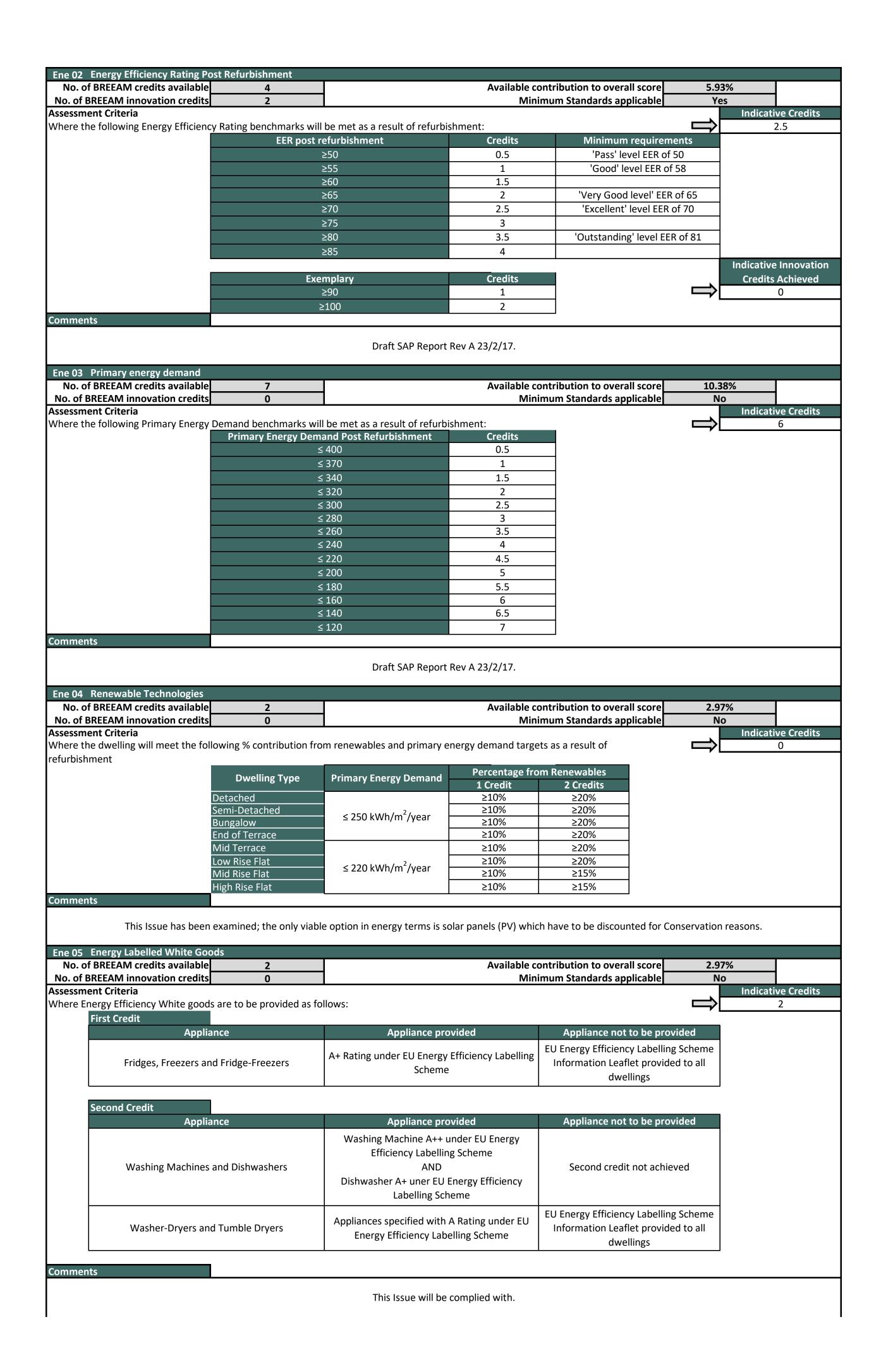
Energy - 60%	57%	TOTAL BDR TARGET	70.00%
		PERCENTAGE REQUIRED	70.00%
Water - 60%	100%	INDICATIVE BDR PERCENTAGE	73.86%
water - 60%	100%	SCORE	
Materials - 40%	65%	ESTIMATED BDR RATING	Excellent

This Issue will be complied with.



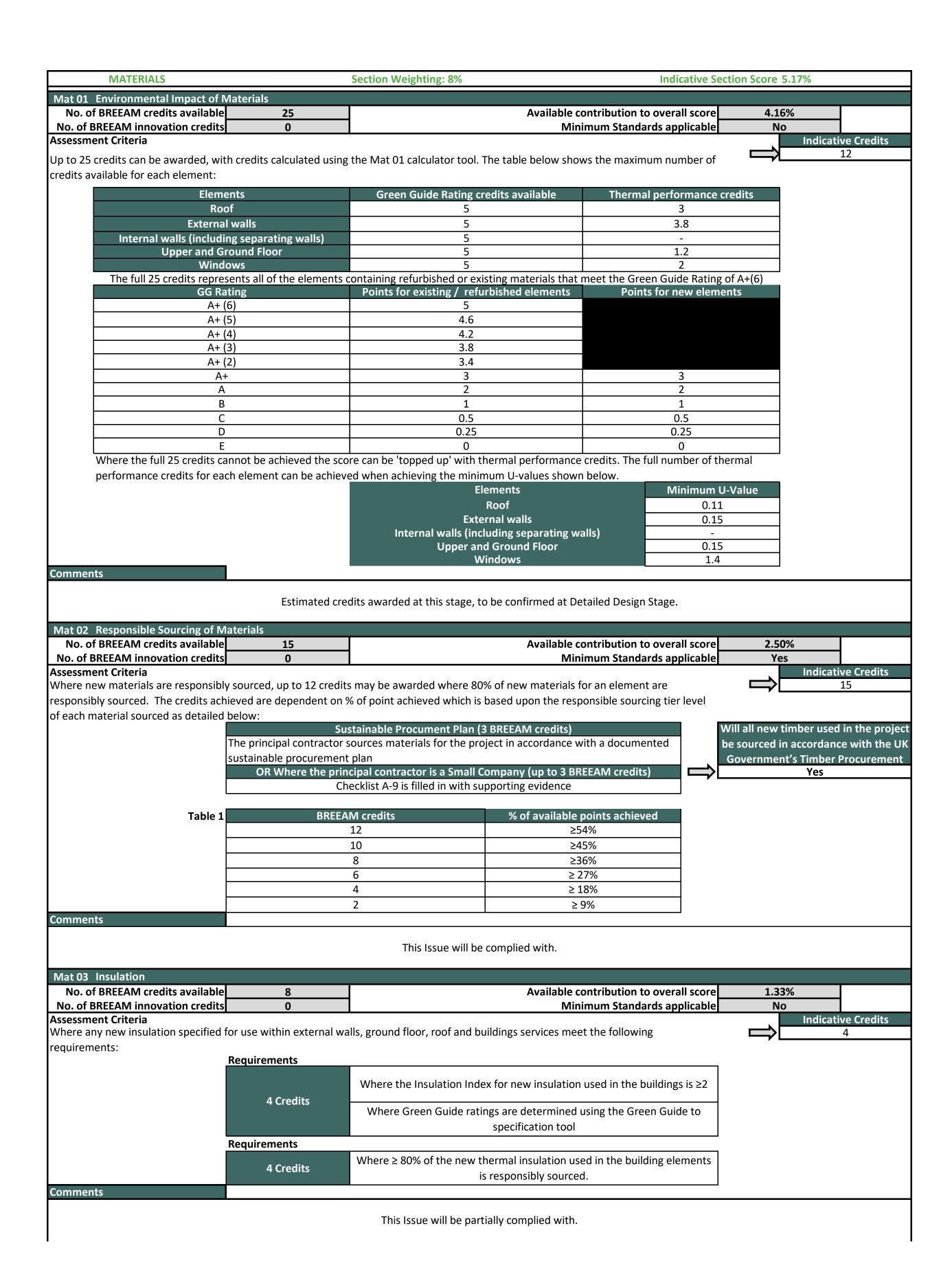


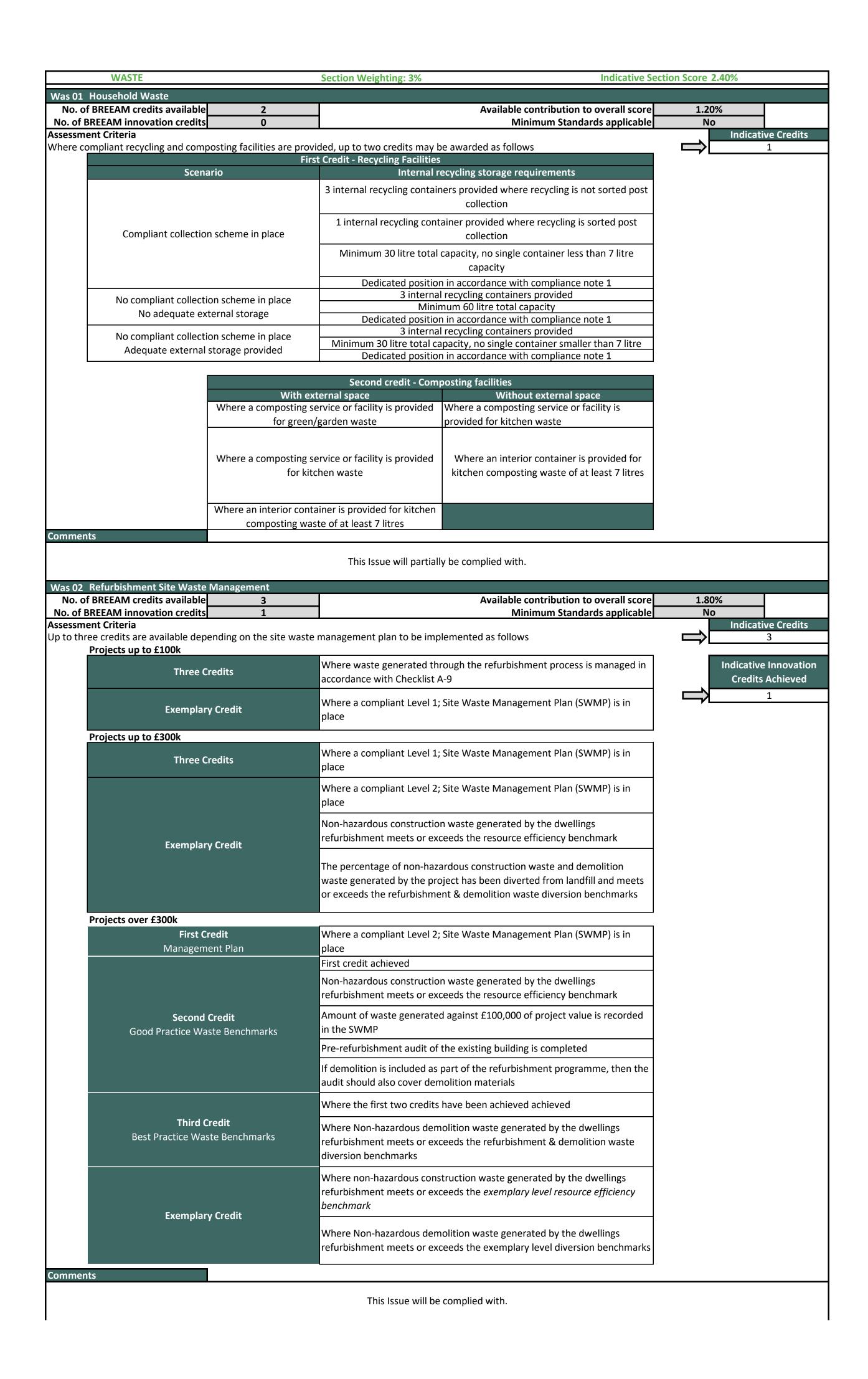




Ene 06 Drying Space	4		Aveileble contr	ilention to consultation	4.400/
No. of BREEAM credits available No. of BREEAM innovation credits	0	Available contribution to overall score Minimum Standards applicable			1.48% No
Assessment Criteria			iviiiiiiui	эшпаагаз аррпсавіс	Indicative Credits
Where adequate, secure internal or e	external space with posts		vided with the following	:	
		1 Credit			, <u> </u>
		Number of bedrooms	Drying line requir	ed	
		1-2	4m+		
Comments		3+	6m+		
Comments					
		This Issue will be	complied with.		
Fue 07 Lighting					
Ene 07 Lighting No. of BREEAM credits available	2		Available contr	ibution to overall score	2.97%
No. of BREEAM innovation credits	0			m Standards applicable	No
Assessment Criteria				•	Indicative Credits
Where energy efficient internal and e		ed as follows:			2
	External Lighting - 1	theing of more than 15 lump	ne nor circuit watt and Fr	orgy Efficient	
		hting of more than 45 lume	ns per circuit watt and Er	iergy Efficient	
	<u>Security Lighting OR</u> Where Energy Efficient S	pace Lighting is provided ON	ILY		
	Internal Lighting - 1				
		lege across the total floor are	a of the dwelling of 9 wat	ts/m2	
Comments				·	
		This Issue will be	complied with.		
Ene 08 Display Energy Devices					
No. of BREEAM credits available	2		Available contr	ibution to overall score	2.97%
No. of BREEAM innovation credits	1		Minimu	m Standards applicable	No
ssessment Criteria					Indicative Credits
Vhere consumption data is displayed	d to occupants by a comp	liant energy display device			2
	Electricity usa	ge data displayed	Primary He	_	
			Electricity	Other 1 credit awarded	
		ge data displayed	2 credits awarded		
	Electricity & Primary He	el usage data displayed N/A 1 credit awarded eating Fuel usage displayed N/A 2 credits awarded		2 credits awarded	
·	Exemplary Credits		14/74	2 creatts awarded	
		e credit	Where the first two	credits are achieved	Indicative Innovation
		Insumption data	Where any compliant E	= 1	Credits Achieved
20	Necoram _b ec	moumption data	capable of recording		
Comments					
		This Issue will be fu	ılly complied with.		
Ene 09 Cycle Storage No. of BREEAM credits available	2		Augilahla santu	ibution to overall score	2.97%
No. of BREEAM innovation credits	<u>2</u> 0	-		n Standards applicable	2.97% No
Assessment Criteria			14.1111111111	Januaras applicable	Indicative Credits
Where individual or communal comp					ightharpoonup
	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					
		Credits not applied	d for at this time.		
		11 -			
Ene 10 Home Office			A	Shouldon to success	1 400/
No. of BREEAM credits available					
No. of BREEAM innovation credits 0 Minimum Standards applicable No Indicative Credits					
Where sufficient space and services v	will be provided to allow	occupants to set up a home	office in a suitable room	with adequate	
ventilation .		·		•	,
Comments					
		Insufficient space to co	omply with this Issue.		

WATER Section Weighting: 11% Indicative Section Score 11.00% Wat 01 Internal Water Use No. of BREEAM credits available Available contribution to overall score 6.60% 3 No. of BREEAM innovation credits Minimum Standards applicable Yes **Indicative Credits Assessment Criteria** Where the dwellings water consumption meets the following consumption benchmarks, or where terminal fittings meet the following water consumption standards: **Calculated Water** Consumption **Equivalent terminal fitting standards Minimum Standard** Credits (litres/person/day) >150 N/A 0 Typical baseline performance All showers specified to 'Good' OR All taps and WC's from 140 to \leq 150 N/A 0.5 to 'Good' **OR** Kitchen fittings specified to 'Excellent' All showers specified to 'Excellent' **OR** All showers from 129 to < 140 **BREEAM Very Good** 1 and bathroom taps to 'Good' All bathroom and WC room fittings specified to N/A from 118 to < 129 'Good' **OR** All bathroom fittings specified to 1.5 'Excellent' All Bathroom and WC room fittings specified to 'Excellent' **OR** All Bathroom fittings Specified to from 107 to < 118 2 'Excellent' and WC room fitting specified to 'Good' **BREEAM Excellent OR** All Bathroom fittings, kitchen and utility sittings specified to 'Good' All kitchen, bathroom, utility room and WC room N/A from 96 to < 107 fittings specified to 'Good' **OR** All bathrooms, 2.5 kitchens and utility rooms specified to 'Excellent' All bathroom fittings specified to 'Excellent' and WC 3 < 96 room, kitchen and utility room fittings specified to **BREEAM Outstanding** 'Good' NOTE: 'Good' fittings are equivalent to good practice fittings with "Excellent" fittings equivalent to best practice fittings (see the technical **Indicative Innovation** manual for full details. **Credits Achieved** If the water consumption is less **Exemplary Credit** 0 than 80l/person/day Comments This Issue will be complied with. Wat 02 External Water Use No. of BREEAM credits available 2.20% Available contribution to overall score No. of BREEAM innovation credits Minimum Standards applicable No **Assessment Criteria Indicative Credits** Where the following requirements will be met: **Requirements:** Where a compliant rainwater collection system for external/internal irrigation use has been provided to dwellings. **One Credit** Where dwellings have no individual or communal garden space. Comments This Issue will be complied with. The ground floor/basement duplex units will have suitable provision, whilst the dwellings on the upper floors don't have external space and will therefore comply by default. Wat 03 Water Meter No. of BREEAM credits available 2.20% Available contribution to overall score No. of BREEAM innovation credits 0 Minimum Standards applicable No **Indicative Credits 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 Comments This Issue will be complied with.





Indicative Section Score 4.50% POLLUTION Section Weighting: 6% Pol 01 NOx Emissions No. of BREEAM credits available 2.25% Available contribution to overall score No. of BREEAM innovation credits 0 Minimum Standards applicable No **Indicative Credits Assessment Criteria** Credits are awarded on the basis of NOx emissions arising from the operation of space heating and hot water systems for each 3 refurbished dwelling as follows: **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 This Issue will be complied with. Pol 02 Surface Water Runoff No. of BREEAM credits available Available contribution to overall score 2.25% 3 No. of BREEAM innovation credits 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 1 to three credits can be awarded as follows: Requirements New hard standing areas must be permeable **One Credit** If building on to previously permeable area additional run-off must be managed on site Neutral Impact on Surface Water Calculations should be carried out by an appropriately qualified professional Requirements 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 **OR Second Credits** site using source control methods Include runoff from all existing and new parts of the roof. Reducing Run-Off From Site: Basic An appropriately qualified professional should be used to design an appropriate drainage strategy for the site Requirements 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 **OR Three Credits** been reduced by 75% from the existing site. Reducing Run-Off From Site: Advanced The total volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration has been reduced by 75%. An allowance for climate change must be included for all of the above calculations, in accordance with current best practice (PPS25, 2010). Requirements Where all run-off from the developed site is managed on site using source **Indicative Innovation Credits Achieved** control 0 The peak rate of run-off as a result of the refurbishment for the 1 in 1 year event is reduced to zero. The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event is reduced to zero. **Exemplary Credit** 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 This Issue will partially be complied with, and a higher score may be gained at Detail Design Stage. Pol 03 Flooding No. of BREEAM credits available 1.50% Available contribution to overall score No. of BREEAM innovation credits 0 Minimum Standards applicable Yes Indicative Credits **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 2 strategy has been implemented, up to two credits can be awarded as follows: A minimum of two credits must be achieved for this issue at the Excellent and **Minimum Standards Outstanding levels** Option 1 - Low Flood Risk Where a Flood Risk Assessment (FRA) has been carried out and the assessed dwellings **Two Credits** are defined as having a low annual probability of flooding. Option 2 - Medium / High Flood Risk 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 **Two Credits** 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 The site is understood to be in a Low Flood Risk Zone. This will be confirmed using a full FRA in accordance with NPPF Guidelines at Detailed Design Stage.



Building name Indicative Building Score Indicative Building Rating

Innovation

10

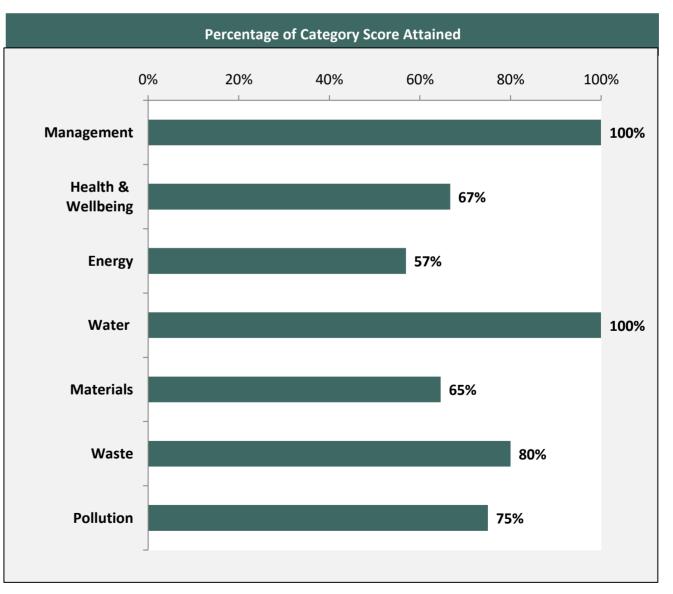
23-24 Montague St (6no flats) 73.86% BREEAM Excellent This assessment and indicative BREEAM rating is not a formal certified BREEAM assessment or rating and must not be communicated as such. The score presented is indicative of a dwelling's potential performance and is based on a simplified pre-formal BREEAM assessment and unverified commitments given at an early stage in the design process.

	Issue	Credits Available	Indicative Credits Achieved	Weighting	Section Score
	Man 01	3	3		
	Man 02	2	2		12.00%
Managamant	Man 03	1	1	12%	
Management	Man 04	2	2	1270	12.00%
	Man 05	1	1		
	Man 06	2	2		
					_
	Hea 01	2	1		
	Hea 02	4	1		
Health and	Hea 03	1	1	17%	11.33%
Wellbeing	Hea 04	2	2	1//0	11.33/0
	Hea 05	2	2		
	Hea 06	1	1		
	Ene 01	6	1		
	Ene 02	4	2.5		
	Ene 03	7	6	420/	
	Ene 04	2	0		
F	Ene 05	2	2		
Energy	Ene 06	1	1	43%	24.47%
	Ene 07	2	2		
	Ene 08	2	2		
	Ene 09	2	0		
	Ene 10	1	0		
	Wat 01	3	3		
Water	Wat 02	1	1	11%	11.00%
	Wat 03	1	1		
	Mat 01	25	12		
Materials	Mat 02	15	15	8%	5.17%
	Mat 03	8	4	3,3	0.2.70
		_			
	Was 01	2	1		
Waste	Was 02	3	3	3%	2.40%
		_			
	Pol 01	3	3		
Pollution	Pol 02	3	1	6%	4.50%
Tollation	Pol 02	2	2	0/0	71.50/0
	1 01 02	_	_		

3

N/A

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



3.00%

CONCLUSION

BREEAM Domestic Refurbishment (BDR) assesses the environmental quality of a development by considering the broad concerns of climate change, use of resources, pollution, and impacts on bio-diversity. These concerns are balanced against their need for a high quality internal environment. The BREEAM Rating benchmarks used for Certification are <30% (Unclassified), >/=30% (Pass), >/=45% (Good), >/=55% (Very Good), >/=70% (Excellent) and >/=85% (Outstanding). However, these can only be applied after all categories have been sub-totalled into their overall 'Issue' categories. At such time scores are 'weighted' and the final marks then calculated.

The Preliminary rating for this scheme is estimated as achieving the Target Rating if the issues awarded with credits are implemented in full.

To allow for a margin of safety, it is recommended that a score that is at least 5.0% in excess of the required target percentage is specified. This is because failure on any major issue may force unexpected or unwanted alternative strategies to achieve the desired rating and potentially additional expense.

The Project Team should check and confirm the data and assumptions contained within this report at the earliest opportunity. This will aid the timely and accurate submission of data for the Interim Code Assessment.

The project team should ensure that the drawings and specifications follow AND clearly state ALL the relevant Code issues for each of the applicable credits. Please note that for the Interim Stage Assessment, without the evidence, the assessor cannot award the credits for such certificated assessment. Once the relevant Code issues are integrated with the design, ALL compliant data (auditable proof, as described in the Code Technical Guide) should then be submitted to the Assessor for the Interim Stage report to be written. Once this report is finished it can be submitted to the BRE for QA and Interim Certification, as necessary. This is then followed by the Post Construction Stage report, which is compiled following site visit(s), receipt of "as built" evidence and ultimately, Post Construction Certification.

REFERENCES

This report was based on the following drawings along with written, verbal and web-based evidence:

REF	Status/Revision	Dated
Site Plan by FT Architects 333-00-00	-	Aug-16
Existing Plans by FT Architects 333-00-01 to 05	P1	Dec-16
Existing Plans by FT Architects 333-05-01 to 07	P1	Dec-16

<END>