

**39 Fitzjohn's Avenue
London
NW3 5JY**

BREEAM UK Domestic Refurbishment Pre-Assessment

**Prepared For:
39 Fitzjohn's Avenue LTD**

Prepared By:



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Table of Contents

1. Executive Summary	3
2. BREEAM Pre-Assessment Score	4
3. BREEAM Pre-Assessment Estimator Summary	4
4. APPENDIX 1 – BREEAM UK Domestic Refurbishment Pre-Assessment Estimator	5

1. Executive Summary

A BREEAM pre-assessment has been carried out for the proposed conversion, extension, and refurbishment at 39 Fitzjohn's Avenue. The purpose of this assessment is to convey the intent to make the site as sustainable as practical and to be in support of the planning application.

The existing house is a detached part 2 and part 3 storey private dwelling with accommodation at basement, ground, first, and second floors with additional accommodation in the roof space which will be converted into 20 apartments.

In addition there is an existing standalone dwelling that will be refurbished internally, but will remain as a single family dwelling. This BREEAM Pre-Assessment has been prepared for the building containing the 20 apartments and not the standalone dwelling.

Camden Council has specific requirements with regards to reductions on carbon emissions for all work to existing building as listed in Chapters 4 and 9 of the Camden Planning Guidance CPG3 on Sustainability, this includes:

- Developments involving the conversion of 5 or more dwellings will be expected to be designed in line with BREEAM Domestic Refurbishment
- Developments are encouraged to achieve at least 60% of the unweighted credits in the Energy and Water categories, as well as 40% of the Materials category.

This project will be assessed against the 2014 BREEAM UK Domestic Refurbishment scheme.

This pre-assessment report demonstrates that the applicant is targeting several sustainable practices in order for the development's design to target the highest score practically possible at 39 Fitzjohn's Avenue.

The proposed scheme will implement numerous strategies to maximise the credits achievable under BREEAM, however there will be limitations on a number of credits due to the inherent features of the proposed development. These limitations derive from a number of reasons including the heritage nature of the site, the retention of the existing fabric, and the use of traditional materials.

Although all areas of sustainability have been addressed to make this development as BREEAM compliant as possible, it is very unlikely for the development to achieve BREEAM Outstanding (85%). The pre-assessment demonstrates a capability for the development to obtain a maximum score of 2.92%.

Camden's requirement for minimum scores for Energy (60%), Water (60%) and Materials (40%) have been achieved.

It is therefore recommended that the development target a BREEAM level of Excellent, with a score of 72.92% to ensure a small buffer above and beyond the 70% threshold required for BREEAM Excellent.

2. BREEAM Pre-Assessment Score

The scoring for 2014 BREEAM UK Domestic Refurbishment is expressed as a percentage, with the requirements for achieving ratings as follows:

Pass	30%
Good	45%
Very Good	55%
Excellent	70%
Outstanding	85%

Each category of the assessment has a different credit weighting to reflect the relevant importance of the issues as well as adjusting for the different numbers of credits in each category.

Table 2.1 demonstrates the development's possible BREEAM score divided by category, as well as showing targets to achieve Very Good, Excellent, and Outstanding ratings.

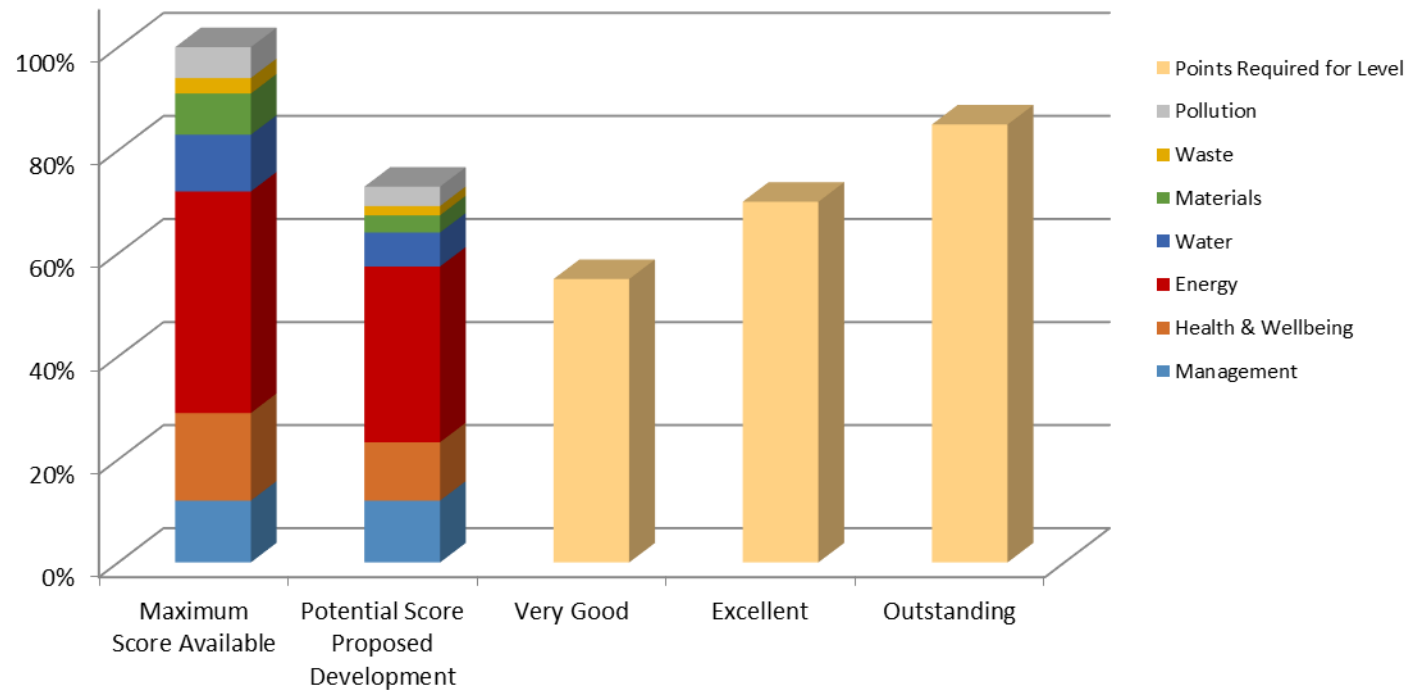


Table 2.1 Potential score and BREEAM rating targets

At this stage the proposed development at 39 Fitzjohn's Avenue is capable of achieving a maximum possible score of 72.92%.

The current design meets all minimum requirements for BREEAM Excellent as stipulated by the BRE, as well as strives to achieve the highest score possible as required by Camden Council's BREEAM policies.

3. BREEAM Pre-Assessment Estimator Summary

The table below summarizes the results of the BREEAM Pre-Assessment for the 39 Fitzjohn's Avenue development. More detailed scoring for each credit can be found under Appendix 1.

BREEAM Rating	Credits Available	Credits Achieved	% Credits Achieved	Weighting	Category Score
Management	11	11	100.00%	12.00%	12.00%
Health & Wellbeing	12	8	66.67%	17.00%	11.33%
Energy	29	23	79.31%	43.00%	34.10%
Water	5	3	60.00%	11.00%	6.60%
Materials	48	20	41.67%	8.00%	3.33%
Waste	5	3	60.00%	3.00%	1.80%
Pollution	8	5	62.50%	6.00%	3.75%
Innovation	10	0	0.00%	10.00%	0.00%
Total	128	73	57.03%	110.00%	72.92%

Table 3.1 Summary of BREEAM Scoring

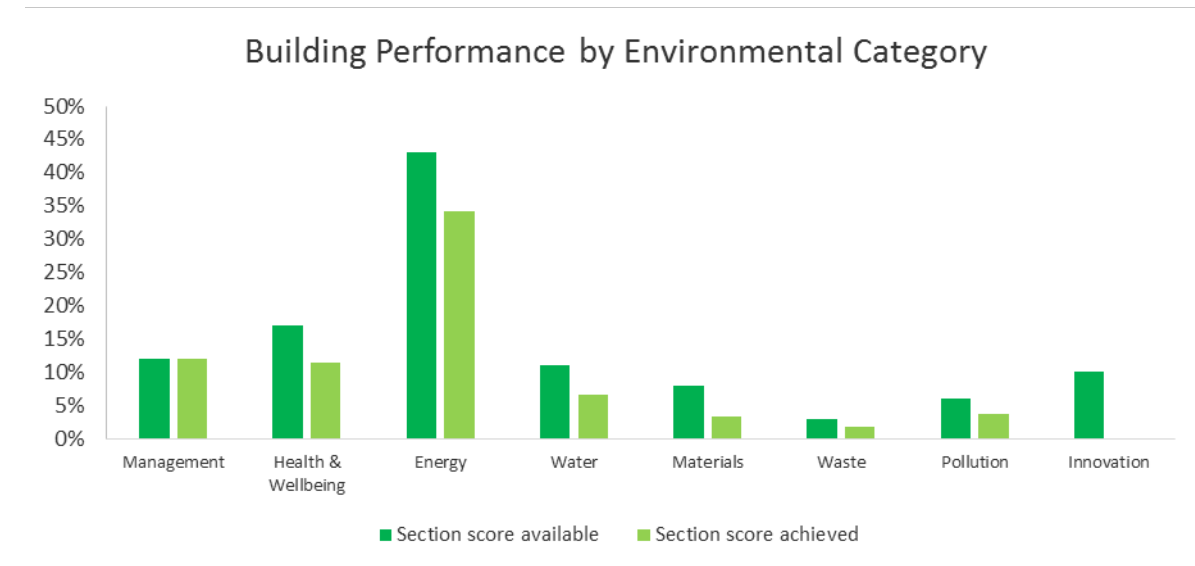


Table 3.2 Summary of BREEAM Scoring

4. APPENDIX 1 – BREEAM UK Domestic Refurbishment Pre-Assessment Estimator

39 Fitzjohn Avenue BREEAM PRE-ASSESSMENT			BREEAM®	Overall building score:		72.92%	
Credit Category	Issue	Credit	Credit Summary	Available	Baseline	Responsibility	Comments
M A N A G E M E N T	MAN-01 Home Users Guide	MAN-01-01	Provision of a home user guide: Where a home user guide containing the information listed in the 'user guide contents list' has been produced and supplied to all homes.	3	3	Applicant	Applicant to provide
	MAN-02 Responsible construction practices	MAN-02-01	Considerate Construction Where the principal contractor has used a 'compliant' organisational, local or national considerate construction scheme and their performance against the scheme has been confirmed by independent assessment and verification. The BREEAM credits can be awarded as follows: - One credit: a CCS (Considerate Constructors Scheme) score between 25 and 34*. - Two credits: a CCS score between 35 and 39**. * A score of at least 5 in each of the five sections must be achieved. ** A score of at least 7 in each of the five sections must be achieved	2	2	Contractor	Considerate Contractor Scheme required
	MAN-03 Construction Site Impacts	MAN-03-01	Monitoring of Construction-site impacts To recognise and encourage refurbishment sites managed in an environmentally sound manner in terms of resource use, energy consumption, and pollution. Where 2 or more of the sections A-E in Checklist A4 are completed.	1	1	Contractor	
	MAN-04 Security	MAN-04-01	Security of Site and Building One credit available where all external doors and windows are appropriately certified to PAS 24:2012 or LPS 1175 Issue 7 Security Rating 1 or equivalent. Two credits available where: a. The principles and guidance of Secured by Design Section 2 - Physical Security are complied with b. A suitably qualified security consultant such as the Police Architectural Liaison Officer (ALO) or Crime Prevention Design Advisor (CPDA) is consulted at the design stage and their recommendations are incorporated into the refurbishment specification.	2	2	Applicant to appoint	Requires a suitably qualified consultant to review the scheme.
	Man-05 Protection and Enhancement of Ecology	MAN-05-01	One credit - Protecting ecological features 1 Where a site survey is carried out by a member of the project team or a suitably qualified ecologist (SQE) to determine the presence of ecological features. 2 Where protected species have been identified as present on-site, the relevant Statutory Nature Conservation Organisation (SNCO) has been notified and protected species have been adequately protected. 3 Where all existing features of ecological value (including any of those listed in CN1) on the refurbishment site potentially affected by the works, are maintained and adequately protected during refurbishment works.	1	1	Ecologist	Requires a suitably qualified consultant or team member to assess existing ecological features.
	Man-06 Project Management	MAN-06-01	First credit - Project roles and responsibilities 1 Where all of the project team are involved in the project decision-making and individual and shared roles and responsibilities are assigned in accordance with CN1 and CN2 as follows: 1.a For small-scale projects, the project manager writes a project implementation plan and holds an initiation meeting to assign individual and shared responsibilities amongst the project team including all trades on-site. 1.b For large-scale projects, the project manager assigns individual and shared responsibilities across the following key design and refurbishment stages: 1.b.i Planning and Building control notification. 1.b.ii Design. 1.b.iii Refurbishment. 1.b.iv Commissioning and handover. 1.b.v Occupation	1	1	Project Manager	

		MAN-06-02	<p>Second credit - Handover and aftercare 2 Where a handover meeting is arranged. 3 Where two or more of items 3.a–3.c have been committed to determine project success: 3.a A site inspection within three months of occupation. 3.b Conduct post-occupancy interviews with building occupants or a survey via phone or posted information within three months of occupation. 3.c 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>	1	1	Project Manager	
H E A L T H A N D W E L L B E I	HEA-01 Daylighting	HEA-01-01	<p>First credit — maintaining good daylighting 1 For existing dwellings and change of use projects (e.g. conversions): 1.a The refurbishment results in a neutral impact on the dwellings daylighting levels in the kitchen, living room, dining room and study with "no" answered for all questions in Checklist A-7: Daylight Factor, parts 1 and 2 (for existing dwellings) or parts 3 and 4 (for change of use e.g. conversions). 2 Where the property is being extended: 2.a New spaces achieve minimum daylighting levels. See CN1 2.b The extension does not significantly reduce daylighting levels in the kitchen, living room, dining room or study of neighbouring properties. See CN4</p>	1	1	Daylighting Consultant	Minimum ADF to all spaces will be achievable.
		HEA-01-02	<p>Second credit — minimum daylighting 3 The dwelling achieves minimum daylighting levels in the kitchen, living room, dining room and study. See CN1</p>	1	1	Daylighting Consultant	Minimum ADF to all spaces will be achievable.
	HEA-02 Sound Insulation	HEA-02-01	<p>Properties where sound testing has been carried out: 1 Where sound testing has been carried out and where the dwelling meets or goes beyond regulations, up to four credits may be awarded according to the sound insulation credit requirements as shown in Table - 14 and Table - 15. Properties where sound testing is not feasible (see CN4 and CN5) and not required by the appointed building control body: 2 Where existing separating walls and floors are designed to meet the requirements of Building Regulations with compliant construction details, two credit can be awarded (CN6). 3 Where a suitably qualified acoustician (SQA) provides recommendations for the specification of all existing separating walls and floors, confirming in their professional opinion that they have the potential to meet or exceed, the sound insulation credit requirements. Where these recommendations are implemented up to four credits may be awarded as shown in Table - 15 and Table - 14.</p>	4	2	Applicant to appoint	Requires acoustician to confirm feasibility
	HEA-03 Volatile Organic Compounds	HEA-03-01	<p>One credit — avoiding the use of VOCs 1 Where all decorative paints and varnishes used in the refurbishment have met the requirement in Table - 16. 2 Where at least five of the eight remaining product categories listed have met the testing requirements and emission levels for volatile organic compound (VOC) emissions against the relevant standards identified in Table - 16. 3 Where five or fewer products are specified within the refurbishment, all must meet the requirements in order to achieve this credit</p>	1	1	Architect	
	HEA-04 Inclusive Design	HEA-04-01	<p>One credit — minimum accessibility 1 An access expert or suitably qualified member of the design team (CN6) has completed section 1 of Checklist A8: Access statement template, accessibility template with evidence provided of the measures implemented in the refurbishment 1.a The access statement demonstrates reasonable provision to provide accessibility to the dwelling covering section 1 of Checklist A8: Access statement template in accordance with CN3 and CN4. Two credits—advanced accessibility 2 An access expert or suitably qualified member of the design team (CN6) has completed sections 1 and 2 of Checklist A8: Access statement template with evidence provided of the measures implemented in the refurbishment 2.a The access statement demonstrates reasonable provision to provide accessibility to the dwelling covering sections 1 and 2 of Checklist A8: Access statement template in accordance with CN3 and CN4.</p>	2	1	Architect	Architect to confirm Checklist A8 is achievable

I N G	HEA-05 Ventilation	HEA-05-01	<p>One credit — minimum ventilation requirements One credit can be awarded where the following whole dwelling is brought up to the following ventilation requirements:</p> <p>1 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. 2 A minimum level of extract ventilation is provided in all wet rooms (e.g. kitchen, utility and bathrooms), compliant with section 5, Building Regulations Approved Document Part F 2010. 3 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. 4 The building is a historic building (CN4) and meets the requirements for historic buildings below.</p> <p>Two credits — advanced ventilation Two credits can be awarded where:</p> <p>5 Ventilation is provided for the dwelling that meets the requirements of Section 5 of Building Regulations Part F in full. 6 Where the building is a historic building and meets the requirements for historic buildings (CN4).</p>	2	1	MEP Engineer / Architect	Minimum ventilation requirements to be met by trickle vents, openable windows, and extract ventilation to all wet rooms
	HEA-06 Safety	HEA-06-01	<p>One credit — fire and carbon monoxide (CO) detection and alarm systems</p> <p>1 Where the dwelling is provided with a compliant fire detection and alarm system in accordance with relevant compliance notes 2-9. 2 Where the dwelling is supplied with mains gas or where any other form of fossil fuel (e.g. coal) or biomass is used within the building (e.g. coal), a compliant carbon monoxide detector and alarm system is provided in accordance with relevant compliance notes 2-9. 3 Where the project involves electrical rewiring the power supply for the smoke alarm and compliant carbon monoxide alarm systems are derived from the dwellings main electricity supply in accordance with CN5. Please see CN9 for compliance where properties are undertaking electrical rewiring. 4 Where the project does not involve electrical rewiring the power supply for the smoke alarm and carbon monoxide alarm systems are derived from a battery supply.</p>	1	1	MEP Consultant	Minimum for Very Good.
	ENE-01 Improvement in Energy Efficiency	ENE-01-01	<p>Up to 6 credits are awarded – improving the dwelling's energy efficiency rating (EER)</p> <p>1 Where the refurbishment results in an improvement to the dwelling's energy efficiency rating, in accordance with CN2.</p>	6	3	MEP Consultant	3 credits targetted based on existing EPC and SAP 2012 worksheets (improvement in EER of 26)
	ENE-02 Energy Efficiency Rating Post Refurbishment	ENE-02-01	<p>Up to 4 credits are awarded – EER post-refurbishment</p> <p>1 Where as a result of refurbishment, the dwelling meets a minimum energy efficiency rating, credits can be awarded.</p>	4	3.5	MEP Consultant	3.5 credits targetted, based on SAP 2012 Worksheets for the Proposed (average 83)
	ENE-03 Primary Energy Demand	ENE-03-01	<p>The following demonstrates compliance:</p> <p>1 Where as a result of refurbishment the dwelling meets the primary energy demand targets, up to 7 credits may be awarded.</p>	7	6.5	MEP Consultant	6.5 credits targetted from Primary Energy from SAP 2012 Worksheets

E N E R G Y	ENE-04 Renewable Technologies	ENE-04-01	<p>One credit: 1 Where at least 10% of the dwelling's primary energy demand per annum is supplied by low or zero carbon technologies AND 2 Where the dwelling has reduced energy demand prior to the specification of renewable technologies with a maximum primary energy demand as follows: 2.a For detached, semi-detached, bungalows and end terraces: 250 kWh/m²/year 2.b Mid terraces and flats: 220 kWh/m²/year</p> <p>Two credits: 3 Where for mid to high-rise flats at least 15% of each dwelling's primary energy demand per annum is supplied by low or zero carbon technologies 4 Where for dwellings other than mid to high-rise flats at least 20% of each dwellings primary energy demand per annum is supplied by low or zero carbon technologies AND 5 Where the dwelling has reduced energy demand prior to the specification of renewable technologies with a maximum primary energy demand as follows: 5.a For detached, semi-detached, bungalows and end terraces: 250 kWh/m²/year 5.b Mid terraces and flats: 220 kWh/m²/year</p>	2	1	MEP Consultant	Inclusion of PV panels
	ENE-05 Energy Labelled White Goods	ENE-05-01	<p>First credit – Fridges, freezers and fridges/freezers 1 Fridges and freezers or fridges/freezers have an A+ rating or better under the EU energy efficiency labelling scheme OR 2 Where no white goods are provided to the dwelling(s) but the EU energy efficiency labelling scheme information leaflet is provided to each dwelling.</p>	1	1	Applicant	A+ rating white goods to be provided
		ENE-05-02	<p>Second credit – washing machines, dishwashers, tumble dryers and washer-dryers 3 Washing machines have an A++ rating or better under the EU energy efficiency labelling scheme 4 Dishwashers have an A+ rating or better under the EU energy efficiency labelling scheme AND EITHER 5 Washer-dryers and tumble dryers have an A rating under the EU energy efficiency labelling scheme (where a washer dryer is provided, it is not necessary to also provide a washing machine) OR 6 Where a washer dryer or tumble dryer is not provided, the EU energy efficiency labelling scheme information leaflet is provided to each dwelling</p>	1	1	Applicant	A++ rating white goods to be provided
	ENE-06 Drying Space	ENE-06-01	<p>One credit 1 An adequate, secure internal or external space with posts and footings, or fixings holding: 1.a 1–2 bedrooms: 4m+ of drying line. 1.b 3+ bedrooms: 6m+ of drying line.</p>	1	1	Architect	Internal or external space required for this credit. Architect to confirm feasibility.
	ENE-07 Lighting	ENE-07-01	<p>One credit – External lighting 1 Where energy efficient space lighting (including lighting in communal areas) and energy efficient security lighting is provided. OR 2 Where energy efficient space lighting (including lighting in communal areas) and no security lighting is provided.</p>	1	1	MEP Consultant	Lighting design to be energy efficient
		ENE-07-02	<p>One credit - Internal Lighting 3 One credit is awarded where the energy required for internal lighting is minimised through the provision of a maximum average wattage across the total floor area of the dwelling of 9 watts/m².</p>	1	1	MEP Consultant	Lighting design to be energy efficient

	ENE-08 Display Energy Devices	ENE-08-01	<p>One credit 1 Current electricity OR primary fuel consumption data is displayed to occupants through a compliant energy display device.</p> <p>Two credits 2 Where current electricity AND primary heating fuel consumption data are displayed to occupants by a compliant correctly specified energy display device. OR 3 Where electricity is the primary heating fuel and current electricity consumption data are displayed to occupants by a compliant energy display device.</p>	2	2	MEP Consultant	Will require smart meters for electric AND gas consumption within each flat.
	ENE-09 Cycle Storage	ENE-09-01	<p>One credit: 1 Where individual or communal compliant cycle storage is provided for the following number of cycles: 1.a Studios or 1 bedroom dwellings – storage for 1 cycle for every two dwellings. 1.b 2 and 3 bedroom dwellings – storage for 1 cycle per dwelling. 1.c 4 bedrooms and above – storage for 2 cycles per dwelling.</p> <p>Two credits: 2 Where individual or communal compliant cycle storage is provided for the following number of cycles: 2.a Studios or 1 bedroom dwellings – storage for 1 cycle per dwelling. 2.b 2 and 3 bedroom dwellings – storage for 2 cycles per dwelling. 2.c 4 bedrooms and above – storage for 4 cycles per dwelling.</p>	2	1	Architect	With current apartment layout, 19 spaces are required for 1 credit, 47 for 2 credits. Current provision is for 36 cycles.
	ENE-10 Home Office	ENE-10-01	<p>One credit: 1 Where sufficient space and services have been provided which allow the occupants to set up a home office in a suitable room with adequate ventilation.</p>	1	1	Architect	Sufficient space to be confirmed by architect.
W A T E R	WAT-01 Water consumption	WAT-01-01	<p>Up to three credits are available 1 Where terminal fittings meet the equivalent terminal fitting consumption standards as detailed in Table - 22 and Table - 23. OR 2 Where the BREEAM Domestic Refurbishment Wat 01 calculator is used to determine the dwelling's water consumption, credits may be awarded depending on the calculated whole house water consumption, as detailed in Table - 22</p>	3	1	Architect	Assumed target of 1/3 credits TBC with sanitary ware calculations, minimum for Very Good.
	WAT-02 External Water Use	WAT-02-01	<p>One credit 1 Where a compliant rainwater collection system for external or internal irrigation use has been provided to dwellings. OR 2 Where dwellings have no individual or communal garden space.</p>	1	1	Architect	Rainwater collection will be provided.
	WAT-03 Water Meter	WAT-03-01	<p>One credit 1 Where an appropriate water meter for measuring usage of mains potable water has been provided to dwelling or dwellings in accordance with CN1 or CN2 A meter that provides a visible display of mains potable water consumption to occupants. The meter should be a permanent feature secured within the home in a location visible to occupants (i.e. not hidden within a cupboard) and capable of recording and displaying historic water consumption to allow water consumption to be monitored over time. The meter should be capable of displaying current consumption either instantaneously or at half hourly intervals.</p>	1	1	MEP Consultant	Smart water meters required within each apartment (visible location).
	MAT-01 Environmental Impact of Materials	MAT-01-01	<p>Up to 25 credits available: 1 The BREEAM Domestic Refurbishment Mat 01 calculator is used to determine the number of credits awarded. Credits are awarded according to the impact of new materials according to their Green Guide rating and their impact on improving the thermal performance of the dwelling for the following elements: 1.a Roof. 1.b External walls.</p>	25	9	Architect	Assumed target, architect to confirm.
		MAT-02-01	<p>Prerequisite 1 All timber and timber-based products used on the project is 'legally harvested and traded timber' (see relevant definitions). Note: 1.a It is a minimum requirement for achieving a BREEAM rating (for any rating level) that compliance with criterion 1 is confirmed. 1.b For other materials there are no prerequisite requirements at this stage.</p>	0	0	Contractor	Prerequisite

M A T E R I A L S	MAT-02 Responsible Sourcing of Materials	MAT-02-02	<p>Up to 3 credits - Sustainable procurement plan</p> <p>2 Where the principal contractor sources materials for the project in accordance with a documented sustainable procurement plan (see the relevant definitions in the additional information section) three credits can be awarded</p> <p>OR</p> <p>3 Where the principal contractor is a Micro-enterprise (according to the relevant definitions in the additional information section) up to 3 credits are available:</p> <p>3.a Where the principal contractor addresses part 1 OR part 2 of Checklist A-9: Sustainable procurement statement one credit can be awarded.</p> <p>3.b Where the principal contractor addresses parts 1 AND 2 of Checklist A-9: Sustainable procurement statement two credits can be awarded.</p> <p>3.c Where the principal contractor addresses parts 1, 2 AND 3 of Checklist A-9: Sustainable procurement statement three credits can be awarded.</p>	3	2	Contractor	Sustainable procurement plan required
		MAT-02-03	<p>Up to 12 credits - Responsible sourcing of materials (RSM)</p> <p>4 The available RSM credits (refer to Table - 44) can be awarded where the applicable building materials (refer to Table - 26) are responsibly sourced in accordance with the BREEAM methodology, as defined in steps 1 to 2 in Mat 02 Calculation Procedure B-8</p>	12	5	Contractor	Assumed target, architect to confirm feasibility.
	MAT-03 Insulation	MAT-03-01	<p>Prerequisite</p> <p>Any new insulation specified for use within the following building elements must be assessed:</p> <p>External walls.</p> <p>Ground floor.</p> <p>Roof.</p> <p>Building services.</p>	0	0	Contractor	Prerequisite
		MAT-03-02	<p>4 Credits - Embodied impact</p> <p>1 Where the insulation index for new insulation used in the buildings is ≥ 2 and is calculated using the BREEAM Domestic Refurbishment Mat 03 calculator with reference to CN1, CN2 and CN3.</p> <p>2 Where Green Guide ratings, required by the BREEAM Domestic Refurbishment Mat 03 calculator are determined using the Green Guide to Specification tool.</p>	4	2	Contractor	
		MAT-03-03	<p>4 Credits - Responsible sourcing</p> <p>3 Where $\geq 80\%$ of the new thermal insulation used in the building elements is responsibly sourced.</p>	4	2	Contractor	Commitment from contractor is required.
	WST-01 Household Waste	WST-01-01	<p>First credit – Recycling facilities</p> <p>1 One credit can be awarded where the dwelling complies with one of the scenarios detailed in Table - 27.</p>	1	1	Architect	Requires space allowance for one 30L mixed recyclable container within each apartment.
WST-01-02		<p>Second credit – Composting facilities</p> <p>Dwellings with significant external private space - all of the following are met:</p> <p>2 Where a composting service or facility is provided for green/garden waste.</p> <p>3 Where a composting service or facility is provided for kitchen waste.</p> <p>4 Where an interior container is provided for kitchen composting waste of at least seven litres.</p> <p>Dwellings without significant external private space - all of following are met:</p> <p>5 Where a composting service or facility is provided for kitchen waste.</p> <p>6 Where an interior container is provided for kitchen composting waste of at least seven litres.</p>	1	0	Architect	Internal 7 Litre composting bins required. External green waste bins required.	

W A S T E	WST-02 Refurbishment Site Waste Management	<p>Projects up to and equal to £100k: three credits are awarded: 1 Where waste generated through the refurbishment process is managed in accordance with Checklist A-10: Refurbishment Site Waste Management – up to £100k value</p> <p>Projects up to and equal to £300k: three credits are awarded: 2 Where a compliant level 1 site waste management plan (SWMP) is in place in accordance with CN3.</p> <p>Projects over £300k: up to three credits are available: First credit – Management plan 3 Where a compliant level 2 SWMP is in place in accordance with CN4 Second credit – Good practice waste benchmarks 4 Where the first credit has been achieved. 5 Where non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the resource efficiency benchmark in accordance with CN7 6 Where the amount of waste generated per £100,000 of project value is recorded in the SWMP. 7 Where a pre-refurbishment audit of the existing building is completed in accordance with CN10 8 Where the demolition is included as part of the refurbishment programme, then the audit should also cover demolition materials. Third credit – Best practice waste benchmarks 9 Where the first two credits have been achieved. 10 Where non-hazardous demolition waste generated by the dwellings refurbishment meets or exceeds the refurbishment & demolition waste diversion benchmarks in accordance with CN8</p>	3	2	Contractor	A compliant level 2 Waste Management Plan will be required from the contractor, and good practice benchmarks achieved.
	POL-01 NOx emissions	<p>NOx Emissions The credits are awarded as follows: - 1 credit: NOx emission for heating and hot water <= 100mg/kWh - 2 credits: Nox emission for heating and hot water <= 70mg/kWh - 3 credits: Nox emission for heating and hot water <= 40mg/kWh</p>	3	2	MEP Consultant	Low NOX Boilers to be specified for space and hot water heating.
	POL-02 Surface water run-off	<p>One credit – Neutral impact on surface water 1 Where there is no change in the size of the building footprint or hardstanding as a result of the refurbishment. 2 Where any new hardstanding areas are permeable, this must include all new pavements, driveways and where applicable public rights of way, car parks and non-adoptable roads (e.g. community scale refurbishment projects). 3 Where the building is being extended onto any previously permeable surfaces, or an impermeable surface that drains onto a permeable surface (e.g. paving slabs set on concrete that drained onto soft landscaped areas) the additional run-off for rainfall depths up to 5 mm caused by the area of the extension must be managed on-site using appropriate Sustainable Drainage Systems (SuDS) such as Soakaways. 4 Any calculations necessary to demonstrate that criterion 2 will be achieved should be carried out by an Appropriately Qualified Professional (AQP). See CN6.</p> <p>OR Two credits – Reducing run-off from site: basic 5 Where criteria 1, 2 and 3 have been achieved. 6 Where all run-off from the roof for rainfall depths up to 5mm, have been managed on-site using source control methods (e.g. through infiltration, soakaways, etc.). This should include run-off from all existing and new parts of the roof. 7 Where required, an appropriately qualified professional should be used to design an appropriate drainage strategy for the site, ensuring criterion 1 is achieved</p> <p>OR Three credits – Reducing run-off from site: advanced 8 An appropriately qualified professional should be used to design an appropriate drainage strategy for the site. 9 Where run-off as a result of the refurbishment is managed on-site using source control achieving the following requirements: 9 a The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event has been</p>	3	1	Civil Engineer	Assumed neutral impact on surface water TBC

	POL-03 Flooding	POL-03-01	<p>Minimum standards 1 A minimum of two credits must be achieved for this issue at the Excellent and Outstanding levels.</p> <p>Option 1 – Low flood risk 2 Where a flood risk assessment (FRA) has been carried out and the assessed dwellings are defined as having a low annual probability of flooding.</p> <p>Option 2 – Medium/high flood risk 3 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. 4 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-11: Decision strategy flow chart 5 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</p>	2	2	Civil Engineer	In accordance with RWA the site is not in an area which has been knowingly affected by flooding in the past, nor is it located within 250m of a known area of flood risk
I N N O V A T I O N	INN-01 Innovation	INN-01-01	Exemplary Level of Performance in Existing BREEAM Issues and Approved Innovation	10			