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# BREEAM

## Refurbishment

## Domestic buildings

### 20 John Street

### Preliminary

### Assessment

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MW Architects Ltd.

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# Issue Status

20 John Street  
BREEAM  
Refurbishment  
Domestic buildings

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# Introduction

## 20 John Street

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#### Introduction

Eight Associates have been appointed, as registered BREEAM assessors, to carry out an assessment of the proposed 20 John Street development in the London Borough of Camden. This guide is a pre-assessment of the development and details the anticipated score based on the information provided by the design team on 22<sup>nd</sup> February.

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#### Planning Requirement

Camden City Council requires the submission of the following as part of the planning application:

- Preliminary Assessment, which demonstrates the achieving of a BREEAM Domestic Refurbishment 'VERY GOOD' rating, with targeting an 'EXCELLENT' rating.
- Energy Assessment demonstrating how energy use and CO2 emissions will be minimised in line with the 25% reduction required by policy 5.2 of the London Plan.

Following the project's completion a Post Construction Assessment will be carried out and a certificate issued to confirm compliance.

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#### Score Summary

The site reviewed currently achieves a score of **73.90%**, which equates to an **EXCELLENT** rating ( $\geq 70\%$ ). This meets the aspiration for the project of achieving a EXCELLENT rating.

Please note, Eight Associates recommend a safety margin of ~5% to safeguard any rating at formal assessment. Therefore, the design team should look to target sufficient credits to meet a minimum score of approximately 75% in order to be confident of achieving an EXCELLENT rating.

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#### Building Summary

The development is the refurbishment of a Grade II listed building. The Gross Internal Floor Area is 480 m<sup>2</sup>.

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# BREEAM

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### The BREEAM Standard

BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's leading and most widely used environmental assessment method for buildings. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance.

Building projects are assessed at the design and post-construction stages using a system of environmental issues grouped within the following categories:

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

The assessment of the building results in a final report and BRE Global BREEAM certificate detailing the performance of the assessed building against the environmental issues covered in this report. The building's performance is expressed as a BREEAM rating of PASS, GOOD, VERY GOOD, EXCELLENT or OUTSTANDING.

BREEAM is developed, operated and maintained by BRE Global Ltd and the operation and direction of the method is overseen by an independent Sustainability Board, representing a wide cross-section of construction industry stakeholders. Further information about BREEAM, including copies of the BREEAM standards, can be found at [www.breeam.org](http://www.breeam.org).

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### Aims of BREEAM

- To mitigate the impacts of buildings on the environment
- To enable buildings to be recognised according to their environmental benefits
- To provide a credible, environmental label for buildings
- To stimulate demand for sustainable buildings

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### Objectives of BREEAM

- To provide market recognition to low environmental impact buildings
  - To ensure best environmental practice is incorporated in buildings
  - To set criteria and standards surpassing those required by regulations and challenge the market to provide innovative solutions that minimise the environmental impact of buildings
  - To raise the awareness of owners, occupants, designers and operators of the benefits of buildings with a reduced impact on the environment
  - To allow organisations to demonstrate progress towards corporate environmental objectives
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# Rating Summary

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## 20 John Street

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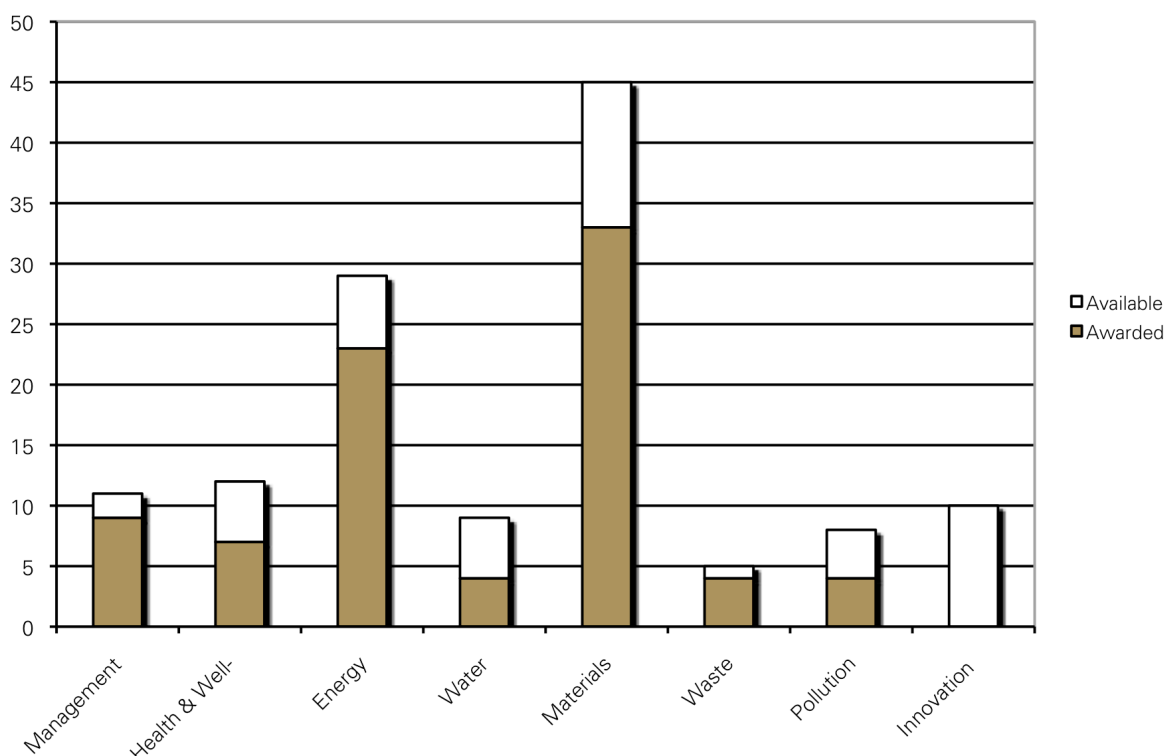
### Domestic buildings

#### Rating Summary

The following summary represents the schemes preliminary score based on the assumptions in the following pages. Please contact the assessor if a score sheet is required.

		Credit allocation	% Achieved	Weighting	Score
Unclassified	<30%	Management	81.82%	12%	9.82%
Pass	≥30% - <45%	Health & Well-being	58.33%	17%	9.92%
Good	≥45% - <55%	Energy	79.31%	43%	34.10%
Very Good	≥55% - <70%	Water	80.00%	11%	8.80%
Excellent	≥70% - <85%	Materials	73.33%	8%	5.87%
Outstanding	≥85%	Waste	80.00%	3%	2.40%
		Pollution	50.00%	6%	3.00%
		Innovation	00.00%	10%	0.00%
		<b>Rating</b>			<b>73.90%</b>
					<b>EXCELLENT</b>

#### Graphical Breakdown of Credits Awarded



# Management

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Introduction	<p>The following section outlines how the design team will approach each of the credits, highlighting the number of credits that are currently targeted.</p>	
Man 1 – Home User Guide	<p>The design team has confirmed that a home user guide will be provided and will contain information listed in the 'User Guide Contents List'.</p> <p>Three of three credits currently targeted.</p>	3 of 3
Man 2 – Responsible Construction Practices	<p>At present, the design team has confirmed that the contractor will be required to register the scheme under the Considerate Constructors Scheme (CCS), and achieve the appropriate benchmark of a score of 35 to gain two credits.</p> <p>Two of two credits currently targeted.</p>	2 of 2
Man 3 – Construction Site Impacts	<p>The design team has confirmed that the following will be implemented during the construction of the development:</p> <ul style="list-style-type: none"> <li>• Monitor and record data on energy consumption from the use of construction plant, equipment and site accommodation;</li> <li>• Monitor and record data on water consumption from the use of construction plant, equipment and site accommodation; and</li> <li>• Ensure all site timber used on the project is sourced in accordance with the UK Government's Timber Procurement Policy.</li> </ul> <p>One of one credit currently targeted.</p>	1 of 1
Man 4 – Security	<p>The design team has confirmed that existing windows and doors will comply with minimum security requirements and should be in good condition with no sign of degradation. Secondary and double glazing will be added to the windows where shown on the plans. Any newly added features will have the minimum following security requirements:</p> <p>External Door sets: PAS24 2007 LPS 1175 Issue 7 Security Rating 1 or equivalent</p> <p>Windows: BS7950: 1997 (36) LPS 1175 Issue 7 Security Rating 1 or equivalent</p> <p>Currently it is not confirmed that the dwelling will comply with the principles of Secured by Design Section 2 – Physical security. Therefore the second credit is not targeted.</p> <p>One of the two available credits currently targeted.</p>	1 of 2

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# Management

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#### Man 5 – Protection and enhancement of Ecological Features

The design team has confirmed that there are no features of ecological value on 1 of 1 site.

One credit currently targeted.

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#### Man 6 – Project Management

The design team has confirmed that it will be possible to demonstrate collaboration between all the project team through all stages and will write a project implementation plan, assigning individual and shared responsibilities amongst the team.

1 of 2

One of one credit currently targeted.

Currently it has not been confirmed that compliant aftercare will be carried out.  
Zero of one credit is currently targeted

One of two available credits currently targeted.

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# Health & Well-being

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#### Hea 1 – Daylighting

There will be no windows removed or reduced, therefore, daylighting levels for the building will be maintained. 1 of 2

One of one credit currently targeted.

It is not expected that the development will be able to achieve the minimum daylighting levels in the kitchen, living room and dining room and study given the location of the existing windows; therefore the credit is withheld at this stage.

In total, one of the available two credits currently targeted.

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#### Hea 2 – Sound insulation

Sound insulation levels will be tested before and after the refurbishment, the scheme will target a +/-3db post refurbishment for airborne/impact sound insulation. . 2 of 4

Two of four credits currently targeted.

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#### Hea 3 – Volatile Organic Compounds

The design team has confirmed that low VOC paints and varnishes will be specified; therefore decorative paints and varnishes will meet the requirements of European Standards for emission levels. 1 of 1

One of one credits currently targeted.

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#### Hea 4 – Inclusive design

As the building is Grade II listed, adaption to provide additional access is limited. The scheme will endeavour to meet Camden's Development Policies relating to access, however, it is unlikely that all of the BREEAM inclusion design requirements are to be satisfied. 0 of 2

Zero of two credits currently targeted.

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# Health & Well-being

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#### Hea 5 – Ventilation

The building is classed as a Historic Building as per BREEAM guidance. The design team has confirmed that an assessment will be carried out prior to refurbishment that will establish the current levels of air tightness and structural moisture prior to refurbishment. This assessment will establish the appropriate level of ventilation that should be provided for the building.

2 of 2

Temperature and humidity levels will be monitored before and after refurbishment.

Two of two credits currently targeted.

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#### Hea 6 – Safety

The design team has confirmed that a compliant fire detection and fire alarm system will be provided in accordance with BS 5839-6:2004 (40) and to at least Grade A Category LD3 standard. The positioning of smoke and heat alarms should be in accordance with Building Regulations Part B Fire Safety Volume 1 – Dwelling houses 2006. And BS5839-6:2004 (41). Where the development requires an electrical re-wire, smoke and heat alarms will be mains-operated and conform to BS EN 14604:2005 (42).

1 of 1

The dwelling will be supplied with mains gas, a compliant fire and carbon monoxide detector and alarm system and will be in accordance with relevant standards.

The project will require electrical re-wiring and the power supply for the smoke alarm and carbon monoxide alarm system will be derived from the dwelling's main electrical supply.

One of one credit currently targeted.

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# Energy

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#### Ene 1 – Improvement in Energy Efficiency

The dwelling's Energy Efficiency Rating (EER) before refurbishment is expected to be approximately 55, and after refurbishment the EER is expected to be 81. This has been calculated from full SAP 2009 modelling. An improvement in Energy Efficiency Rating (EER) of 26 is expected. 3 of 6

The refurbishment results in an improvement to the dwellings' EER by greater than or equal to 26, therefore 3 credits can be awarded.

Three of six credits currently targeted.

Please refer to the Energy Strategy for further information.

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#### Ene 2 – Energy Efficiency Rating Post Refurbishment

The dwelling's Energy Efficiency Rating (EER) after refurbishment is expected to be 81. This has been calculated from full SAP 2009 modelling. 3 of 4

This meets the BREEAM EXCELLENT minimum requirement of EER of 70.

Three of four credits currently targeted.

Please refer to the Energy Strategy for further information.

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#### Ene 3 – Primary Energy Demand

Full SAP 2009 modelling has been undertaken and has been used to calculate the Primary Energy Demand post refurbishment. 7 of 7

The primary energy demand as a result of refurbishment of dwelling is expected to be 110 kW/m<sup>2</sup>/year, less than 120 kW/m<sup>2</sup>/year, therefore seven credits can be targeted.

Seven of seven credits currently targeted.

Please refer to the Energy Strategy for further information.

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# Energy

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#### Ene 4 – Renewable Technologies

The services strategy will incorporate 4 kWp of PV on the main roof of the building. This will provide a 16% reduction in primary energy demand from renewable technologies. Please refer to the Energy Strategy for further information

2 of 2

Two of two credits currently targeted.

#### Ene 5 – Energy Labelled White Goods

The design team has confirmed that energy efficient white goods, such as fridges and freezers will be supplied within the development that are recognised by the Energy Saving Trust Recommended Label and will be A+ rated.

2 of 2

One credit currently targeted.

The design team has confirmed that energy efficient white goods, such as washing machines, dishwashers and tumble dryers will be supplied within the development that are recognised by the Energy Saving Trust Recommended Label. Washing machines, dishwashers and will be A+ rated and tumble dryers B rated.

One credit currently targeted.

In total two of two credits currently targeted.

#### Ene 6 – Drying Space

The design team has confirmed that an internal drying line can be provided in the utility room of at least 6m.

1 of 1

One of one credit currently targeted.

# Energy

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Ene 7 – Lighting	<p>The design team has confirmed that energy efficient space lighting and energy efficient security lighting will be provided, in line with Part L. 2 of 2</p> <p>One of one credit currently targeted.</p> <p>The design team has confirmed that internal lighting will be improved through the provision of a maximum average wattage across the total floor area of the dwelling of 9 Watts/m<sup>2</sup> to gain the second credit.</p> <p>One of one credit currently targeted.</p> <p>Two of two credits currently targeted.</p>
Ene 8 – Energy Display Devices	<p>The design team has confirmed that electrical consumption data and primary fuel consumption data will be displayed to the occupants by a compliant energy display device. 2 of 2</p> <p>Two of two credits currently targeted.</p>
Ene 9 – Cycle Storage	<p>Cycle racks will be fitted within a communal store, however, it is not expected that they will be in line with BREEAM requirements. 0 of 2</p> <p>Zero of two credits currently targeted.</p>
Ene 10 – Home Office	<p>The design team has confirmed that sufficient space and services will be provided to allow the occupants to set up a home office. The dwellings will provide these facilities in a non master bedroom. The study will have two double sockets, telephone points, and an openable window (width and height less than 450mm). 1 of 1</p> <p>One of one credit currently targeted.</p>

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# Water

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#### Wat 1 – Internal Water Use

The design team has confirmed that low water use elements be specified throughout the development through the installation of:

2 of 3

- Dual flush WC (6/4 litre),
- Basin taps limited to 4 litres
- Kitchen/utility taps to 5 litres
- Showers flow limited to 9 litres/minute
- Baths: less than 150 litre capacity to overflow.
- Low water use white goods

The design team have committed to obtaining a calculated water consumption score of 107 – 117 litres/person/day, to gain a total of 2 credits and meet the minimum standard to achieve a BREEAM 'Excellent' rating.

Two of three credits currently targeted.

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#### Wat 2 – External Water Use

The scheme will benefit from a terrace, therefore a rainwater collection vessel of minimum capacity of 100 litres will be installed to serve this area.

1 of 1

One of one credit is targeted.

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#### Wat 3 – Water Meter

The design team has confirmed the installing a water meter for measuring usage of mains potable water to gain an additional credit.

1 of 1

One of one credit targeted at present.

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# Materials

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#### Mat 1 – Environmental Impact of Materials

The design team has confirmed that the building fabric - roof, external walls, upper and ground floors - will be retained. Additional insulation will be provided to all heat loss elements. 21 of 25

Twenty-one of twenty-five credits currently targeted.

#### Mat 2 – Responsible Sourcing of Materials

The design team has confirmed that the structural frame, ground floor, upper floors, roof, external walls, and foundations will be retained. All timber used on the project for first fixes and secondary fixes (skirting, panelling, fascias and balustrades) will be sourced in accordance with the UK Government's Timber Procurement Policy and will be FSC certified. 6 of 12

This is likely to achieve a score of six out of twelve credits.

Six of twelve credits currently targeted.

#### Mat 3 – Insulation

**Pre-requisite** 6 of 8

The pre-requisite requirements for this issue will be met as new insulation specified for use within building elements and building services will be assessed.

#### Embodied impact

The design team has confirmed that an insulation type with an A+ Green Guide Rating will be specified and determined using the Green Guide to Specification tool.

Four of four credits currently targeted.

#### Responsible Sourcing

The design team has confirmed that 80% of the new thermal insulation used in the building element will be responsibly sourced and confirmed with appropriate EMS certification.

Two of four credits currently targeted.

In total, six of eight credits currently targeted.

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# Waste

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#### Was 1 – Household Waste

##### **Recycling Facilities**

2 of 2

The design team has confirmed that there is a compliant collection scheme in place by the London Borough of Camden and three internal recycling containers will be provided with no single container less than 7 litres in capacity.

One credit currently targeted

##### **Composting Facilities**

The scheme will include a dedicated composting bin in the kitchen of at least 7 litres. Camden Council's composting collection scheme will be utilised.

One credit currently targeted

Two of two credits currently targeted.

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#### Was 2 – Refurbishment Site Waste

The design team has confirmed that a Site Waste Management Plan will be implemented as part of the development and will target good practice waste benchmarks.

2 of 3

Two of three credits currently targeted.

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# Pollution

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#### Pol 1 – Nitrogen Oxide Emissions

The design team has confirmed that a condensing gas boiler will be installed. It is not currently known what make and model will be specified, however, it is expected that the dry NOx emissions will be 40 mg/kWh. 3 of 3

Three of three credits targeted.

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#### Pol 2 – Surface Water Runoff

The design team has confirmed that no new hard standing areas will be added and the building is not being extended onto any previously permeable surfaces. 1 of 3

One of three credits currently targeted

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#### Pol 3 – Flooding

A Flood Risk Assessment will be investigated at detailed design. 0 of 2

Currently, zero of two credits are targeted.

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