

Preliminary Assessment

85 Station Road

BREEAM Domestic

Refurbishment

Prepared by:
Ross Standaloft
Green Tiger Sustainability
Arch 1, 209A Coldharbour Lane
London
SW9 8RU

email:
ross@greentigers.co.uk

Date:
22.10.2015

Our Ref:
GT0102-BREEAM-1510-21

Prepared for:
Pevin Patel
85 Station Road
London
TW12 2BJ

Issue Status

85 Station Road

BREEAM Domestic

Refurbishment

Prepared by:	Ross Standaloft
Company Name:	Green Tiger Sustainability
Signature:	RS

Revision Number	Issue Date	Issued by
Revision 1	22.10.2015	Ross Standaloft

DISCLAIMER

This report is made on behalf of Green Tiger Sustainability. By receiving the report and acting on it, the client - or any third party relying on it - accepts that no individual is personally liable in contract, tort or breach of statutory duty (including negligence).

COPYRIGHT

The Code for Sustainable Homes name and logo are registered trademarks of Communities & Central Government (CLG). Copyright exists on the logo and this may not be used or reproduced for any purpose without the prior written consent of the BRE/CLG.

Contents

85 Station Road

BREEAM Domestic

Refurbishment

Introduction	Introduction 4
	Council Planning requirements..... 5
	Rating Summary 6
Credit Breakdown	Management 7
	Health & Wellbeing 8
	Energy..... 9
	Water..... 11
	Materials..... 12
	Pollution..... 13
	Waste 14
Appendices	Appendix 2 Score sheet 15

Introduction

85 Station Road

BREEAM Domestic

Refurbishment

Introduction

BREEAM Domestic Refurbishment is an environmental rating for existing dwellings or buildings changing use to residential property. It forms part of the Building Research Establishment's (BRE) suite of environmental tools.

The scheme at 85 Station Road is to be registered with the BRE under the BREEAM domestic refurbishment scheme. Green Tiger Sustainability have been appointed, as qualified BREEAM Domestic Refurbishment assessors, to undertake an outline stage review of the likely rating for the refurbishment of 85 Station Road in RICHMOND.

Planning Requirement / Targets

As part of the GLA's London plan and the Richmond Core Strategy, all residential conversions and/or extensions should include a BREEAM Domestic refurbishment assessment (which has superseded BREEAM EcoHomes) and an Energy strategy report as part of their planning submittal. The aim of this is to ensure the refurbishment is sustainable across a wide range of environmental issues, to a high standard.

As advised by Richmond Council, there is a challenging target rating in place of 'Excellent' for this type of project; this requires 70% of all credits to be scored throughout the assessment. Furthermore, this target creates minimum standards to be met, particularly with regards to energy and water conservation. This is difficult to achieve on a listed building such as this.

Score Summary

This preliminary assessment states the likely rating for the site, based on present specification, including details of why the site scores certain credits and not others.

The site reviewed currently scores **72.35%**, which equates to an **EXCELLENT** rating. All mandatory issues for BREEAM Domestic-refurb **EXCELLENT** level will be achieved. Note that the minimum score for an excellent rating is 70%.

A full credit breakdown of the BREEAM assessment starts from page 6 of this report and gives a full summary of the credits scored under this assessment.

Rating Summary

85 Station Road

BREEAM Domestic Refurbishment

Rating Summary		
Credit allocation	Available	Awarded
Management	11	7
Health and Wellbeing	12	6
Energy	29	21
Water	5	4
Materials	45	28
Pollution	8	6
Waste	5	3
Total		72.35%
Rating		Excellent

Minimum standards by rating level

BREEAM issue	Minimum standards by rating level				
	Pass	Good	Very Good	Excellent	Outstanding
Ene 02: Energy Efficiency Rating Post Refurbishment	0.5 Credits	1.0 Credits	2 Credits	2.5 Credits	3.5 Credits
Wat 01: Internal Water use	-	-	1 Credit	2 Credits	3 Credits
Hea 05: Ventilation	1 Credit	1 Credit	1 Credit	1 Credit	1 Credit
Hea 06: Safety	1 Credit	1 Credit	1 Credit	1 Credit	1 Credit
Pol 03: Flooding	-	-	-	2 Credits	2 Credits
Mat 02: Responsible sourcing of materials	Criterion 3 only	Criterion 3 only	Criterion 3 only	Criterion 3 only	Criterion 3 only

Credit Breakdown Management 85 Station Road BREEAM Domestic Refurbishment

Likely Credits

MANAGEMENT

Man 1 – Home User Guide	A home user guide will be provided, giving residents information on how to operate their home efficiently and how to make the best use of local facilities in line with BREEAM requirements	3 of 3
Man 2 – Responsible Construction Practices	The Contractor will be required to register the site under the Considerate Constructors Scheme and is required to achieve a score of at least 35 out of 50, including at least 7 within each section of the scheme	2 of 2
Man 3 – Construction Site Impacts	The contractor will be required to monitor, report and set targets for energy and water consumption arising from site activities. The contractor will also be required to adopt best practice policies in respect of air and water pollution from the site in line with best practice guidance.	1 of 1
Man 4 – Security	An Architectural Liaison officer may be consulted to work towards secured by design status. In addition, the design will follow the minimum security features set out in the BREEAM guidance as is practical. As some windows in the development may not be able meet the required security standards, it is difficult to firmly award either credits for this issue at this stage.	0 of 2
Man 5 – Protection of Ecological Features	There are no trees or large bushes to be removed on site.	1 of 1
Man 6 – Project Management	The project manager assigns individual and shared responsibilities across the following key design and refurbishment stages: <ul style="list-style-type: none"> • Planning and Building control notification • Design • Refurbishment works • Commissioning • Occupation 	1 of 2

Credit Breakdown

Health & Wellbeing

85 Station Road

BREEAM Domestic

Refurbishment

Likely Credits

HEALTH AND WELLBEING

Hea 1 – Daylighting	The dwellings benefit from good daylighting. Average Daylight Factors meet BREEAM Domestic refurbishment requirements. In existing areas there will be no negative impact.	1 of 2
Hea 2 – Sound Insulation	The development comprises of two flats – the sound levels between the two flats will meet Part E building regulations.	2 of 4
Hea 3 – VOCs	It is unlikely that all the materials used in the fit out will be VOC free. This issue will be reassessed when the contractor is selected	0 of 1
Hea 4 – Inclusive Design	Inclusive design has been considered by a suitably qualified member of the design team and a design and access statement has been provided – therefore the access statement will demonstrate reasonable provision of the measures implemented in the refurbishment	1 of 2
Hea 5 – Ventilation	Ventilation will be provided to the dwelling that meet the compliance requirements of section 5 and 7 of Buildings Regulations Part F for minimum ventilation requirements.	1 of 2
Hea 6 – Safety	The dwelling will be equipped with carbon monoxide detection and alarm systems. These systems will be powered via mains power and not battery powered, in line with BS 5446-2:2003.	1 of 1

Credit Breakdown

Energy

85 Station Road

BREEAM Domestic

Refurbishment

Likely Credits

ENERGY

The proposal for minimising carbon emissions is to insulate building elements in line or beyond building regulations; with all U-Values meeting 0.20 W/m²K for walls, 0.18 W/m²K for floor and 0.16 W/m²K for the roof. All new timber windows will have a minimum U-values of 1.6 W/m²K.

In addition, an air permeability of 10 m³/m²/hr at 50 pa is targeted, and to be achieved on site.

Brand new highly efficient condensing gas fired boilers and distribution system will provide heating and domestic hot water to the dwellings.

Ene 1 – Improve Energy Efficiency Rating	Ene 1 concentrates on the improvement in the energy efficiency rating (EER). The proposed scheme, incorporating fabric efficiency measures and new services described above, give an EER rating (derived from initial SAP calculations) increase of 33 points, giving a score of 3.5 credits.	3.5 of 6
Ene 2 – Energy Efficiency Rating at PC	Ene 2 is based on the overall EER (Energy efficiency rating). Based on initial SAP calculations, the overall Energy Efficiency rating is 70. This gives 2.5 credits under this issue.	2.5 of 4
Ene 3 – Primary Energy Demand	The primary energy demand is the total energy demand of space and water heating measured in kWh/m ² /year. Based on initial SAP calculations the site uses 139.3 kWh/m ² /year – which scores 6.5 credits under this issue.	6.5 of 7
Ene 4 – Renewable Energy	Renewable energy does not reach 10% of overall energy use.	0 of 2
Ene 5 – Energy labelled White Goods	The design team are committed to specifying energy efficient white goods (fridges, freezers, washing machines, dryers and dishwashers) in line with BREEAM requirements for full credits to be awarded under this issue.	2 of 2
Ene 6 – Drying Space	A drying line will be specified in the ventilated utility room bathroom or garden. The line will be retractable and be at least 6m in length.	1 of 1
Ene 7 – Lighting	The design team will specify energy efficient external space lighting. All security lighting (where specified) will have a max wattage of 150W and be fitted with PIR sensors and BREEAM compliant controls. The design team will ensure that the maximum energy usage for fixed internal lighting is and average of 9 watts/m ² .	2 of 2
Ene 8 – Display Energy Devices	Electricity and primary heating fuel consumption data will be displayed to occupants by a correctly specified Energy Display Device. The device will be a system comprising a self-charging sensor(s) fixed to the incoming mains supply, to measure and transmit energy consumption data to a visual display unit. The visual display unit must be capable of displaying live energy consumption data and energy costs.	2 of 2
Ene 9 – Cycle Storage	A minimum of 1 cycle spaces will be provided per flat on the ground floor of the building, on dedicated storage hooks in the covered, lockable passage. The storage space will be easily accessible from a public right of way, have a secure entrance lock, will be undercover and well lit.	1 of 2

Credit Breakdown

Energy

85 Station Road

BREEAM Domestic

Refurbishment

Ene 10 – Home Office

A dedicated study or non-master bedroom will be fitted with telephone / broadband sockets and 2 x double power sockets along a wall of over 1.8m. This room is adequately day-lit and benefits from operable windows for additional ventilation.

1 of 1

Credit Breakdown

Water

85 Station Road

BREEAM Domestic

Refurbishment

Likely Credits

WATER

Wat 1 – Internal Water Use	<p>The following specification of water consuming appliances will achieve: All Bathroom and WC room fittings specified to “Good”, having:</p> <ul style="list-style-type: none"> • Showers 8 litres per minute or less • Taps 4.5 litres per minute or less • All other fittings assumed as baseline • Kitchen and utility taps 5 litres per minute or less • WCs with 4 litre effective flush volume or less • All other fittings assumed as baseline 	2 of 3
Wat 2 – External Water Use	A 200-litre water butt will be fitted to the rainwater downpipe in the rear patio for landscaping use / planter watering. The butt will have an overflow valve and draw-off tap.	1 of 1
Wat 3 – Water Meter	A water meter will be fitted in the dwellings. The meter will be capable of recording and displaying water usage information so that tenants can observe their usage.	1 of 1

Credit Breakdown

Materials

85 Station Road

BREEAM Domestic

Refurbishment

Likely Credits

MATERIALS

Mat 1 – Environmental Impact of Materials	<p>The current specification is as follows:</p> <p>Roof – Existing timber, upgraded insulation– A+ rated External walls - Majority existing– upgraded insulation - A+ rated Internal walls – Where new, timber stud wall and plasterboard – A+ rated Floors, Upper – Existing – A+ rated Windows – Majority new timber windows and – A rated Boundary protection – As existing – A+ rated Hard Landscaping – Ground level –Existing paving – A rated</p> <p>The above specification is likely to gain a minimum 18 of the available 25 credits.</p>	18 of 25
Mat 2 – Responsible sourcing of materials	<p>A minimum of 36% of points available for responsible sourcing will be achieved, allowing 6 credits to be achieved. This will be achieved through some basic building elements being retained, all new timber will be FSC certified and all other materials used on site, where feasible, will be covered by an Environmental Management System (EMS), specifically BES6001:2008 for all concrete and ISO14001 for bricks.</p>	6 of 12
Mat 3 – Insulation	<p>All new insulation applied to external walls, roofs and building services will be certified as responsibly sourced. In addition, all new insulation should have a Green Guide Rating of A+ or A as a minimum.</p>	8 of 8

Credit Breakdown

Pollution

85 Station Road

BREEAM Domestic

Refurbishment

Likely Credits

POLLUTION

Pol 1 – NOx Emissions	A new condensing gas boiler will be installed in both dwellings. This unit will be highly efficient and have dry NOx emissions of ≤ 40 mg/kWh for all space heating and hot water requirements.	3 of 3
Pol 2 – Reduction in Surface Runoff	This project is proposing that the building footprint will be the same as existing, therefore there is no reduction or improvement the discharge of rainfall to the public sewers and watercourses. Therefore a neutral impact.	1 of 3
Pol 3 – Flooding	The site is in a low annual probability of flooding area. A site-specific Flood Risk Assessment (FRA) will be undertaken to determine the best routes to prevent flooding or damage to the property.	2 of 2

Credit Breakdown

Waste

85 Station Road

BREEAM Domestic

Refurbishment

Likely Credits

WASTE

Wst 1 – Household Waste Recycling

The main house of the site is included under the Richmond's Council's waste and recycling collection service.

1 of 2

The design team will dedicate a cupboard within the kitchen of the ancillary accommodation for a recycling bin to be fitted to the door. The bin will be at least 30 litres in total capacity and will be in addition to an ordinary bin for household waste. Composting facilities will also provide, with a small composting tub placed in the kitchen and a larger composting bin in the garden area.

Wst 2 – Refurb SWMP

A compliant Level 2 SWMP will be in place upon commencement of the build. This will cover and report on a minimum of the following items:

2 of 3

- Procedures to minimize hazardous and non-hazardous waste
- Procedures to sort, reuse and recycle construction and demolition waste
- Limit tonnage of non-hazardous waste in line with BREEAM
- Non-hazardous construction waste to a maximum of 70%
- Non-hazardous demolition waste to a maximum 80%

Appendix 1

Score Sheet

BREEAM Domestic Refurbishment

85 Station Road

Avail
able
Targ
et

MANAGEMENT

Man 1	Home user guide	3	3
Man 2	Responsible construction Practices	2	2
Man 3	Construction Site Impacts	1	1
Man 4	Security	2	0
Man 5	Protection of Ecological Features	1	0
Man 6	Project Management	2	1

HEALTH AND WELLBEING

Hea 1	Daylighting	2	1
Hea 2	Sound Insulation	4	2
Hea 3	VOCs	1	0
Hea 4	Inclusive Design	2	1
Hea 5	Ventilation	2	1
Hea 6	Safety	1	1

ENERGY

Ene 1	Improve Energy Efficiency rating	6	3.5
Ene 2	Energy Efficiency rating at PC	4	2.5
Ene 3	Primary Energy Demand	7	6
Ene 4	Renewable Technologies	2	0
Ene 5	Energy labelled white goods	2	2
Ene 6	Drying Space	1	1
Ene 7	Lighting	2	2
Ene 8	Display Energy Devices	2	2
Ene 9	Cycle Storage	2	1
Ene 10	Home Office	1	1

WATER

Wat 1	Internal Water Use	3	2
Wat 2	External Water Use	1	1
Wat 3	Water Meter	1	1

MATERIALS

Mat 1	Environmental Impact of Materials	25	18
Mat 2	Responsible sourcing of materials	12	6
Mat 3	Insulation	8	4

POLLUTION

Pol 1	NO _x Emissions	3	3
Pol 2	Reduction of Surface Runoff	3	1
Pol 3	Flooding	2	2

WASTE

Was 1	Household Waste recycling	2	1
Was 2	Refurb SWMP	3	2

CURRENT SCORE: 72.35.%%.

RATING: **Excellent**