

24 - 25 Bloomsbury Square

EcoHomes Pre-Assessment Report

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This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2008 and BS EN ISO 14001: 2004)

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Comments

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EXECUTIVE SUMMARY

Waterman Energy, Environment & Design Ltd (Waterman EED) has undertaken an EcoHomes Pre-Assessment estimator for the proposed development of 24 - 25 Bloomsbury Square, located in the London Borough of Camden, on behalf of the client (Exemplar Properties (Bedford) Ltd). The proposals, which are being designed by DLG Architects, comprise the change of use and refurbishment of two existing Grade II Listed office buildings into seven 1-3 bed apartments.

EcoHomes is a voluntary environmental assessment method by which the environmental impact of a building is assessed and is awarded a rating based on its overall performance. This is expressed as 'Pass', 'Good', 'Very Good' or 'Excellent' depending on the total score achieved.

An EcoHomes Pre-Assessment review meeting was undertaken with DLG Architects for the latest scheme design on the 14 May 2013. The meeting allowed for a review of the likely rating to be achieved under a formal EcoHomes assessment. Based on the information provided by DLG Architects and the commitments made by them, it is anticipated that the proposed development would achieve a score of 65.29%, which is equivalent to an EcoHomes 'Very Good' rating.

1. Introduction

Waterman Energy, Environment & Design Ltd (Waterman EED) was commissioned by Exemplar Properties (Bedford) Ltd (the Client) to undertake an Ecohomes Pre-Assessment of a proposed development of 24 - 25 Bloomsbury Square, in Camden, London. The proposed development includes the refurbishment and change of use of a Grade II Listed building from office use to residential use, comprising eight seven bed apartments.

The London Borough of Camden (LBC) Development Policy DP22 requires that: *'All residential development that is a refurbishment or change of use over 500 m² of residential floorspace or above, or 5 or more dwellings, must achieve "very good" in EcoHomes assessments prior to 2013 and encouraging "excellent" from 2013'.*

The buildings are Grade II listed and therefore the extent of the works that can be carried out to improve the building fabric and increase the energy efficiency of the buildings is restricted. As such, it is not possible to achieve an 'Excellent' rating. However, the Client is targeting 65%, which equates to a robust 'Very Good' rating.

For new developments, EcoHomes has now been superseded by BREEAM Domestic Refurbishment. However, given the history of this development and that it has been registered as an EcoHomes refurbishment project, the use of EcoHomes has been agreed with both LBC and the Building Research Establishment (BRE registration number: BB-ECO-AM12-201).

This pre-assessment report is submitted as part of the detailed planning application for 24 - 25 Bloomsbury Square and seeks to show how the proposed development will meet the required rating in line with LBC policy, whilst respecting the historic nature of the buildings

2. Methodology and Scoring

The BRE has developed a voluntary, standard environmental assessment method for the refurbishment of residential dwellings (known as EcoHomes), by which the environmental impact of a building is assessed against a range of issues, and credits are awarded where the building achieves a benchmark performance. EcoHomes seeks to bring about reductions in the environmental impact of residential buildings.

The EcoHomes 2006 assessment assesses the residential units as a whole as opposed to the individual units. The method addresses impacts of a building on the global, local and indoor environments across a range of issues, grouped under the headings of:

- Energy;
- Transport;
- Pollution;
- Materials;
- Water;
- Land Use & Ecology;
- Health and Wellbeing; and
- Management.

A building is given a score to indicate its overall environmental performance. An environmental weighting is applied to the scores achieved under each category in order to calculate the final score. The weighting factors have been derived from consensus based research with various groups such as Government, material suppliers and lobbyists. This research was carried out by BRE to establish the relative importance of each environmental issue.

The final score translates into an EcoHomes rating which is expressed as 'Pass', 'Good', 'Very Good' or 'Excellent' depending on the total score awarded. A minimum score is required to achieve a 'Pass' rating, below which an EcoHomes rating is regarded as unclassified. The percentage score required to achieve the various ratings is set out in Table 1 below.

Table 1: EcoHomes Scoring

Overall Score	Percentage Required
Pass	36%
Good	48%
Very Good	58%
Excellent	70%

A Pre-Assessment Estimator provides a quick evaluation of the EcoHomes rating likely to be achieved under a formal assessment. The results can be used to feed into the design process in order to maximise the score achieved; and its completion is a means of monitoring the sustainability performance of the development against this established, independent benchmark. It should be noted that, as the Pre-Assessment Estimator is a simplified version of the full method, it only provides an estimate of the EcoHomes rating. As a consequence, the final rating may vary following a formal assessment by a licensed EcoHomes assessor.

3. EcoHomes Pre-Assessment

Table 2 sets out the approach to meet an EcoHomes rating of 'Very Good' for the proposed development. The credits to be targeted were agreed with DLG at a meeting held on 14 May 2013. The Ecohomes Pre-Assessment calculator is shown in Appendix A.

Table 2: 24-25 Bloomsbury Square, EcoHomes Pre-Assessment Summary

Credit Ref. No.	Credit Title	Credits Available	Credits Assumed
Energy			
Ene 1	Dwelling Emission Rating	15	1
Ene 2	Building Fabric	2	0
Ene 3	Drying Space	1	1
Ene 4	Eco Labelled White Goods	2	2
Ene 5	Internal Lighting	2	2
Ene 6	External Lighting	2	2
	Sub-total:	24	8
Transport			
Tra 1	Public Transport	2	2
Tra 2	Cycle Storage	2	1
Tra 3	Local Amenities	3	3
Tra 4	Home Office	1	1
	Sub-total:	8	7
Pollution			
Pol 1	Insulant GWP	1	1
Pol 2	NOx Emissions	3	3
Pol 3	Reduction of Service Water Runoff	2	0
Pol 4	Renewable and Low Emission Technology	3	0
Pol 5	Flood Risk	2	2
	Sub-total:	11	6
Materials			
Mat 1	Environmental Impact of Materials	16	14
Mat 2	Responsible Sourcing Materials (Main)	6	4
Mat 3	Responsible Sourcing Materials (Finishes)	3	0
Mat 4	Recycling Facilities	6	6
	Sub-total:	31	24
Water			
Wat 1	Internal Potable Water	5	3
Wat 2	External Potable Water	1	1
	Sub-total:	6	4
Land Use & Ecology			
Eco 1	Ecological Value	1	1
Eco 2	Ecological Enhancement	1	1

Credit Ref. No.	Credit Title	Credits Available	Credits Assumed
Eco 3	Protection of Ecological Features	1	1
Eco 4	Change in Ecological Value	4	4
Eco 5	Building Footprint	2	2
	Sub-total:	9	9
Health & Wellbeing			
Hea 1	Daylighting	3	0
Hea 2	Sound Insulation	4	4
Hea 3	Private Space	1	0
	Sub-total:	8	4
Management			
Man 1	Home User Guide	3	3
Man 2	Considerate Constructors	2	2
Man 3	Construction Site Impacts	3	3
Man 4	Security	2	1
	Sub-total:	10	9
	Total Credit Score:	107	83
	Total Weighted Score:	100.00%	65.29%

4. Summary of Commitments

Table 3 below sets out the commitments and the strategy required to meet an EcoHomes rating of 'Very Good' for the proposed development.

Table 3: 24-25 Bloomsbury Square, EcoHomes Pre-Assessment Commitments

EcoHomes Issue	Commentary on Commitments and Strategy
Energy	<p>Ene 1 The proposed development has been assessed using Standard Development Procedure (SAP) calculations and this is also required to satisfy building regulations. Due to the listed façade, it is not possible to provide a large improvements to the external wall insulation, glazing or additional shading.</p> <p>As such the development only has an average DER of 36.66kg/m²/yr equating to one credit in Ene 1.</p> <p><u>Note:</u> SAP calculations including the PV have not been provided so this score may increase in the future.</p> <p>Ene 2 Due to the minimal amount of improvements that can be carried out on the listed façade, the anticipated SAP and building fabric performance for the proposed development do not allow for any credits to be achieved.</p> <p>Ene 3 & 4 Drying space and eco-labelled white goods will be provided within the dwellings.</p> <p>Ene 5 & 6 Internal lighting will be installed to ensure that a minimum of 100% of the fixed internal light fittings are energy efficient. This commitment ensures 2 of the 2 available credits for issue Ene 5 can be achieved.</p>
Transport	<p>Tra 1 & 3 The proposed development has excellent access to public transport including St James Park London Underground stations and a range of buses. The proposed development is within 500m of a range of local amenities.</p> <p>Tra 2 Secure and covered cycle storage would be provided for over 87% of the dwellings to ensure the cycle requirements for 1 credit are met.</p> <p>Tra 4 A home office would be provided within all dwellings in a suitable location.</p>
Pollution	<p>Pol 1 All insulants specified will have a GWP of less than 5.</p> <p>Pol 2 3 credits associated with NOx emissions have been assumed because a high efficiency boiler has been proposed.</p> <p>Pol 3 and 5 No credits are targeted for Pol 3 reduction in service water run-off. The FRA states that the Site is located within Flood Zone 1 thus two credits are awarded for Pol 5.</p> <p>Pol 4 There will be a PV array on the development, however it is unlikely that the contribution from the PV will be greater than 10% of the development's energy demand. Thus no credits have been targeted at this stage.</p>
Materials	<p>Mat 1 The development scores highly in this category due to a proportion of the assessed elements being part of the existing structure. Where new materials are being specified they will be selected with regard to their environmental impact. The Green Guide to Specification will be used to ensure that all proposed materials have a high environmental performance. Where existing materials are being reused, these automatically receive the maximum 'A' Green Guide Rating.</p> <p>Mat 2 & 3 The design team is committed to specifying materials responsibly and the contractor will be obliged to meet the requirements of EcoHomes.</p> <p>Mat 4 Internal and external recycling facilities will be provided in compliance with EcoHomes</p>

	requirements. As such the maximum 6 credits are awarded.
Water	<p>Wat 1 The scheme will reduce internal water consumption through the careful specification of water efficient fixtures and fittings including taps, WCs, baths and showers that consume less potable water in use than standard specifications for the same type of fittings throughout the dwelling. Through these measures the scheme will seek to achieve 3 out of 5 credits.</p> <p>Wat 2 The landscaping will rely solely upon precipitation and manual watering. Gardens will all be provided with a compliant water butt to collect rainwater.</p>
Land Use & Ecology	<p>Eco 1, 2, 3 & 4 An ecological assessment has been undertaken by Greenwood Environmental. The assessment concluded that there are no ecological features to protect onsite and therefore the first credit can be awarded by default. The recommendations of an ecologist will be implemented and it is anticipated that there will be a positive increase in the ecological value of the site given its current low value and the proposed habitats and species diversity to be planted within the gardens and green roof.</p> <p>Eco 5 The combined footprint ratio will be greater than 3.5:1.</p>
Health & Wellbeing	<p>Hea 1 Daylight calculations have been carried out. These confirm that the Development does not meet the minimum criteria to award these credits. Furthermore the View of Sky Credit is not available due to the proximity of the block behind No. 24 Bloomsbury Square.</p> <p>Hea 2 The design team is aiming to improve on Building Regulations (2003) Part E for internal sound transmission standards by 5dB.</p> <p>Hea 3 Only two of the dwellings have private space to meet the requirements, thus this credit is not achievable.</p>
Management	<p>Man 1 A home user guide will be provided to each occupant to educate them on the sustainable features of their dwellings and the surrounding area.</p> <p>Man 2 & 3 The contractor will be obliged to go beyond the best practice standards of the Considerate Constructors Scheme, and will also be required to commit to monitor, report and set targets for construction site impacts.</p> <p>Man 4 A Crime Prevention Design Advisor will be consulted at an appropriate time and therefore one credit for secure design will be achieved.</p>

5. Conclusion

Based on the 'Assumed Credits' detailed in this report and commitments set out in Table 3, the development would achieve a score of 65.29% which equates to a **'Very Good'** rating.

The Pre-Assessment estimator provides an indication of the likely EcoHomes rating for the proposed development. The full EcoHomes assessments will be undertaken at the detailed design stage, with certification achieved at the end of RIBA Stage E. The EcoHomes Pre-Assessment calculator is included in Appendix A of this report and is summarised in Section 4. This demonstrates how the required EcoHomes ratings could be achieved.

Appendix A EcoHomes Calculator

EcoHomes 2006
Summary Score sheet

Site: 24-25 Bloomsbury Square

					Score assessment				
			Score	Credits available	Sub-total	Credits available	% achieved	Weighting factor	Credits Score
Energy	Ene 1	Dwelling Emission Rate	1	15	8	24	33.3	0.22	7.33
	Ene 2	Building fabric	0	2					
	Ene 3	Drying space	1	1					
	Ene 4	EcoLabelled goods	2	2					
	Ene 5	Internal Lighting	2	2					
	Ene 6	External lighting	2	2					
Transport	Tra 1	Public transport	2	2	7	8	87.5	0.08	7.00
	Tra 2	Cycle storage	1	2					
	Tra 3	Local amenities	3	3					
	Tra 4	Home office	1	1					
Pollution	Pol 1	Insulant GWP	1	1	6	11	54.5	0.1	5.45
	Pol 2	NO _x Emissions	3	3					
	Pol 3	Reduction of Surface Runoff	0	2					
	Pol 4	Renewable and Low Emission	0	3					
	Pol 5	Flood Risk	2	2					
Materials	Mat 1	Environmental Impact of Mater	14	16	24	31	77.4	0.14	10.84
		Roof	3	3					
		External Walls	3	3					
		Internal Walls	2	3					
		Floors - upper and ground	2	3					
		Windows	2	2					
		External surfacing	1	1					
		Boundary Protection	1	1					
	Mat 2	Responsible Sourcing of Mater	4	6					
	Mat 3	Responsible Sourcing of Mater	0	3					
	Mat 4	Recycling Facilities	6	6					
Water	Wat 1	Internal Potable Water	3	5	4	6	66.7	0.1	6.67
	Wat 2	External Potable Water	1	1					
Land Use and Ecology	Eco 1	Ecological Value of Site	1	1	9	9	100.0	0.12	12.00
	Eco 2	Ecological Enhancement	1	1					
	Eco 3	Protection of Ecological Featur	1	1					
	Eco 4	Change of Ecological Value of	4	4					
	Eco 5	Building footprint	2	2					
Health and Wellbeing	Hea 1	Daylighting	0	3	4	8	50.0	0.14	7.00
	Hea 2	Sound Insulation	4	4					
	Hea 3	Private space	0	1					
Management	Man 1	Home User Guide	3	3	9	10	90.0	0.1	9.00
	Man 2	Considerate Constructors	2	2					
	Man 3	Construction Site Impacts	3	3					
	Man 4	Security	1	2					
					Total Available	107	Score: 65.29 Rating: Very Good		

Based on: EcoHomes 2006
Sheet Version: 1.2
Version Date: 16/10/2006

Rating	Score
Pass	36
Good	48
Very Good	58
Excellent	70

