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EcoHomes Pre-Assessment

246a-248 Kilburn High Road, London NW6
For Brill Owen Architects & Monument Properties

September 2006

1.0 Executive Summary

Julian Brooks Associates were appointed by Monument Properties to assist in the development of a robust and coherent sustainability strategy for their proposed development at 246a – 248 Kilburn High Road, focusing on the development of new build affordable housing addressing a wide range of sustainability issues. In order to meet the London Borough of Camden's planning policies, the proposed scheme has been assessed in accordance with EcoHomes 2006 criteria.

Whilst at the pre-planning stage, the assessment has taken the form of a pre-assessment, where the proposed specifications and design are determined following a review of the relevant drawings and in consultation with the developer.

Based on the results of the consultation and design review stage, the proposed scheme is predicted to achieve an EcoHomes rating of Very Good with an overall score of 65.9%. This level of performance would be required if the scheme where to apply for funding from the Housing Corporation, as of April 2006 all affordable schemes in receipt of funding must achieve a minimum standard of Very Good.

The scheme performs particular well in categories based on access to local public transport and amenities. This is in keeping with developments on urban sites. In addition to this, the use of an existing brownfield site is perceived as beneficial by limiting the impact on currently undeveloped sites.

Where it has not been possible to consider certain elements of the assessment in any detail, for example, the adherence of main contractors to the Considerate Constructors scheme, the credits have not been awarded at this stage.

However, if the recommendations in this report are able to be adopted in a cost-effective manner, the scheme may be eligible for an Excellent rating.

Table 1 below details the results from the assessment and should be read in conjunction with the details set out in the pre-assessment details. For reference, the complete EcoHomes 2006 scoring sheets are included at the end of this document in the appendix.

Table 1: EcoHomes Pre-Assessment Results Sheet

CATEGORY	ITEM	MAX SCORE	PROPOSED SCORE	COMMENTS
ENERGY				
ENE1	CARBON DIOXIDE	15	6	A-Rated Condensing combi boilers
ENE2	BUILDING FABRIC PERFORMANCE	2	2	2006 Building Regulations
ENE3	DRYING SPACE	1	1	To be supplied: Tidy-dry to bathrooms.
ENE4	ECOLABELLED GOODS	2	2	Fridge Freezers & washing machines to be supplied
ENE5	INTERNAL LIGHTING	2	1	40% of all fitting dedicated cfl or low-energy
ENE6	EXTERNAL LIGHTING	2	2	All CFL plus timers/daylight sensors
TRANSPORT				
TRA1	PUBLIC TRANSPORT	2	2	Nearest bus stop within 500m
TRA2	CYCLE STORAGE	2	2	18 cycle storage spaces provided
TRA3	LOCAL AMENITIES	3	2	Safe pedestrian route requires confirmation.
TRA4	HOME OFFICE	1	1	Facilites for Home/Office to be included in detailed design
POLLUTION				
POL1	INSULANT ODP & GWP	1	1	None specified in scheme
POL2	Nox EMISSIONS	3	2	Class 5 Boiler to be specified
POL3	REDUCTION OF SURFACE RUN-OFF	2	0	Credit not sought. No space on site
POL4	ZERO EMISSION ENERGY SOURCE	3	2	70m2 of PV indicated on drawings and included in cost plan
POL5	FLOOD RISK MITIGATION	2	0	Credit not sought.
MATERIALS				
MAT1	ENVIRONMENTAL IMPACT OF MATERIALS			
	ROOF	3	3	Aluminium or stainless steel standing seam on appropriate substrate
	EXTERNAL WALLS	3	3	LGSF
	INTERNAL WALLS	3	3	LGSF
	FLOORS, UPPER & GROUND	3	0	to be confirmed
	WINDOWS	2	0	Aluminium frame DG Low-e units
	EXTERNAL SURFACING	1	0	Tarmac/hardstandings
	BOUNDARY PROTECTION	1	1	Existing walls of adjacent properties on boundary line.
MAT2	RESPONSIBLE SOURCING OF MATERIALS BASIC BUILDING ELEMENTS	6	3	Details to be calculated during detailed design stage
MAT3	RESPONSIBLE SOURCING OF MATERIALS FINISHING ELEMENTS	3	3	As above
MAT4	RECYCLING FACILITIES	6	6	Internal and external storage to be provided. Plus local kerbisde collections scheme
WATER				
WAT1	INTERNAL WATER USE	5	3	less than 42m3 per bedspace per annum
WAT2	EXTERNAL WATER USE	1	0	No measures incorporated - credit not sought
LAND USE & ECOLOGY				
ECO1	ECOLOGICAL VALUE OF SITE	1	1	Currently occupied brownfield site

ECO2	ECOLOGICAL ENHANCEMENT	1	0	No ecological assessment to date. No features on site
ECO3	PROTECTION OF ECOLOGICAL FEATURES	1	1	There are no existing features to protect
ECO4	CHANGE IN ECOLOGICAL VALUE	4	2	Site will be no worse than the current situation
ECO5	BUILDING FOOTPRINT	2	0	3 Storey flats do not achieve credits.
HEALTH & WELLBEING				
HEA1	DAYLIGHTING	3	0	No credits awarded
HEA2	SOUND INSULATION	4	2	To meet current part E standards
HEA3	PRIVATE SPACE	1	0	Not achieved due to juliette balconies to some units.
MANAGEMENT				
MAN1	HOME USER GUIDE	3	3	Guide to be developed and provided.
MAN2	CONSIDERABLE CONSTRUCTORS	2	0	Not possible to assess at pre-planning stage
MAN3	CONSTRUCTION SITE IMPACTS	3	0	Not possible to assess at pre-planning stage
MAN4	SECURITY	2	2	To be addressed during detailed design.

SUMMARY SCORE	**MAX**	**CREDITS**	**%**	**WEIGHTING**	**SCORE**
ENERGY	22	14	63.64	0.22	14.0
TRANSPORT	8	7	87.50	0.08	7.0
POLLUTION	9	5	55.56	0.1	5.6
MATERIALS	15	22	146.67	0.14	20.5
WATER	6	3	50.00	0.1	5.0
LAND USE & ECOLOGY	9	4	44.44	0.12	5.3
HEALTH AND WELLBEING	8	2	25.00	0.14	3.5
MANAGEMENT	10	5	50.00	0.1	5.0

TOTAL SCORE	**65.9**

RATINGS	
PASS	**36**
GOOD	**48**
VERY GOOD	**58**
EXCELLENT	**70**

2.0 Introduction

Julian Brooks Associates were appointed by Monument Properties to assist in the development of a robust and coherent sustainability strategy, focused on the development of new build housing addressing a wide range of issues.

The proposed development will provide 18 flats in total, located at 246a-248 Kilburn High Road, London NW6. Essentially this an urban site, with close proximity of all major local facilities and public transport connections.

The scheme has been assessed in accordance with EcoHomes criteria, a basic requirement of schemes seeking to achieve Housing Corporation funding.

As part of BRE's BREEAM family, EcoHomes is an assessment method that rates the environmental qualities of new and renovated dwellings. Buildings are verified by independent assessors and rated on a scale of Pass, Good, Very Good and Excellent.

The scheme rewards developers who improve the environmental performance of a development through good design, rather than through high capital cost solutions. It demonstrates

- Sustainability credentials to planning authorities
- Green credentials to investors
- Good environmental design to purchasers.

For owners and occupiers, the EcoHomes label means

- Reduced running costs through greater energy and water efficiency, and reduced maintenance
- Healthy, comfortable and flexible internal environments
- Access to local amenities
- Less dependence on the car.

EcoHomes is designed to help tackle climate change, resource use and impact on wildlife and balance these issues against the need to provide safe and healthy homes and a high quality of life. It helps reduce the environmental impact of a development through good design and informed decisions.

Each development is assessed against a number of criteria under the headings listed below. To achieve the final rating, the score for each category is converted to a percentage. A weightings factor is then applied to each of the percentages to reflect the perceived importance of each of the categories. The final score, after the weightings have been applied is tallied and is effectively a score out of 100. The overall categories and their relative weightings are listed below:

- **Energy** – 22%
- **Water** – 10%
- **Pollution** – 10%
- **Materials** – 14%
- **Transport** – 8%
- **Ecology and land use** – 12%
- **Health and well-being** – 14%
- **Management issues** – 10%

Schemes then achieve an overall rating based on the following thresholds:

- **PASS** - 36%
- **GOOD** – 48%
- **VERY GOOD** – 60%
- **EXCELLENT** – 70%

Assessments are carried out at the design stage in a similar way to a SAP rating. Every house type on a site is considered, but the award is given for the entire development. This means developers can

use the result to promote whole sites. A Post Construction Review can also be carried out upon completion of the scheme. This confirms that all features specified at the design stage have been implemented. A separate certificate is issued in this case. EcoHomes is the homes version of BREEAM, sponsored by the NHBC.

BREEAM leads the world in setting benchmarks for the environmental performance of buildings. It is independent and authoritative and is based on many years of research carried out by BRE, the construction industry

The text of the following pages details the criteria used for this preliminary assessment and provides where appropriate potential options for further credits to be achieved. As a pre-planning application assessment there will inevitably be a number of design issues that are not fully resolved. Where this is the case it is indicated as such, and the proposed standards, determined through consultation with the design team are assessed.

3.0 PRE-ASSESSMENT DETAILS

3.1 ENERGY

ENE 1 – Dwelling Emission Rate

Purpose of the credit

To minimise emissions of carbon dioxide (CO2) to the atmosphere arising from the operation of a home and its services.

Predicted Rating

The proposed scheme is predicted to achieve a maximum emission rating less than 26Kg/CO2/m^2 based on SAP 2005 calculations. Primarily, this is due to the specification of A-rated condensing gas combi boilers and the relative compact nature of the development, where flats provide a better surface to volume ratio compared to detached or semi detached dwellings.
This would achieve a score of 6 out of 15 credits.

Options for Improvement

The inclusion of 70m2 of roof mounted photovoltaic panels have been included to satisfy the LDA requirements to provide 10% of the developments energy from a renewable energy source. Upon completion of the final SAP calculations, the proposed PV should reduce the overall carbon footprint of the scheme by a minimum of 10%, thereby providing the potential to achieve an additional credit in this category.

ENE 2 – Building Fabric Performance

Purpose of the credit

To future proof the efficiency of dwellings over their whole life, and to encourage Refurbished dwellings to improve their insulation standards through good fabric performance.

Predicted Rating

The scheme is anticipated to achieve full credits (2 out of 2) in this category due to the compact nature of the development and limited exposed surface area. The final assessment of these credits will be determined by the Heat Loss Parameter specified in the SAP worksheets.

Options for Improvement

Additional insulation standards are always welcome in housing developments as these can reduce running costs for the occupiers. However, a balance should be achieved with the capital cost and the predicted benefit as there are diminishing returns in energy performance to be achieved with increased insulation levels, particularly where an alternative wall construction or additional structural elements are required.

ENE 3 – Drying Space

Purpose of the credit

To minimise the amount of energy used to dry clothes.

Predicted Rating

This credit requires that the developer ensures that all units within the development have the necessary fittings to allow the occupier to dry clothes naturally in a secure environment. For flats, the developer will be required to provide tidy-dry type facilities to all of the units. Typically, these are installed above the bath or in utility rooms. Where clothes drying facilities are provided, the space must be either adequately ventilated via natural means, or provided with a humidistat controlled extract fan or passive vents. Trickle vents are not sufficient alone. At present, it is anticipated that the scheme will achieve 1 out of 1 credits.

Options for Improvement

As the developer intends to incorporate these measures, there are no options for potential improvements.

ENE 4 – EcoLabelled Goods

Purpose of the credit

To encourage the provision or purchase of energy efficient white goods, thus reducing CO_2 emissions from the dwelling.

Predicted Rating

The developer has indicated that they are to provide kitchens complete with a limited number of appliances, namely an A-rated fridge freezer and washing machine. Therefore, full credits, (2 out of 2) will be achieved here.

Options for Improvement

Where other appliances are supplied, these must also be of an A-rated energy efficiency model. Ideally, washing machines should also be A-rated for water efficiency.

ENE 5 – Internal Lighting

Purpose of the credit

To encourage the provision of energy efficient internal lighting, thus reducing the CO_2 emissions from the dwelling.

Predicted Rating

The developer is to ensure that 75% of the internal lighting is provided by dedicated low energy fittings, such as compact fluorescent. This achieves the maximum of 2 out of 2 credits for this category.

Options for Improvement

None.

ENE 6 – External Lighting

Purpose of the credit

The purpose of this credit is to encourage the provision of energy efficient external lighting.

Predicted Rating

The developer proposes to ensure that all artificial lighting to communal and circulation zones is provided solely by luminaires complete with dedicated low-energy fitting such as CFL or fluorescent strip. In addition to this, all security lighting will be have to meet the following criteria: Burglar detection lighting is to be a maximum of 150W complete with PIR and daylight cut-off devices. Any other security lighting is to incorporate dedicated low-energy fittings and be fitted with dawn to dusk sensors or timers.

By meeting the proposed standard above the developer will achieve full credits in this category. (2 out of 2)

Options for Improvement

None

3.2 TRANSPORT

TRA 1 – Public Transport

Purpose of the credit

To encourage developers to provide a choice of transport modes for residents, with the aim of reducing the level of car use.

Predicted Rating

The site is located on the busy Kilburn High Road, which is currently served by at least 6 bus routes, providing a direct service north, south east and west from the development site. It is understood that

the nearest bus stop is located within 500m of the development site and can be accessed via a safe pedestrian route.

2 out of 2 credits can therefore be awarded.

Options for Improvement
None

TRA 2 – Cycle Storage

Purpose of the credit
To encourage the wider use of bicycles as transport, and thus reduce the need for short car journeys, by providing adequate and secure cycle storage facilities.

Predicted Rating
The scheme includes provision for 18 cycle storage spaces for the dedicated use of the flat occupants. The communal storage facility will be lockable, ensuring tenant only access, and there will be a vertical rack for each cycle space. Tenants will be required to provide their own locks if they wish to secure cycles to the racks. The proposed number of storage spaces is sufficient to meet the EcoHomes requirements for 95% of the proposed units. In addition to this, the weather tight and secure nature of the proposals ensure that full credits are to be awarded in this category.

Options for Improvement
Not required

TRA 3 – Local Amenities

Purpose of the credit
To encourage developers to plan new housing developments that are close to, or include, local shops and amenities. This will help to reduce the reliance of local residents on their cars.

Predicted Rating
Given the urban location of the scheme, it is anticipated that the development will be able to achieve all three credits available in this category. However, at present it is unclear as to whether there is a safe pedestrian route to *all* of the amenities, and so 2 credits are awarded.

Options for Improvement
Upon clarification of the provision of a safe pedestrian route, the additional credit will be awarded.

TRA 4 – Home Office

Purpose of the credit
To reduce the need to commute to work by providing residents with the necessary space and services to be able to work from home.

Predicted Rating
During detailed design stage, the scheme will be developed so that home working is a viable possibility for the flats in the development. This requires the provision of two double socket outlets (to avoid the use of extension leads), an additional telephone point and a minimum clear wall length of 1.8m for the siting of a desk, chair and storage facility. For 1 & 2 bedroom flats, this space can be allocated within the main living space as long as it does not interfere with the main purpose of the room. For the 3 bedroom flat, the third bedroom is a suitable location provided that the space and facility requirements are met.

Options for Improvement
As full credits are anticipated here, an improved specification is not deemed required.

3.3 POLLUTION

POL1 – Insulant GWP

Purpose of the credit

To reduce the potential global warming from substances used in the manufacture or composition of insulating materials.

Predicted Rating

The scheme intends to incorporate the use of materials with a low embodied energy, particularly the use of natural insulation materials provided by Natural Building Technologies. It is therefore anticipated that the scheme will only incorporate materials with an ozone depleting potential of zero, and global warming potential less than 5. It is worth noting at this point that some plastic based insulation materials, such as polyurethane or extruded polystyrene can be manufactured in a manner sympathetic to this credit. Therefore it is essential that the exact specification of all items, including any pipe insulation is confirmed.

Typical insulants that inherently have a GWP of less than 5 (and a zero ODP) will include insulation materials (if not blown) such as:

mineral fibre	cellulose insulation
glass fibre	wood fibre board
cork wool	cellular glass flax
nitrile rubber	recycled newspaper and jute

It is therefore anticipated that the proposed specification will achieve the full 1 credit here.

Options for Improvement

Not required.

POL 2 – Nox Emissions

Purpose of the credit

To reduce the nitrous oxides (NO_x) emitted into the atmosphere.

Predicted Rating

At present, the final boiler specification is unknown. However, as the developer intends to use a SEDBUK A-rated boiler, where typically the NOx emissions are below 70mg/kwh, this credit has been provisionally awarded. Therefore 2 out of 3 credits are achieved.

Options for Improvement

Through the specification of a boiler with NOx emissions below 40mg/kwh it would be possible to obtain the full three credits in this category.

POL 3 – Reduction of Surface Run-off

Purpose of the credit

To reduce and delay water run-off from the hard surfaces of a housing development to public sewers and watercourses, thus reducing the risk of localised flooding, pollution and other environmental damage.

Predicted Rating

At present, it is not the intention of the developer to provide storm water run-off attenuation for the project. However, as the scheme is to be built upon the site of existing buildings, it is acknowledged that the development will not cause any additional run-off to the local sewer system. Therefore, despite the presence of no additional impact, it is not possible to award these credits. (0 out of 2)

Options for Improvement

Where site conditions are favourable, it is always environmental beneficial to design in options for storm water attenuation. However, it is acknowledged that the limited site area does not make this a practical option at this time.

POL 4 – Renewable and Low Emission Energy Source.

Purpose of the credit

To reduce atmospheric pollution by encouraging locally generated renewable and low emission energy to supply a significant proportion of the development's energy demand.

Predicted Rating

It is understood that a preliminary assessment by the design team has led to the inclusion of 70m2 of photovoltaic panels for the scheme in order to meet the local government planning requirement of 10% renewable energy source. In order for the credits to be achieved, EcoHomes requires a copy of an independent feasibility assessment by a suitably competent person or organisation and the results implemented. It is however accepted that the additional cost burden of completing the feasibility study prior to securing planning permission is in some instances not practical for developers.

Therefore, at this stage whilst it is not possible to review the feasibility study, it is appreciated that the assessment will be undertaken following the award of planning permission. On the basis of this, and that the proposed technical solution will provide at least 10% of the energy requirements for the scheme, 2 out of 3 credits have been awarded.

Options for Improvement

At present the planning application drawings show indication the provision of 70m2 of photovoltaic panels, sufficient to provide 10% of the energy requirement. Following a feasibility study, options could be identified to increase the energy saving in a cost effective manner from 10% to 15%, which would result in full credits being awarded in this category.

POL 5 – Flood Risk

Purpose of the credit

To encourage developments in areas with low risk of flooding or if developments are to be situated in areas with a medium risk of flooding, that appropriate measures are taken to reduce the impact in an eventual case of flooding.

Predicted Rating

At present, these credits are not sought and subsequently no information has been provided.

Options for Improvement

An assessment by suitably competent persons providing evidence that the scheme location has an inherent low annual probability of flooding would ensure the scheme achieves 2 out of 2 credits here. The information must state how/where this definition/information was sourced i.e. from the Local Authority, EA or SEPA, flood maps etc.

3.4 ENVIRONMENTAL IMPACT OF MATERIALS

MAT 1 – Environmental Impact of Materials

Purpose of the credit

To encourage the use of materials that have less impact on the environment, taking account of the full life-cycle.

Predicted Rating

Credits are achieved by obtaining an 'A' rating from the Green Guide for Housing Specification, for 80% by area of the element, for each of the following elements, roof, external walls, internal walls, floors, windows, external surfacing and boundary protection.

Following consultation with the design team the following construction methods have been determined:

Roof: Standing seam metal roof laid to falls over a timber decking on either metal or timber members. Insulation to be fitted between the joists and between the timber decking and meta roof finish. 3 credits awarded.

External Walls: Light gauge steel or aluminium frame with insulation between studs. With external polyester based render over insulation substrate to achieved desired U-values. 3 credits awarded.

Internal Walls: LGSF stud walls with plasterboard. Independent twin skins where required to achieve acoustic standards. 3 credits awarded.

Upper and Ground Floors: Structural build-up of ground and intermediate floor not known at this time. 0 credits awarded at present

Windows: Powder coated aluminium frames with low-e double glazed units. Aluminium frames achieve a C-rating in the Green Guide to Housing Specification. 0 credits awarded.

External Surfacing: Conventional asphalt hard standings. 0 credits awarded.

Boundary Protection: All boundary protection is provided by walls from adjacent properties – credit can be awarded by default.

Based on these details it is anticipated that the scheme will achieve 10 out of a possible 16 credits in this category.

Options for Improvement
The specification of materials and construction types is limited by a wide variety of factors, including both performance and cost. It is anticipated that for this development, the options for improvement are limited to the specification of an A-rated flooring system and the potential replacement of the aluminium framed windows with [pre-treated softwood). However it is acknowledged that the maintenance burden of timber windows is often considered negatively by developers, particularly on developments of flats where future access is complex.

MAT 2 – Responsible Sourcing of Materials: Basic Building Elements.

Purpose of the credit
To recognise and encourage the specification of responsibly sourced materials for key building elements.

Predicted Rating
Until detailed design is complete, and the final specification of materials and construction systems determined, it is not possible to ascertain a definitive score for this category. However, based on the ethos of the development and the requirements to address the use of responsibly sourced materials it is anticipated that the scheme will achieve a minimum of 50% of the credits available. This equates to 3 out of 6 credits.

Options for Improvement
This credit is assessed by determining the extent and validity of any environmental management system used in the assessment of a particular construction element, ie Walls, roof etc. The higher the standard of EMS certification, the greater the potential to improve upon the predicted score.

The specification of the building systems should be closely monitored throughout the detailed design process to ensure that the maximum score is achieved in this category.

MAT 3 – Responsible Sourcing of Materials: Finishing Elements

Purpose of the credit

To recognise and encourage the specification of responsibly sourced materials for secondary building and finishing elements.

Predicted Rating

As detailed in the previous category, the score cannot accurately be predicted at this stage of design development. However, it is anticipated that a 50% score is at least reasonable, and so 1 credit has been provisionally awarded.

Options for Improvement

As for Mat 2 comments.

MAT 4 – Recycling Facilites

Purpose of the credit

To encourage developers to provide homeowners with the opportunity and facilities to recycle household waste.

Predicted Rating

At present the development includes space provision for the storage of recyclable waste and it is understood that the Local Authority also provides a kerbside collection scheme. A letter from the local authority will be required detailing their commitment to collect the recyclable waste. Full credits are to be awarded.

Options for Improvement

Not required

3.5 WATER USE

WAT 1 – Internal Potable Water Use

Purpose of the credit

To reduce consumption of potable water in the home.

Predicted Rating

The proposed specification includes the following items, aerated taps, 6/4l flush toilet, shower with flow rate of 6-9l/min and water efficient washing machine. This results in a predicted annual consumption of 40.97m3 per bedspace per annum. This would achieve 3 out of 5 credits.

Options for Improvement

There are limited options to improve in this category, without the use of high specification specialist appliances or fittings or the installation of either rainwater harvesting or grey-water recycling systems, both of which are not considered technically viable for the scheme.

WAT 2 – External Potable Water Use

Purpose of the credit

To encourage the recycling of rainwater, and reduce the amount of water taken from the mains, for use in landscape/garden watering.

Predicted Rating

This credit has not been sought.

Options for Improvement

There is no external landscaping which could benefit from the use of rainwater for watering purposes. Therefore it is considered unrealistic to seek this credit.

3.6 ECOLOGICAL ASSESSMENT

ECO 1 – Ecological Value of Site

Purpose of the credit

To encourage development on land that already has a limited value to wildlife and discourage the development of ecologically valuable sites.

Predicted Rating

The development will achieve the credit fro developing on land that has no inherent ecological value, as it is covered with existing buildings

Options for Improvement

Not required.

ECO2 – Ecological Enhancement

Purpose of the credit

To enhance the ecological value of a site.

Predicted Rating

There are considered to be no opportunities to design in ecological enhancements to the site, and so this credit is not sought.

Options for Improvement

Not required

ECO 3 – Protection of Ecological Features

Purpose of the credit

To protect existing ecological features from substantial damage during the clearing of the site and the completion of construction works.

Predicted Rating

There are no existing features to protect, and so the credit can be awarded by default.

Options for Improvement

Not required.

ECO 4 – Change of Ecological Value of Site

Purpose of the credit

The aim of this credit is to reward steps taken to minimise reductions in ecological value and to encourage an improvement.

Predicted Rating

The development is anticipated to achieve 2 credits by delivering no net change in the ecological value of the site. This is because at present the site has no inherent value and therefore can not be made worse.

Options for Improvement

Not required

ECO 5 – Building Footprint

Purpose of the credit

To promote the most efficient use of a building's footprint by ensuring that land and material use is optimised across the development.

Predicted Rating
The residential element of the scheme is limited to three storeys and it is therefore not possible to award any credits here. Therefore, it 0 out of 2 are achieved.

Options for Improvement
Not required

3.7 HEALTH & WELLBEING

HEA 1 - Daylighting

Purpose of the credit
To improve the quality of life in homes through good daylighting, and to reduce the need for energy to light a home.

Predicted Rating
At present, no internal daylight analysis has been completed, and so these credits can not be awarded. However, it is anticipated that 1 credit could be achieved for ensuring that the average daylight factor in the living areas exceeds 1.5%

Options for Improvement
It is difficult to ensure that the requirements for kitchens in open plan living/kitchen areas are able to meet the required targets. Typically, this is because the kitchen is placed at the rear of the room, in order to maximise views for the living zone.

HEA 2 – Sound Insulation

Purpose of the credit
To ensure the provision of sound insulation and reduce the likelihood of noise complaints.

Predicted Rating
The developer will is to provide a commitment to achieve the standards set out in the Approved Documents, and will ensure that they comply with testing frequency requirements set out in EcoHomes Testing Table 2 to achieve 2 out of 4 credits.

Options for Improvement
There is the potential to provide even greater levels of acoustic separation between dwellings and this should always be considered desirable. By exceeding the statutory requirements by + 3db for airborne sound and -3 db for Impact sound it would be possible to achieve an additional credit in this category.

HEA 3 – Private Space

Purpose of the credit
To improve the occupiers' quality of life by providing an outdoor space for their use, which is at least partially private.

Predicted Rating
All of the units in the scheme are proposed with balconies. However, EcoHomes requires that each of these balconies is of sufficient size to allow occupants to site out in reasonable comfort. The inclusion of Juliette balconies for at least one unit means that the credit can not be awarded.

Options for Improvement
Investigate the potential to provide useable balcony space for all residential units.

3.8 MANAGEMENT ISSUES

MAN 1 – Home User Guide

Purpose of the credit

To recognise and encourage the provision of guidance to enable home owners/occupiers to understand and operate their home efficiently, in line with current good practice and in the manner envisaged by the developer, and to make best use of local facilities

Predicted Rating

This credit requires that the developer provides the occupant with a simple non-technical guide that covers information regarding the operation and performance of their home. In principle, the guide should provide the tenant with information regarding the potential for energy and water efficient use of their home, including details of any relevant technologies that have been included in the scheme. Where this guide is extended to provide further information regarding the site and its' surroundings, full credits can be awarded. Information regarding site details and the surrounding area should include details of local public amenties and public transport links

The developer has commited to develop the guide to the standard required to ensure that all three credits are achieved.

Options for Improvement

Not required.

MAN 2 – Considerate Constructors

Purpose of the credit

To recognise and encourage construction sites managed in an environmentally and socially considerate and accountable manner.

Predicted Rating

Given the pre-planning stage of the scheme, it is too early in scheme development to give a detailed consideration as to the potential to address this category. Whilst it is the intention of the developer to address a breadth of issues covered by EcoHomes, it is unreasonable at this stage to make assumptions regarding the construction phase without an appointed main contractor. Despite being keen to consider these aspects, it is contended that it is not possible to award any credits in this category at this time. A full assessment would be possible once a contractor has been appointed, and consideration should be given in that appointment as to the issues raised here. No credits are awarded at present.

Options for Improvement

The appointment of a contractor with the experience to address these credits, and implement the appropriate strategies provides an opportunity to achieve either 1 or 2 credits in this category. The contractor would need to comply with the Considerate Contractors Scheme and achieve the appropriate score.

MAN 3 – Construction Site Impacts

Purpose of the credit

To recognise and encourage construction sites managed in an environmentally sound manner in terms of resource use, energy consumption, waste management and pollution.

Predicted Rating

As with the credit above, the developer is keen to ensure that the criteria for this category are met. However, without an appointment of a contractor, or the completion of the tender specification and documentation, it is not considered reasonable to awarded credits for this category at this stage.

Options for Improvement
As a minimum, it is recommended that the developer ensures that any future contractor provides a commitment to monitor, sort and recycle construction waste on site. This would achieve an additional 1 credit. Additional monitoring of CO2 production, water consumption and reclamation of site timber (plus other requirements) provide an opportunity to achieve the full 2 credits available.

MAN 4 – Security
Purpose of the credit
To encourage the design of developments where people feel safe and secure; where crime and disorder, or the fear of crime, does not undermine quality of life or community cohesion.

Predicted Rating
The developer has indicated that they will be required to achieve Secured by Design status following a successful planning application, as the dwellings are intended for RSL use. In addition to this, they intend to address additional security issues by ensuring that the relevant security standards for external doors and windows are met. This would achieve full credits in this category.

Options for Improvement
Not required

4.0 APPENDIX

EcoHomes 2006 – The Environmental Rating for Homes

Credit Summary Table, Rating and Scoring sheet – 2006/ Issue 1.2

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EcoHomes 2006 Credit Summary Table

Issue		Credit	Dwelling Credits achieved	Location
Energy				
Ene1	**CO_2 emission** Credits are awarded to achieve SAP 2005 CO_2 emissions as follows: • Less than or equal to 40 kg/m^2/yr OR • Less than or equal to 35 kg/m^2/yr OR • Less than or equal to 32 kg/m^2/yr OR • Less than or equal to 30 kg/m^2/yr OR • Less than or equal to 28 kg/m^2/yr OR • Less than or equal to 26 kg/m^2/yr OR • Less than or equal to 24 kg/m^2/yr OR • Less than or equal to 22 kg/m^2/yr OR • Less than or equal to 20 kg/m^2/yr OR • Less than or equal to 18 kg/m^2/yr OR • Less than or equal to 15 kg/m^2/yr OR • Less than or equal to 10 kg/m^2/yr OR • Less than or equal to 5 kg/m^2/yr OR • Less than or equal to 0 kg/m^2/yr OR • Less than or equal to -10 kg/m^2/yr Note: -10 kg CO_2/m^2/yr allows for recognition of 'true zero' carbon solutions.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	☐ max 15	
Ene2	**Building envelope performance** Up to 2 credits awarded where thermal performance based on the Heat Loss Parameter (HLP) method meets the following requirements: **For new build:** • where the HLP is less than or equal to 1.3 W/m^2K OR • where the HLP is less than or equal to 1.1 W/m^2K	1 2	☐	

	For refurbishment: • where the HLP is less than or equal to 2.2 W/m^{2}K OR • where the HLP is less than or equal to 1.75 W/m^{2}K	1 2	max 2	
Ene3	**Drying space** Provision of drying space	1	 max 1	
Ene4	**Eco Labelled white goods** Provision of eco labelled white goods with the following energy ratings: • All fridges, freezers, fridge-freezers with an A$^+$ rating • All washing machines, and dishwashers where supplied, with an A rating and washer dryers and tumble dryers with a rating of B or higher OR • No white goods provided but info on Eco labelling	 1 1 1	 max 2	
Ene5	**Internal Lighting** • Where 40% dedicated low energy lights have been specified. OR • Where 75% dedicated low energy lights have been specified.	1 2	 max 2	
Ene6	**External Lighting** **Space lighting** • all space lighting is specifically designed to accommodate only compact fluorescent lamps (CFL) **Security lighting** • all intruder lighting to be 150 watts maximum and be fitted with PIR and day light sensor and all other type of security lighting to accommodate CFLs or fluorescent strips only and be fitted with dawn to dusk sensors or timers	 1 1	 max 2	
Total Number of Energy Credits Achieved			 max 24	

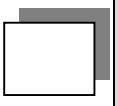
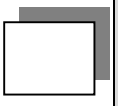
Transport

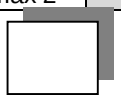
Tra1	**Public Transport** **Urban and suburban areas** 80% of the development within: • 1000m of a 30 min peak and an hourly off peak service OR	1		

	• 500m of a 15 min peak and half hourly off peak service **Rural areas** 80% of the development within: • 1000m of an hourly service OR • 500m of an hourly service OR a community bus service	2 1 2		max 2
Tra2	**Cycle storage** Provision of cycle storage for: • 50% of dwellings OR • 95 % of dwellings	1 2	max 2	
Tra3	**Local Amenities** Proximity to local amenities: • Within 500m of a food shop and post box • Within 1000m of 5 of the following: food shop* postal facility, bank/ cash machine, pharmacy, primary school, medical centre, leisure centre, community centre, public house, children's play area, place of worship, outdoor open access public area • Safe pedestrian routes to the local amenities * if not used for the 1st credit	1 1 1		max 3
Tra4	**Home office** Provision of space, and services, for a home office	1	max 1	
Total Number of Transport Credits Achieved			max 8	

Pollution

Pol1	**Insulation ODP and GWP** Specifying insulating materials, that avoid the use of ozone depleting substances and have a global warming potential (GWP) of less than 5 (and an ODP of zero), in either manufacture or composition, for the following elements: • Roof (incl. loft hatch) • Wall – internal and external (incl. all doors, lintels and all acoustic insulation). • Floor (incl. foundations) • Hot water cylinder (incl. pipe insulation and other thermal store)	1	max 1	

Pol2	**NO_x emissions** 95% of dwellings throughout the development must be served by heating and hot water systems with an average NO_x emission rate of less than or equal to the levels listed below. • Less than or equal to 100 NO_x mg/kWh OR • Less than or equal to 70 NO_x mg/kWh OR • Less than or equal to 40 NO_x mg/kWh	 1 2 3	 max 3	
Pol3	**Reduction of surface runoff** Where rainwater holding facilities and/or sustainable drainage techniques are used to provide attenuation of water run-off to either natural watercourses and/or municipal drainage systems, by 50%* in areas of low probability of flooding, 75%* in areas of medium flood risk and 100%* in areas of high flood risk, at peak times from: • Hard surface runoff • Roof runoff * Where a statutory body requires a greater attenuation then the higher requirement should be met in order to achieve these credits.	 1 1	 max 2	
Pol4	**Renewable and Low Emission Energy Source** • Where evidence provided demonstrates that a feasibility study considering renewable and low emission energy has been carried out and the results implemented AND • Where evidence provided demonstrates that the first credit has been achieved and 10% of total energy demand for the development is supplied from local renewable, or low emission energy, sources* OR • Where evidence provided demonstrates that the first credit has been achieved and 15% of total energy demand for the development is supplied from local renewable, or low emission energy, sources*. * In line with the recommendations of the feasibility study.	 1 1 2	 max 3	
Pol 5	**Flood Risk Mitigation** • Where evidence provided demonstrates that the assessed development is located in a zone defined as having a low annual probability of flooding. OR • Where evidence provided demonstrates that the	 2		

	assessed development is located in a zone defined as having a medium annual probability of flooding and the ground level of the building, car parking and access is above the design flood level for the site's location.	1	max 2	
Total Number of Pollution Credits Achieved			 max 11	
Materials				
Mat1	**Environmental Impact of Materials** The following elements obtaining an A rating from the Green Guide for Housing: • Roof • External walls • Internal walls - party walls and internal partitions • Floors • Windows • External surfacing • Boundary protection	3 3 3 3 2 1 1	 max 16	
Mat2	**Responsible sourcing of Materials: Basic building elements** Where the majority of materials in the following basic building elements are responsibly sourced: 1. Frame 2. Ground floor 3. Upper floors (including any loft boarding) 4. Roof (structure and cladding) 5. External walls (including external cladding) 6. Internal walls (including internal partitions) 7. Foundation/substructure 8. Staircase (includes the tread, rises and stringers)	1-6	 max 6	
Mat3	**Responsible sourcing of Materials: Finishing elements** Where the majority of materials in the following secondary building and finishing elements are responsibly sourced: 1. Stair (including handrails, balustrades, banisters, other guarding/rails(excluding staircase)) 2. Window (including sub-frames, frames, boards, sills) 3. External & internal door: (including sub-frames, frames, linings, door) 4. Skirting (including architrave, skirting board & rails) 5. Panelling (including any other trim) 6. Furniture (including fitted; kitchen, bedroom and bathroom) 7. Facias (soffit boards, bargeboards, gutter boards, others) 8. Any other significant use.	1-3	 max 3	

Mat4	**Recycling of Household waste** Storage of recyclable waste: • Provision of internal storage only OR • Provision of external storage (or LA collection) only OR • Provision of internal AND external (or LA collection) storage	2 2 6	max 6	
Total Number of Materials Credits Achieved			max 31	

Water

Wat1	**Internal Potable Water Use** • Less than or 52 m^3 per bedspace per year OR • Less than or equal to 47 m^3 per bedspace per year OR • Less than or equal to 42 m^3 per bedspace per year OR • Less than or equal to 37 m^3 per bedspace per year OR • Less than or equal to 32 m^3 per bedspace per year	1 2 3 4 5	max 5	
Wat2	**External Potable Water Use** Rain water collection system for watering gardens and landscaped areas	1	max 1	
Total Number of Water Credits Achieved			max 6	

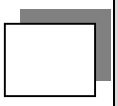
Land Use and Ecology

Eco1	**Ecological value of site** • Building on land which is inherently of low ecological value	1		max 1
Eco2	**Ecological enhancement** • Enhancing the ecological value of the site through consultation with an accredited expert	1		max 1

Eco3	**Protection of ecological features** • Ensuring the protection of any existing ecological features on the site	1		max 1
Eco4	**Change of ecological value of site** • A change of between –9 and –3 species OR • A change of between –3 and +3 species OR • A change between +3 and +9 species OR • A change of greater than +9 species	1 2 3 4		max 4
Eco5	**Building footprint** • Where the total combined Floor area: Footprint ratio for all houses on the site is greater than 2.5:1 AND • Where the total combined Floor area: Footprint ratio for all flats on the site is greater than 3.5:1 OR • Where the total combined Floor area: Footprint ratio for all dwellings on the site is greater than 3.5:1	1 2	max 2	
Total Number of Land Use and Ecology Credits Achieved			max 9	

Health and Well Being

Hea1	**Daylighting** Provision of adequate daylighting, according to BS 8206:pt2 in: • In the kitchen • In living rooms, dining rooms and studies • View of sky in all above rooms	1 1 1	max 3	
Hea2	**Sound Insulation** Up to 4 credits where pre-completion testing is carried out to comply or improve on performance standards in Approved Document E (2003 Edition, Building Regulations England and Wales).	1-4	max 4	
Hea3	**Private space** Provision of private or semi private space	1	max 1	

Total Number of Health and Well Being Credits Achieved			 max 8	
Management				
Man 1	**Home User Guide** Where evidence can be provided to demonstrate that there is provision, in each home, of a simple guide that covers information relevant to the 'non-technical' tenant/ occupant on: • The environmental performance of their home • Information relating to the site and surroundings.	2 1	 max 3	
Man 2	**Considerate Constructors** • Demonstrate a commitment to comply with best practice site management principles. OR • Demonstrate a commitment to go significantly beyond best practice site management principles.	1 2		 max 2
Man 3	**Construction Site Impacts** • Evidence that demonstrates a commitment and a strategy to monitor, sort and recycle construction waste on site. AND • Evidence that demonstrates that 2 or more of a-f listed below are achieved. OR • Evidence that demonstrates that 4 or more of a-f are achieved: a) monitor and report CO_2 or energy arising from site activities b) monitor and report on CO_2 or energy arising from transport to and from site c) monitor water consumption from site activities d) adopt best practice policies in respect of air (dust) pollution arising from the site e) adopt best practice policies in respect of water (ground and surface) pollution occurring on the site f) 80% of site timber is reclaimed, reused or responsibly sourced.	1 1 2		 max 3	

Man 4	**Security** • A commitment to work with an Architectural Liaison Officer and to achieve the Secured by Design award. • Security standards for external doors and windows, to achieve a minimum of either: - LPS1175 SR1 (All doors and windows) OR - PAS24-1 (All external pedestrian doorsets falling within scope of PAS24-1) AND BS7950 (All windows falling within the scope of BS7950)	1 1	max 2	
Total Number of Management Credits Achieved			max 10	
Total in all Sections				

ISSUE CATEGORY	Issue credits: Credits available	Issue credits: No. achieved	Issue credits: % achieved	Weighting Factor	Credits score
	1	2	2/1 x100 =3	4	3x4 =5
Energy	24			0.22	
Transport	8			0.08	
Pollution	11			0.10	
Materials	31			0.14	
Water	6			0.10	
Land Use and ecology	9			0.12	
Health and well being	8			0.14	
Management	10			0.10	
Total				1.00	

	Rating	Score
	Pass	36
	Good	48
	Very Good	58
	Excellent	70