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**Building Research Establishment Environmental Assessment Method**
BREEAM and EcoHomes Pre-Assessment Document

Chichester House
2 August 2007

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# Introduction

# Introduction

Faber Maunsell's Sustainable Development Group has been commissioned by Hines to undertake the BREEAM Design and Procurement pre assessment of the retail, offices and residential units within Chichester House.
An initial BREEAM pre-assessment meeting was held on 11 June 2007 at the offices of Faber Maunsell to identify those credits anticipated to be achieved based on current design intent and those which have potential to be achieved, if changes to the current design were implemented. The credit requirements of each credit were also discussed. Based on verbal expressions of intent stated during the meeting pre-assessment reports were produced for the retail, office and residential elements at Chichester House and circulated to the client and design team.
Following issue of the report a further meeting was held on 13th July 2007, at GMW's offices in London to confirm the credits to be targeted.

This document presents the conclusion of this exercise and includes the following reports:

1. BREEAM Offices 2006 Pre-Assessment Report;
2. EcoHomes 2006 Pre-Assessment Report; and
3. BREEAM Retail 2006 Pre-Assessment Summary Report.

# 1 BREEAM Offices 2006 Pre-Assessment Report

# 1 BREEAM Offices 2006 Pre-Assessment Report

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BREEAM Offices 2006 Pre-Assessment Report

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# 1 Assessment Summary

## 1.1 Introduction to BREEAM for Offices

BREEAM for Offices seeks to minimise the adverse effects of new buildings on the environment at global and local scales, whilst promoting healthy indoor conditions for the occupants. The environmental implications of a new building are assessed at the design stage, and compared with good practice by independent assessors. An overall rating of the building's performance is given using the terms Pass, Good, Very Good or Excellent. This is determined from the total number of BREEAM criteria met and their respective environmental weighting.

## 1.2 Summary of Chichester House Assessment

*1.2.1* *Background*

Faber Maunsell's Sustainable Development Group has been commissioned by HEDF II UK to undertake a BREEAM for Offices Design and Procurement Assessment of Chichester House. The following report aims to provide the design team with detailed information on credit compliance requirements and to give an initial indication of the anticipated development performance scores under the scheme.

A BREEAM assessment was held on 11 June 2007, at Faber Maunsell's offices in London The following people attended this meeting:

| | | |
|---|---|---|
| **Andrew Reynolds** | **HEDF II UK** | Client |
| **Ross Blair** | **HEDF II UK** | Client |
| **Adrian Dalby** | **GMW Architects** | Architect |
| **Paul Vivien** | **Mosley and Webb** | Planning Consultant |
| **Edward Chan** | **Faber Maunsell** | M&E Engineer |
| **Iain Campbell** | **Faber Maunsell** | M&E Engineer |
| **Anthony Poultney** | **Faber Maunsell** | M&E Engineer |
| **Sally Powell** | **Faber Maunsell (SDG)** | BREEAM Assessor |
| **Georgia Arnott** | **Faber Maunsell (SDG)** | BREEAM Assessor |
| **Emma Hickling** | **Faber Maunsell (SDG)** | BREEAM Assessor |

A second meeting was held on 13th July 2007, at GMW's offices in London. The following people attended this meeting:

| | | |
|---|---|---|
| **Ross Blair** | **HEDF II UK** | Client |
| **Adrian Dalby** | **GMW Architects** | Architect |
| **Susan Jackson** | **GMW Architects** | Architect |
| **John Jackson** | **GMW Architects** | Architect |
| **Iain Campbell** | **Faber Maunsell** | M&E Engineer |
| **Mark Dedman** | **Buro Four** | Project Manager |
| **Peter Inskip** | **Buro Four** | Project Manager |
| **Cameron Baylis** | **Davis Langdon** | QS |
| **Sally Powell** | **Faber Maunsell (SDG)** | BREEAM Assessor |
| **Emma Hickling** | **Faber Maunsell (SDG)** | BREEAM Assessor |

This Guidance Report has been based on verbal expressions of intent stated during the two meetings. The rating provided at this stage is the *target* minimum rating and relates to credits to be targeted by the development at the full design and procurement assessment stage.

**The final rating achieved in a certified BREEAM assessment will be dependent on the provision of satisfactory evidence for each credit.**

*1.2.2* *Summary of Performance*

As set out in section 2 of this report, the Target score achievable for the development is as follows:

**Current Target Minimum Rating: 70.10% 'EXCELLENT'**

A summary of outstanding actions for the assessment is provided in section 3.

# 2 Building Details and Performance

## 2.1 Building Data Sheet

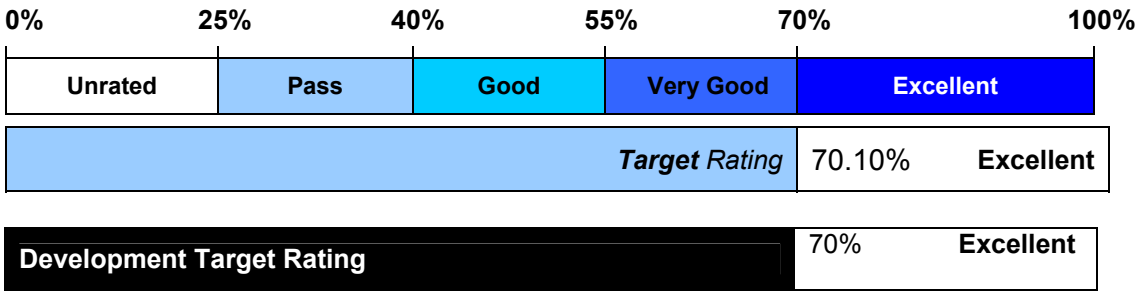
| PROJECT DETAILS | | |
|---|---|---|
| **BUILDING:** | **Chichester House** | |
| **BRE Reference Number** | TBC | |
| **Developer:** | HEDF II UK<br>Queensberry House, 3 Old Burlington Street, London, W1S 3AE | (HEDF II UK) |
| **Architect:** | GMW Architects<br>239 Kensington High Street, London, W8 6SL | (GMW) |
| **Building Services:** | Faber Maunsell<br>The Johnson Building, 77 Hatton Garden, London, EC1N 8JS | (FM) |
| **Contractor:** | The Contractor | (HEDF II UK until contractor appointed) |
| **BREEAM Assessor:** | Faber Maunsell Sustainable Development Group | (FM) |
| **BUILDING DETAILS** | | |
| **Introduction** | The Chichester House development is a seven storey building, with basement, located on High Holborn, in the London Borough of Camden.<br><br>The proposed development of Chichester House intends to demolish the existing building and erect a new building for office, retail and residential use. | |
| **Building area** | Gross Internal Area: 8,735m$^2$<br>Net Internal Area: 5,867m$^2$ | |
| **Construction** | • **External walls:** Stainless steel frame with insulated glass cladding panels and Portland stone facing.<br>• **Windows:** no details supplied<br>• **Upper floors:** hollow concrete plank system<br>• **Roof :** the terraces will be green or brown roofs; the other areas will be a deck system | |
| **Services** | The following servicing provisions are designed and provided as part of the scheme:<br><br>***Electrical:*** | |

| | |
|---|---|
| | • **General lighting**: all office area lighting will use high frequency ballasts and the lighting system will be configurable.<br>• **External lighting**: will be controlled through time switches or daylight sensors.<br><br>***Mechanical:***<br>• **Hot & cold water:** TBC: The choice is between GSHP or gas boiler.<br>• **Heating:** TBC: The choice is between GSHP or gas boiler.<br>• **Ventilation:** mechanically ventilated with chilled beam.<br>• **Air conditioning:** none. |

## 2.2 Performance of the Building

*2.2.1* *BREEAM Rating*

The BREEAM Rating is based on the number of credits achieved under each section multiplied by the Environmental Weighting Factor. The BREEAM Rating is given as Pass, Good, Very Good or Excellent, according to the percentage score achieved.



## 2.2.2 *Summary of Credit Status*

| Credit Summary BREEAM Offices 2006 | | Credit no. | Credits Available | Target Credits |
|---|---|---|---|---|
| **Management** | Commissioning Responsibilities | M 1 | 2 | 2 |
| Credit Value | Considerate Contractor | M4 | 2 | 2 |
| 1.67% | Construction Site Impacts | M 5 | 4 | 4 |
| | Building User Guide | M12 | 1 | 1 |
| Section Credit Total | | | 9 | 9 |
| Weighted Section Total | | | 15% | 15.0% |
| **Health** | Daylighting | HW 1 | 1 | 0 |
| Credit Value | View Out | HW 1 | 1 | 0 |
| 1.15% | Glare Control | HW 3 | 1 | 1 |
| | High Frequency Lighting | HW 4 | 1 | 1 |
| | Internal and External Lighting Levels | HW 5 | 1 | 1 |
| | Lighting Zones | HW 6 | 1 | 1 |
| | Potential for Natural Ventilation | HW 8 | 1 | 0 |
| | Internal Air Pollution | HW 9 | 1 | 1 |
| | Ventilation Rates | HW 11 | 1 | 1 |
| | Thermal Comfort | HW 14 | 1 | 1 |
| | Thermal Zoning | HW 15 | 1 | 1 |
| | Microbial Contamination (Legionella) | HW 16 | 1 | 1 |
| | Acoutic Performance (Indoor Noise) | HW 17 | 1 | 1 |
| Section Credit Total | | | 13 | 10 |
| Weighted Section Total | | | 15% | 11.5% |
| **Energy** | Reduction of $CO_2$ Emissions | E 1 | 15 | 9 |
| Credit Value | Sub-metering of Energy Uses | E 2 | 1 | 1 |
| 0.76% | Sub-metering of Areas / Tenancy | E 3 | 1 | 1 |
| | External Lighting | E 4 | 1 | 1 |
| Section Credit Total | | | 18 | 12 |
| Weighted Section Total | | | 14% | 9.1% |
| No of credits required to achieve LBC target | | | | 11 credits = 60% |
| **Transport** | Provision of Public Transport | T 1 | 2 | 2 |
| Credit Value | Transport $CO_2$ | T 2 | 10 | 9 |
| 0.76% | Cyclist Facilities | T 5 | 2 | 2 |
| | Travel Plan | T 8 | 1 | 1 |
| Section Credit Total | | | 15 | 14 |
| Weighted Section Total | | | 11% | 10.6% |
| **Water** | Water Consumption | W 1 | 3 | 2 |
| Credit Value | Water Meter | W 2 | 1 | 1 |
| 0.83% | Major Leak Detection | W 3 | 1 | 1 |
| | Sanitary Supply Shut Off | W 4 | 1 | 1 |
| Section Credit Total | | | 6 | 5 |
| Weighted Section Total | | | 5% | 4.2% |
| No of credits required to achieve LBC target | | | | 4 credits = 60% |
| **Materials** | Material Specs - Major Elements | MW 1 | 4 | 0 |
| Credit Value | Floor Finishes | MW 3 | 1 | 1 |
| 0.83% | Reuse of Building Façade | MW 5 | 1 | 0 |
| | Reuse of Building Structure | MW 6 | 1 | 0 |
| | Recycled Aggregates. | MW 7 | 1 | 1 |
| | Responsible Sourcing of Materials | MW 8 | 3 | 2 |
| | Storage of Recyclable Waste | MW 12 | 1 | 1 |
| Section Credit Total | | | 12 | 5 |
| Weighted Section Total | | | 10% | 4.2% |
| No of credits required to achieve LBC target | | | | 6 credits = 40% |
| **Land use & Ecology** | Re-Use of Land | LE 1 | 1 | 1 |
| | Reclaimed Contaminated land | LE 2 | 1 | 0 |
| Credit Value | Ecological Value | LE 3 | 1 | 1 |
| 1.50% | Mitigating Ecoogical Impact | LE 4 | 2 | 2 |
| | Enhancing Site Ecology | LE 5 | 3 | 1 |
| | Long Term Impact on Biodiversity | LE 6 | 2 | 0 |
| Section Credit Total | | | 10 | 5 |
| Weighted Section Total | | | 15% | 7.5% |
| **Pollution** | Refrigerant GWP | P 1 | 1 | 0 |
| Credit Value | Preventing Refrigerant Leaks | P 2 | 2 | 2 |
| 1.00% | Insulant GWP | P 4 | 1 | 1 |
| | NOx Emissions of Heating Source | P 6 | 3 | 0 |
| | Flood Risk / Water Run-Off | P 7 | 3 | 2 |
| | Minimising Water Course Pollution | P 8 | 1 | 1 |
| | Renewable & Low Emission Energy | P 11 | 3 | 1 |
| | Reduction of Light Pollution | P 12 | 1 | 1 |
| Section Credit Total | | | 15 | 8 |
| Weighted Section Total | | | 15% | 8.0% |
| | | **TOTALS** | 100% | 70.1% |
| | | **RATING:** | | **Excellent** |

# 3 Credit Guidance, Status and Actions

The following section provides a summary description of the credit compliance requirements along with assessor's notes on the status of each credit based on discussions held with the design team and documentation received to date.

For each BREEAM criterion, information on further actions required to be undertaken is also provided.

**Key to this section:**

| **CREDIT NUMBER** | **CREDIT TITLE** | **STATUS**<br>***T (Number):*** *credit(s) is part of the current design intent and therefore targeted.*<br>***0*** *credit(s) will not be achieved.* |
|---|---|---|
| **Compliance Requirements:**<br>*BREEAM compliance criteria and guidance for each credit are provided in this section.* | | |
| **Current Status:**<br>Detailed information on the evidence submitted and justification as to why the credit has (not) been awarded is provided in this section. | | |
| **Action Required:**<br>Details on what evidence is required by the assessor for this credit at the full design and procurement assessment stage. | | |

# MANAGEMENT SECTION

| M1 | Commissioning | *T2* |
|---|---|---|

**Compliance Requirements:**
***First credit:***
*Where evidence provided demonstrates that an appropriate project team member has been appointed to monitor commissioning on behalf of the client to ensure commissioning will be past onto sub-contractors and carried out in line with current Building Regulations and (where applicable), best practice such as that published by CIBSE and BSRIA.*

*For buildings with complex systems evidence must also be provided to confirm that a specialist commissioning agent is appointed.*

***Second Credit:***
*Where evidence provided demonstrates that seasonal commissioning will be carried out during the first year of occupation, post construction (or post fit out).*

**Current Status:**
**First Credit**
It was stated at the meeting of 11 June 2007 that Faber Maunsell's appointment includes monitoring commissioning on behalf of the client. It was also stated that commissioning requirements in line with Building Regulations, and CIBSE & BSRIA good practice, would be passed on to sub-contractors.

In addition, it was stated that commissioning of complex building systems would be undertaken by a specialist commissioning company.

**Second Credit**
It was stated at the meeting of 11 June 2007 that seasonal commissioning is not part of the standard Faber Maunsell offering. HEDF II UK stated that they would target this credit.

It is therefore anticipated that both credits will be achieved.

**Action Required:**
Provide contract or specification extracts confirming that Faber Maunsell's appointment includes monitoring commissioning on behalf of the client.

Provide contract or specification extracts confirming that a specialist commissioning company will be appointed to commission complex building systems.

Provide specification extracts confirming that seasonal commissioning would be undertaken during the first year of occupation.

| M4 | Considerate Constructors | *T2* |
|---|---|---|

**Compliance Requirements:**
***First credit:***
*Where evidence provided demonstrates that there is a commitment to comply with best practice site management principles (e.g. signing up to the Considerate Constructors Scheme www.ccscheme.com )*

***Second credit**:*
*Where evidence provided demonstrates that there is a commitment to go significantly beyond best practice site management principles (e.g. achieving a score of 32 or more out of 40 under the Considerate Constructors Scheme www.ccscheme.com ).*

**Current Status:**
**First Credit**
It was stated at the meeting of 11 June 2007 that the site would be signed up to the Considerate Contractor Scheme.

**Second Credit**
It was also stated that HEDF II UK wish to target best practice and will require the Contractor to commit to achieving at least 32 out of the 40 points available under the scheme.

It is therefore anticipated that both credits will be achieved.

**Action Required:**
Provide a signed letter or other formal document confirming that the site would be signed up to the CCS
AND
that there is a commitment to achieving at least a score of at least 32 out of 40 points under the scheme.

| M5 | Construction Site Impacts | *T4* |
|---|---|---|

**Compliance Requirements:**

***Part A (3 credits)***

*1 credit is awarded for every 2 of the following that are confirmed:*

- *Commitment to monitor, report and set targets* ***for $CO_2$ production or energy use arising from site activities***
- *Commitment to monitor and report* ***$CO_2$ or energy arising from commercial transport to and from the site***
- *Commitment to monitor, report and set targets for* ***water consumption*** *arising from site activities*
- *Commitment to* ***monitor site construction waste***
- *Commitment to* ***sort and recycle site construction waste***
- *Commitments to adopt best practice policies in respect to* ***air (dust) pollution***
- *Commitment to adopt best practice policies in respect to* ***water (ground and surface) pollution***

***Part B (1 credit)***

*1 credit awarded where 80% of timber used during construction, including formwork, site hoardings and other temporary site timber used for the purpose of facilitating construction, is to be procured from sustainably managed sources, independently certified by one of the top two levels as set out in the Responsible Sourcing of Materials credit, MW8, in the Materials section.*

**Current Status:**

**Part A**

It was stated at the meeting that HEDF II UK wish to target these credits and The Contractor would be required to implement the above measures on the site:

**Part B**

It was stated at the meeting that all temporary timber used during construction, including formwork and site hoardings, would be FSC certified or reused from other sites.

**Action Required:**

The following evidence would need to be submitted:

- Formal written evidence of the contractors' commitment to monitor energy use, water use and construction waste on site and report it on regular intervals on site. In addition, provide details of the contractors' method for using the monitored results to set targets on energy use on site.

- Formal written evidence of the contractors' commitment to monitor transport emissions from deliveries to and from the site. In additional, provide details of the intended method for collecting and reporting on the monitoring data. Please note that if the design team or contractor confirms that the project is aiming to achieve the "Construction Site Transport" 'measures for traffic movements and distances' (published April 2003) then this aspect has been achieved automatically.

- Formal written evidence of the contractors' commitment to sort and recycle construction waste on site (or off site if site limitations apply). Details of the waste streams targeted for recycling and waste management contractors appointed should also be submitted.

- Formal written evidence of the contractors' commitment to adopt best practice in respect to air and water pollution on site.

- Formal written evidence that all timber to be used/specified on site for temporary works will comply with be FSC or PEFC certified or reused or recycled.

| M12 | Building Users Guide | *T1* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates the provision of a simple guide that covers information relevant to the tenant/occupants and non-technical building manager on the operation and environmental performance of the building. The guide should cover the following areas:*

- Building services information
- Emergency information
- Energy & environmental strategy
- Water use
- Transport facilities
- Materials & waste policy
- Re-fit / re-arrangement considerations
- Reporting
- Training

**Current Status:**
It was stated at the meeting of 11 June 2007 that a non-technical building user guide would be provide covering building services information, emergency information, energy & environmental strategy, water use, transport facilities, materials & waste policy, re-fit / re-arrangement considerations, reporting provision and training

**Action Required:**
Provide a specification extract stating that a building user guide is required covering the issues listed above.

# HEALTH AND WELL-BEING SECTION

| HW1 | Daylighting | *0* |
|---|---|---|

***Compliance Requirements:***
*One credit is awarded where evidence provided demonstrates that at least 80% of net lettable office floor area is adequately daylit in accordance with the guidance in the CIBSE Window Design Guide, BS8206 Part 2 and the BRE Site Layout Guide:*

- *An average daylight factor of at least 2% and;*

*EITHER*

- *A uniformity ratio of at least 0.4; (spaces with glazed roofs, such as atria, must achieve a uniformity ratio of at least 0.7).*

*OR*

- *A view of sky from desk height (0.7m) is achieved*
- *The room depth criterion d/w +d/Hw < 2/(1-RB) is satisfied.*

*Where:*
*d = room depth* *Hw = window head height from floor level*
*w = room width* *RB = average reflectance of surfaces in the rear half of the room.*

**Current Status:**
It was stated at the meeting of 11 June 2007 that the building was deep plan. The room depth at points is greater than 13m. It was therefore anticipated that this credit will not be achieved.

**Action Required:**
None required.

| HW2 | View Out | *0* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates that all desks are within a 7m radius of a window or permanent opening (such as an atrium) providing a view.*

**Current Status:**
It was stated at the meeting of 11 June 2007 that the building was deep plan. The room depth at points is greater than 13m. The credit will not be achieved.

**Action Required:**
None required.

| HW3 | Glare Control | *T1* |
|---|---|---|
| **Compliance Requirements:**<br>*One credit is awarded where evidence provided demonstrates that an occupant controlled glare control system (e.g. internal or external blinds) is fitted.*<br><br>*In speculative buildings a commitment by the developer to provide an occupant controlled system of glare control, as part of their fit out works, will be acceptable.* | | |
| **Current Status:**<br>It was stated at the meeting of 11 June 2007 that HEDF II UK wish to target this credit. Occupant controllable blinds will be fitted by the landlord. | | |
| **Action Required:**<br>Provide relevant extracts from the final fit out works requirements confirming that occupant controllable blinds must be fitted. | | |

| HW4 | High Frequency Lighting | *T1* |
|---|---|---|
| **Compliance Requirements:**<br>*One credit is awarded where evidence provided demonstrates that high frequency ballasts are installed on all fluorescent and compact fluorescent lamps.* | | |
| **Current Status:**<br>It was stated at the meeting of 11 June 2007 that all office area lighting would use high frequency ballasts. | | |
| **Action Required:**<br>Provide specification extracts confirming that all office area lighting would use high frequency ballasts on all fluorescent and compact fluorescent lamps. | | |

| HW5 | Internal and external lighting levels | *T1* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates that all internal and external lighting, where relevant, is specified in accordance with CIBSE recommendations:*

***Internal Lighting***

- *Illuminance (lux) levels are specified in accordance with Part Two of the CIBSE Code for Lighting 2002 and its 2004 Addendum.*
- *For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 7, 'Lighting for offices'*

***External Lighting***

- *Lux levels must be specified in accordance with CIBSE Lighting Guide 6, 'The outdoor environment'.*

**Current Status:**
It was stated at the meeting of 11 June 2007 that internal lighting would be provided in accordance with CIBSE Code for Lighting and LG 7, and that external lighting would be in accordance with CIBSE LG 6.

Therefore the credit is likely to be achieved.

**Action Required:**
Provide specification extracts confirming that lighting is specified in accordance with CIBSE Code for Lighting, LG7 and LG 6.

| HW6 | Lighting Zones | *T1* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates that lighting, in all occupied areas, is zoned to allow separate control. For offices separate zones should be provided for (as a minimum):*

- *Office and circulation spaces,*
- *Office zones of no more than four workplaces in office areas*
- *Workstations adjacent to windows/atria and other areas.*

*In the case of speculative office buildings, the control system must have the capacity to be zoned as detailed above, but need not be set up for this.*

**Current Status:**
It was stated at the meeting of 11 June 2007 that the lighting system would allow perimeter control and would be configurable, and allow zones to be set up in accordance with the requirements above.

Therefore the credit is likely to be achieved.

**Action Required:**
Provide specification extracts confirming the specification of a configurable lighting system and provide drawings confirming that the lighting arrangements allow zones to be set up in accordance with the guidance above.

| HW8 | Potential for Natural Ventilation | *0* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates that external façade windows to all occupied areas are openable and at least on opposite sides for accommodation over 7m deep. The openable area should be equivalent to 5% of the gross floor area of the building. This should have an even distribution across the office area so as to promote adequate cross ventilation.*

**Current Status:**
It was stated at the meeting of 11 June 2007 that the development is to be mechanically ventilated with chilled beam and therefore it is not intended that there will be any openable windows.

However, this credit could be achieved if an area of window equivalent to 5% of gross internal floor area of that room / floor plate is demonstrated as openable, even if it remains locked. It was agreed that this credit should be marked as potential.

It was confirmed at the meeting of 13 July 2007 that this credit would not be pursued.

**Action Required:**
No further action required.

| HW9 | Internal air pollution | *T1* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates that air intakes serving occupied areas avoid major sources of external pollution and recirculation of exhaust air.*

***Air-conditioned and mixed-mode buildings:***
*Where location of air intakes/outlets are over 10m apart to minimise recirculation AND intakes are over 20m from sources of external pollution (any roads, including site roads, car parks, other extracts or pollution sources).*

***Naturally-ventilated buildings:***
*Where location of openable windows/ventilators are over 10m from sources of external pollution.*

**Current Status:**
It was stated at the meeting of 11 June 2007 that air intakes/outlets will be on the roof which is approximately 30m high. The air intakes will be over 10m away from the air outlets. Therefore this credit is considered likely to be achieved.

**Action Required:**
Provide drawings confirming that air intakes/outlets will be over 10m apart and intakes will be over 20m from sources of external pollution.

| HW11 | Ventilation Rates | *T1* |
|---|---|---|
| **Compliance Requirements:**<br>*One credit is awarded where evidence provided demonstrates that each space within the development achieves recommended minimum fresh air rates:*<br><br>***Mechanically ventilated and air conditioned buildings:***<br>▪ *Fresh air is provided at a rate of 12 litres per second per person*<br>▪ *Where smoking is permitted this should be in dedicated smoking rooms only with a ventilation rate of at least 32 litres per second per person.* | | |
| **Current Status:**<br>It was stated at the meeting of 11 June 2007 that a fresh air rate of 12 litres per second per person would be specified.<br><br>Therefore the credit is likely to be achieved. | | |
| **Action Required:**<br>Provide specification extracts confirming that a fresh air rate of 12 litres per second per person is specified. | | |

| HW14 | Thermal Comfort | *T1* |
|---|---|---|
| **Compliance Requirements:**<br>*One credit is awarded where evidence provided demonstrates that thermal comfort levels (meeting the requirements set out in CIBSE Guide A) are assessed at design stage, and this is used to evaluate appropriate servicing options, and appropriate thermal comfort levels are achieved.* | | |
| **Current Status:**<br>It was stated at the meeting of 11 June 2007 that thermal comfort has been modelled in compliance with CIBSE Guide A, and has been used to evaluate appropriate servicing options. It is therefore anticipated that this credit will be achieved. | | |
| **Action Required:**<br>Provide a copy of the thermal comfort modelling undertaken. | | |

| HW15 | Thermal Zoning | *T1* |
|---|---|---|
| **Compliance Requirements:**<br>*One credit is awarded where evidence provided demonstrates that local control is available for temperature adjustment in each area to reflect differing load requirements. Zoning must allow separate occupant control of each perimeter area (i.e. within 7m of each external wall) and the central zone (i.e. over 7m from the external walls).* | | |
| **Current Status:**<br>It was stated at the meeting of 11 June 2007 that thermal zoning would be specified to allow separate control of areas that may have different load requirements, including perimeter and internal areas.<br><br>Therefore the credit is likely to be achieved. | | |
| **Action Required:**<br>Provide specification extracts and drawings confirming the thermal zones. | | |

| HW16 | Microbial Contamination | *T1* |
|---|---|---|
| **Compliance Requirements:**<br>*One credit is awarded where:*<br>▪ *evidence provided demonstrates all water and HVAC are designed to meet the requirements of HSE Approved Code of Practice (ACoP) L8 or CIBSE TM13.*<br>*AND*<br>▪ *evidence provided demonstrates that no humidification is present or only steam humidification is provided.* | | |
| **Current Status:**<br>It was stated at the meeting of 11 June 2007 that all water and HVAC systems are specified in accordance with the HSE Approved Code of Practice L8.<br><br>It was also stated that no humidification is specified.<br><br>Therefore the credit is likely to be achieved. | | |
| **Action Required:**<br>Provide specification extracts confirming that all water and HVAC systems must be in accordance with CIBSE TM13.<br><br>Provide specification extracts confirming that no humidification is specified. | | |

| HW17 | Acoustic Performance | *T1* |
|---|---|---|
| **Compliance Requirements:**<br>*Where evidence provided demonstrates that the building design can be shown to achieve indoor ambient noise levels that fall within the following ranges in occupied offices:*<br>▪ *35-40dB LAeqT in small offices*<br>▪ *40-45dB LAeqT in medium offices*<br>▪ *45-50dB LAeqT in large offices* | | |
| **Current Status:**<br>It was stated at the meeting of 11 June 2007 that there is potential to achieve this credit. The chilled beams are very quiet therefore sound buffering may be required.<br><br>At the meeting of 13 July 2007 it was stated that Sandy Brown Ltd (acousticians) would be commissioned to carry out the indoor noise calculations and that HEDF II UK would act upon the recommendations to achieve this credit.<br><br>Therefore the credit is likely to be achieved. | | |
| **Action Required:**<br>Provide calculations demonstrating the indoor ambient noise levels for each type of space are in compliance with the above dB LAeqT criteria. | | |

# ENERGY SECTION

| E1 | Reduction of CO2 emissions | *T9* |
|---|---|---|

**Compliance Requirements:**

*Up to 15 credits are available where evidence provided demonstrates that the building achieves a percentage improvement in the assessed designs' predicted Building CO2 Emission Rate (BER) over the Target CO2 Emission Rate (TER), as defined in the Building Regulations:*

| *Credits* | *Percentage improvement over 2006 building regulation requirement.* |
|---|---|
| *1* | *+1%* |
| *2* | *+2%* |
| *3* | *+4%* |
| *4* | *+6%* |
| *5* | *+8%* |
| *6* | *+10%* |
| *7* | *+12%* |
| *8* | *+14%* |
| *9* | *+18%* |
| *10* | *+22%* |
| *11* | *+30%* |
| *12* | *+40%* |
| *13* | *+50%* |
| *14* | *+60%* |
| *15* | *≥70%* |

*For listed / historic buildings an additional two credits up to a maximum of 15 are awarded where evidence provided demonstrates the undertaking of a specialist study to establish the implications of improving building fabric performance and implementation of appropriate measures.*

**Current Status:**

It was stated at the meeting of 11 June 2007 that the initial calculations are showing that a 6% improvement can be achieved over Part L 2A. It was stated that these calculations are based on the worst case scenario of fan coils system rather than chilled beams, and the renewables have not been included.

Following on from this meeting the energy statement was completed (FM, 04/07/2007). For the scenario with chilled beams this shows the Notional emissions rate as 52.46kg$CO_2$/$m^2$ per annum; Target emissions rate (TER) as 38.12kg$CO_2$/$m^2$ per annum and the Building Emissions Rate (BER) as 28.00 per annum.

The TER is a 27.34% improvement over the notional emissions rate

Improvement = (52.56 - 38.12 ) 52.46 = 27.34%

The BER is a 46.63% improvement over the notional emissions rate:

Improvement = (52.56- 28.00) / 52.56 = 46.63%

This improvement is 19.29% (46.63 – 27.34) better than the Target emissions rate requirement to comply with building regulations. Therefore 9 credits are achieved.

**Action Required:**

Provide Approved Document Part L2A calculations confirming the percentage improvement above the Target $CO_2$ Emission Rate (TER), as defined in the Building Regulations (2006).

| E2 | Sub-metering of Substantial Energy Uses | *T1* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence is provided to demonstrate the provision of direct sub-metering of substantive energy uses within the building. Separate energy sub-meters must be provided for the following systems (where present):*

- *Space Heating*
- *Humidification Plant*
- *Cooling Plant*
- *Fans (major)*
- *Lighting*
- *Small power (lighting and small power can be on the same sub-meter where supplies are taken at each floor/department).*
- *Other major energy consuming items where appropriate*

**Current Status:**
It was stated at the meeting of 11 June 2007 that substantive energy use systems would be sub-meter separately:

- space heating
- cooling plant
- lighting and small power on each floor

Therefore the credit is likely to be achieved.

**Action Required:**
Provide specification extracts or electrical schematics demonstrating that substantive energy using systems are sub-metered separately.

| E3 | Sub-metering of Areas/Tenancy | *T1* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates sub-metering of energy use by tenancy/areas is installed within the building (this must be at least floor-by-floor sub-metering).*

**Current Status:**
It was stated at the meeting of 11 June 2007 that floor-by-floor sub-metering, and sub-metering by tenancy will be specified. There will potentially be two tenants per floor.

Therefore this credit is likely to be achieved.

**Action Required:**
Provide specification extracts or electrical schematics demonstrating that floor-by-floor sub-metering is specified.

| **E4** | **External Lighting** | ***T1*** |
|---|---|---|
| **Compliance Requirements:**<br>*One credit is awarded where evidence provided demonstrates energy efficient external lighting is specified:*<br>▪ *All external lighting for the building, access ways and pathways to be a minimum of 50 lamp lumens/circuit watt*<br>▪ *All lighting to car parking areas and associated roads, where provided, to have a minimum of 70 lamp lumens/circuit watt*<br>*All flood lighting and sign lighting, where provided, to have a minimum of 70 lamp lumens/circuit watt*<br>▪ *Decorative lighting and floodlighting is not exempt from the credit requirements* | | |
| **Current Status:**<br>It was stated at the meeting of 11 June 2007 that external lighting would be specified to achieve at least 100 luminaire-lumens/circuit-Watt. It was also stated that external lighting control will be through time switches or daylight sensors.<br><br>Therefore the credit is likely to be achieved. | | |
| **Action Required:**<br>Provide specification extracts confirming that external lighting must have an efficacy of at least 100 luminaire-lumens/circuit-Watt.<br><br>Provide specification extracts confirming that external lighting control will be through time switches or daylight sensors | | |

# TRANSPORT SECTION

| T1 | Provision of Public Transport | *2* |
|---|---|---|

**Compliance Requirements:**

***First Credit – Commuting Puring Peak Hours:***

*One credit is awarded where evidence provided demonstrates good access is available to and from public transport networks for commuting (less than 500m from a public transport node with a service at least once every 15 minutes at peak times - 8.00am-10.00am and 5.00pm to 7.00pm - to a local urban centre).*

***Second Credit – Business Travel Through the Day:***

*One credit is awarded where evidence provided demonstrates there is good access to and from public transport networks for business travel (less than 500m from a public transport node with a service at least once every 30 minutes through the working day - 8.00am - 7.00pm - to a major transport node serving local and regional infrastructure systems).*

*Note: Transport at the required frequency and distance TO Offices units in the morning (between the indicated times) and FROM Offices/Industrial units in the afternoon (between the indicated times) unless the building is known to be a 24 hour facility when the transport should run in both directions to accommodate shift work.*

**Current Status:**

The office fronts on to High Holborn, midway between Holborn and Chancery Lane underground stations. Holborn is served by the Piccadilly and Central lines. Both underground stations are within 400m of the office building at Chichester House. The Central line runs services every 2-6 minutes and the Piccadilly line runs services every 2-4 minutes.

Several bus routes serve high Holborn, and there is a bus stop opposite Procter Street, within 200m of the office. This is served by bus routes 8, 25, 242 and 521.

These transport facilities meet the requirements for both credits.

**Action Required:**

None required.

| T2 | Transport CO2 | *T9* |
|---|---|---|

**Compliance Requirements:**

*Up to ten credits are available on the basis of net CO2 emissions resulting from commuting. (The building location, NLA and number of car parking spaces are used to calculate estimated CO2 emissions in kg/person/year.)*

**Current Status:**

Assuming a net lettable floor area of 5,867m$^2$ and no car parking spaces (other than one disabled parking space), 9 credits are achieved.

**Action Required:**

Provide confirmation of the Net Lettable Area and the number of car parking spaces.

| T5 | Cyclist Facilities | *T2* |
|---|---|---|

**Compliance Requirements:**
***First credit:***
*Where evidence provided demonstrates that there is adequate provision of covered, secure and well lit cycle racks and showers. The number of spaces and showers required is based on the NLA of the development.*

*A 50% reduction to applied for developments that are in:*

- *city centre locations where there will be a high level of public transport use, due to the close proximity of a major public transport node,*
- *rural locations where average staff commuting distances are likely to be greater than 10 miles*

***Second credit:***
*Where in addition to the above, evidence provided demonstrates adequate provision of changing facilities and lockers for clothes* ***or*** *a dedicated drying space for wet clothes.*

**Current Status:**

For this development the following number of showers and secure, covered cycle spaces are required to achieve 1 credit, assuming a Net Lettable Area of 5,785 $m^2$ and an occupancy of 579:

- 28 cycle spaces; and
- 3 showers.

For the second credit compliant changing facilities (1$m^2$ per cyclist) and 28 lockers OR a compliant drying space are required.

It was stated at the meeting of 11 June 2007 that both credits would be achieved.

**Action Required:**
Provide drawings and specification extracts confirming the number of secure, covered cycle stores provided, the number of showers provided, and details of changing facilities, lockers or a drying space.

| T8 | Travel Plan | *T1* |
|---|---|---|

**Compliance Requirements:**

*One credit is awarded where evidence provided demonstrates that a travel plan has been developed and tailored to the specific needs of the users of the assessed development.*

*The travel plan must be structured to meet the needs of the particular site and take into consideration the following (as a minimum):*

- *Current local environment for walkers and cyclists*
- *Public transport links serving the site*
- *Current facilities for cyclists*

*The findings of the travel plan have been used to steer the design of the development in order to meet the travel plan objectives.*

**Current Status:**

At the meeting of 13 July 2007 it was stated that this credit would be targeted. A travel plan , if not already completed in line with BREEAM requirement would be commissioned.

Therefore the credit is likely to be achieved.

**Action Required:**

Provide a copy of the Travel plan or provide confirmation that the travel plan will be developed.

# WATER SECTION

| W1 | Water Consumption | *T2* |
|---|---|---|

**Compliance Requirements:**

*Up to three credits can be awarded on the basis of the predicted potable water consumption for sanitary use within the building:*

- *1 credit where consumption is 4.5 - 5.5m³ per person per year*
- *2 credits where consumption is 1.5 - 4.4m³ per person per year*
- *3 credits where consumption is <1.5m³ per person per year*

*The calculation is determined by what is specified for the following: WC flush volumes, washbasin tap flow controls, urinal controls, shower flow rates, rainwater harvesting.*

*Note: Sanitary fittings in this credit refers only to the fittings within the toilet and shower blocks. Please note this excludes kitchen taps, cleaners sinks and external taps.*

*Extension projects: Where a project under assessment consists solely of an extension, and no new sanitary facilities are to be provided, facilities provided in the existing building should be assessed (this refers to the nearest accessible facilities for each gender, where appropriate, i.e. those likely to be used by the extension occupants).*

**Current Status:**

It was stated at the meeting of 11 June 2007 that low flow fittings would be specified and that rainwater harvesting would be investigated.

At the meeting on 13 July 2007 it was confirmed that the specification for the sanitary ware would be

- dual flush (4/6) toilets
- Spray taps
- IR proximity control on the urinals
- Low flow showers (<9lt/min).

There will be no rainwater harvesting.

Using the BREEAM water calculator this gives a consumption of 3.68m3/person/year, so 2 credits are achievable.

**Action Required:**

Provide specification extracts confirming (and where more than one type, the proportion of) each different type of the following fittings: WC flush volumes, Urinal controls, Shower flow rates, taps flow controls.

| W2 | Water Meter | *T1* |
|---|---|---|

**Compliance Requirements:**

*One credit is awarded where evidence provided demonstrates that a water meter with a pulsed output will be installed on the mains supply to each building.*

**Current Status:**

It was stated at the meeting of 11 June 2007 that a water meter with a pulsed output would be specified.

Therefore the credit is likely to be achieved.

**Action Required:**

Provide specification extracts confirming the specification of a water meter with a pulsed output.

| W3 | Major Leak Detection | *T1* |
|---|---|---|

**Compliance Requirements:**

*One credit is awarded where evidence provided demonstrates that a leak detection system is specified or installed and is capable of identifying major leaks both within the building and between the building and the site boundary, and should cover all mains water supplies to the building. The system must be:*

- *Audible when activated;*
- *Activated when a continuous flow of water passes through the water meter at a flow rate above a pre-set minimum for a pre-set period of time;*
- *Able to identify different leakage rates, e.g. continuous, high and/or low level leaks, over set time periods;*
- *Programmable to suit the owner/occupiers' requirements; and*
- *Where applicable, designed to avoid false alarms caused by normal operation of large water consuming plant such as chillers.*

*One way of achieving this credit is the trend monitoring of the mains water consumption by a BMS.*

**Current Status:**

It was stated at the meeting of 11 June 2007 that a leak detection system would be specified.

Therefore the credit is likely to be achieved.

**Action Required:**

Provide specification extracts confirming the specification of a major leak detection system covering all mains supplied to the site.

| W4 | Sanitary Supply Shut Off | *T1* |
|---|---|---|

**Compliance Requirements:**

*One credit where evidence provided demonstrates that proximity detection shut off is provided to the cold water supply to all urinals and WC's.*

*Solenoid valves must be specified for each toilet area in the building (controlling the water supply to all urinals and WC's) and these must be linked to either infra-red movement detectors or sensors placed at or on entry doors.*

*Note: This credit is not aiming to have proximity detection shut off for every toilet, but the requirement is for the cold water supply to be monitored for toilet blocks. In the case of this credit 'a block' should not extend to multiple floors*

**Current Status:**

It was stated at the meeting of 11 June 2007 that sanitary supply shut off will be specified.

Therefore the credit is likely to be achieved.

**Action Required:**

Provide specification extracts confirming that sanitary supply shut off to all urinals and WCs in a toilet core is specified.

# MATERIALS AND WASTE SECTION

| MW1 | Materials Specification - Major Building Elements | *0* |
|---|---|---|

**Compliance Requirements:**
*Up to four credits are available where evidence provided demonstrates that the major building elements specified have an 'A rating', as defined in the Green Guide to Specification.*

**Current Status:**
The architect has provided the following specification for the construction elements:

| | |
|---|---|
| External walls: | Curtain walling to the north, south and east elevations, comprising insulated triple glazed obscure spandrel panels with ZODP insulation (B rated)<br>To the north and east elevations Portland stone cladding on stainless steel sub-frame with ZODP insulation, aerated block internal leaf and plasterboard finish (A rated) |
| Roof: | composite metal deck with reinforced concrete slab using CGBS and recycled aggregate. Warm deck construction. (C rated) |
| Upper floor slabs: | Composite metal deck + reinforced concrete slab using CGBS and recycled aggregate. (B rated) |
| Windows: | Aluminium composite with timber internal finish; double glazed units with high performance low 'E' glass (B rated). |

Based on these materials no credits are achieved.

**Action Required:**
No further action required.

| MW3 | Floor Finishes | *T1* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates that carpets and other floor finishes are specified by the future occupant or, in tenant areas of speculative buildings, where carpets or floor finishes are installed in a limited show area only.*

**Current Status:**
It was stated at the meeting that this credit would be targeted.

**Action Required:**
Provide specifications for floor finishes.

| MW5 | Reuse of Building Façade | *0* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates that at least 50% of the total façade (by area) is reused and at least 80% of the reused façade (by mass) comprises in-situ reused material.*

**Current Status:**
The building is entirely new build therefore this credit cannot be achieved.

**Action Required:**
None.

| MW6 | Reuse of Building Structure | *0* |
|---|---|---|
| **Compliance Requirements:**<br>*One credit is awarded where evidence provided demonstrates that a design reuses at least 80% of an existing primary structure and for part refurbishment and part new build, the volume of the reused structure comprises at least 50% of the final structure's volume.* | | |
| **Current Status:**<br>The building is entirely new build therefore this credit cannot be achieved. | | |
| **Action Required:**<br>None. | | |

| MW7 | Recycled Aggregates | *T1* |
|---|---|---|
| **Compliance Requirements:**<br>*One credit is awarded where evidence provided demonstrates significant use of crushed aggregate, crushed masonry or alternative aggregates (manufactured from recycled materials) are specified for 'high grade' aggregate uses (such as the building structure, ground slabs, roads, etc.).* | | |
| **Current Status:**<br>It was stated at the meeting that this credit would be targeted. | | |
| **Action Required:**<br>Provide specifications of the recycled content of the aggregates. | | |

| MW8 | Responsible Sourcing of Materials | *T2* |
|---|---|---|
| **Compliance Requirements:**<br>*Up to three credits are awarded where evidence provided demonstrates materials used in structural and non-structural elements are responsibly sourced. The majority of materials in the following elements within the building must be responsibly sourced: roof, frame, walls (external), floors (ground, upper), foundations/substructure, doors, windows.* | | |
| **Current Status:**<br>It was stated at the meeting that, as the insulated glass panels make up a large proportion of the building, it would be good to target this supplier and ensure they have an EMS covering process and extraction.<br><br>Note: on closer investigation it is revealed that, to achieve 1 credit, suppliers with EMS's would be required to cover a minimum of:<br>• All steel used in the frame,<br>• 80% by volume of the material used in the external walls,<br>• 80% by volume of the materials by volume in the foundations and substructure,<br>• 80% by volume of materials by volume in the windows.<br><br>It was stated in the meeting of 13 July that GMW would put in a clause in the specification requiring all suppliers to have an EMS in place. HEDF II UK agreed with this. At this stage it is anticipated that 2 credits can be achieved. | | |

**Action Required:**
Provide documentation that will meet the requirements shown below:
1. A copy of the specification or letter of intent which states the relevant materials will come from a certified source (EMS or timber certification).
2. For materials certified through the EMS route any one of the following must also be provided;
a. If suppliers are unknown, a letter of intent to use suppliers who can provide an EMS certificate (or equivalent) for the process and/or extraction stages of their product.
b. ISO 14001 certificate OR signed and dated letter from manufacturer to the developer outlining the following ISO 14001 accreditation information, name of the certifying body, certificate approval date, certificate expiry date, certificate approval number.
c. EMAS certificate OR signed and dated letter from manufacturer to the developer outlining the following EMAS accreditation information, name of the certifying body, certificate approval date, certificate expiry date, certificate approval number.
d. For SME's (generally companies of less than 30 staff) confirmation that the company EMS is structured in compliance with BS8555 2003 (or equivalent) and the EMS has completed phase audits one to four as outlined in BS8555. This evidence can be found from company documentation demonstrating the process and typical outputs from phase four audits such as an EMS manual/paperwork and guidance to staff. Where independent certification is obtained to demonstrate these phases, the certificates can be used as evidence.

| **MW12** | **Storage of Recyclable Waste** | ***T1*** |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates that a central, dedicated storage space is provided for materials that can be recycled. This can be either within the building itself, or on site using skips, (provided there is good access for collections and it is within easy reach of the building).*

**Current Status:**
It was stated at the meeting that 10m$^2$ of storage space for recyclable waste will be provided and the storage area will be less than 20m from a stairwell serving all floors. It is therefore considered likely that this credit will be achieved.

**Action Required:**
Provide drawings demonstrating that a suitably sized area specifically for the storage of recyclable waste is specified.

Provide written confirmation that the area will be specifically labelled as for the storage of recyclable waste once constructed.

# LAND USE AND ECOLOGY SECTION

| LE1 | Reuse of Land | *1* |
|---|---|---|
| **Compliance Requirements:**<br>*One credit is awarded where evidence provided demonstrates that the footprint of the proposed development largely falls within the boundary of land previously developed.* | | |
| **Current Status:**<br>This credit will be achieved as there is an office block already on the site. | | |
| **Action Required:**<br>No further action. | | |

| LE2 | Contaminated Land | *0* |
|---|---|---|
| **Compliance Requirements:**<br>*One credit is awarded where evidence provided demonstrates that the land used for the new development has, prior to development, been defined as contaminated, and where adequate remedial steps have been taken to decontaminate the site prior to construction.*<br><br>*Note: Refurbishment projects: Where the level of refurbishment results in no ground works or additional bearing on foundations, this credit can be awarded by default. Where a project is part new build and part refurbishment (i.e. no ground works for the refurb part as above), this credit should be assessed for the new build area of the development.* | | |
| **Current Status:**<br>This credit cannot be achieved as the site is not contaminated land. | | |
| **Action Required:**<br>No further action. | | |

| LE3 | Ecological Value of Land and Protection of Ecological Features | *T1* |
|---|---|---|
| **Compliance Requirements:**<br>*One credit is awarded where evidence provided demonstrates that the construction zone is defined as land of low ecological value and all existing features of ecological value will be fully protected from damage during site preparation and construction works.* | | |
| **Current Status:**<br>There is an office block already on the site with no planting or green areas; therefore this land is considered to have low ecological value.<br><br>Therefore one credit is likely to be achieved. | | |
| **Action Required:**<br>Provide plans of the site **AND** surrounding area, both before and after the proposed development. These should show natural and built features. | | |

| LE4 | Mitigating Ecological Impacts | *T2* |
|---|---|---|

**Compliance Requirements:**
***First Credit:***
*One credit is awarded where evidence provided demonstrates the change in ecological value of the site, as a result of development, is less than zero and equal to, or greater than, minus nine species, i.e. a small negative change.*

***Second Credit:***
*Once credit is awarded where evidence provided demonstrates there is no negative change in the ecological value of the site as a result of development, i.e. equal to, or greater than, zero species.*

**Current Status:**
The site is covered by an existing office block with no green areas; therefore there will be no decrease in species as a result of the development. It was stated that green roofs may be provided on some parts of the building, which are likely to increase the number of species on site.

It is anticipated that two credits will be achieved.

**Action Required:**
Provide written evidence that all site ecology in the perimeter of the site has been protected and no trees of other features removed from the site during construction.

Provide details on the plot types and their areas before and after development (e.g. vegetation, hard landscaping.

| LE5 | Enhancing Site Ecology | *T1* |
|---|---|---|

**Compliance Requirements:**
***First Credit:***
*One credit is awarded where evidence provided demonstrates that the design team (or client) has I) appointed a professional to advise and report on enhancing and protecting the ecological value of the site; and ii) implemented the professional's recommendations for general enhancement and protection for site ecology."*

***Second and Third Credits:***
*U to two credits are awarded where in addition to the above, evidence provided demonstrates a positive increase in the ecological value of the site.*

**Current Status:**
It was stated at the meeting that an ecologist has not been appointed.

Post meeting it was agreed that a suitably qualified ecologist would be appointed to report on enhancing and protecting the ecological value of the site, and to provide a report to BREEAM standards. HEDF II UK will commit to implementing their recommendations. One credit is targeted.

**Action Required:**
Provide a copy of the Ecologists report and qualifications,
Provide a written commitment to implement the ecologist's recommendations.

| LE6 | Long Term Impact on Biodiversity | *0* |
|---|---|---|
| **Compliance Requirements:**<br>***First Credit:***<br>*One credit is awarded where evidence provided demonstrates that the client has committed to achieving the mandatory requirements and at least two of the additional requirements as listed in the credit Compliance Requirements.*<br><br>***Second Credit:***<br>*One credit is awarded where evidence provided demonstrates that the client has committed to achieving the mandatory requirements and at least four of the additional requirements as listed in the credit Compliance Requirements."* | | |
| **Current Status:**<br>It was stated at the meeting that these credits will not be targeted. | | |
| **Action Required:**<br>No action required. | | |

# POLLUTION SECTION

| P1 | Refrigerant GWP - Building Services | *0* |
|---|---|---|

**Compliance Requirements:**
*Where evidence provided demonstrates the use of refrigerants with a global warming potential (GWP) of less than 5 or where there are no refrigerants specified for use in building services.*

| ***Refrigerant*** | ***GWP*** |
|---|---|
| *R134a(HFC-134a)* | *1300* |
| *R407C (HCFC-407C)* | *1600* |
| *R290 (HC290 propane)* | *3* |
| *R600 (HC600 butane)* | *3* |
| *Ammonia* | *0* |

*HFCs **do not** comply. HCs, ammonia and the specification of no refrigeration **do** comply.*

**Current Status:**
It was stated at the meeting of 11 June 2007 that a refrigerant with a GWP > 5 will be specified. This credit will not be achieved.

**Action Required:**
None.

| P2 | Preventing Refrigerant Leaks | *T2* |
|---|---|---|

**Compliance Requirements:**
***First Credit:***
*One credit is awarded where evidence provided demonstrates that refrigerant leaks can be detected or where there are no refrigerants specified for use in the building or development.*

***Second Credit:***
*One credit is awarded where evidence provided demonstrates that the provision of automatic (following the detection of a leak) refrigerant pump down is made to a heat exchanger (or dedicated storage tanks) with isolation valves or where there are no refrigerants specified for the development."*

**Current Status:**
It was stated at the meeting of 11 June 2007 that the chiller units will be enclosed and refrigerant leak detection and pump down will be provided.

Therefore the credits are likely to be achieved.

**Action Required:**
Provide specification extracts confirming the specification of refrigerant leak detection.

Provide specification extracts confirming the specification of refrigerant recovery, automatic following the detection of a leak.

| P4 | Insulant GWP | *T1* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates that the specification of building services, building fabric and sound insulating materials avoids the use of substances with a global warming potential (GWP) of 5 or more in either manufacture or composition*

*Insulants blown with HFCs **do not** comply. Mineral wools and insulants blown with $CO_2$ or Pentane **do** comply.*

**Current Status:**
It was confirmed in discussion between FM Services and the BREEAM assessor on 08/11/07 that all insulation material to be used as part of the services work at Chichester House would have zero ODP and a GWP of less than 5. This was confirmed in an email from Ed Chan (06/07/07).

At the meeting of 13/07/2007 HEDF II UK agreed to target this credit.

Therefore at this stage this credit is indicated as achievable.

**Action Required:**
Provide specification extracts confirming that all insulants must have a Global Warming Potential of less than 5.

| P6 | NOx Emissions of Heating Source | *0* |
|---|---|---|

**Compliance Requirements:**
*Up to three credits available, depending on the dry NOx emissions from delivered space heating energy:*

*1 credit where dry NOx emissions are ≤100 mg/kWh (at 0% excess O2);*
*2 credits where dry NOx emissions are ≤70 mg/kWh (at 0% excess O2);*
*3 credits where dry NOx emissions are ≤40 mg/kWh (at 0% excess O2).*

**Current Status:**
It was stated at the meeting of 11 June 2007 that the achievement of this credit would be dependent on the choice of renewables.

If GSHP is used this will run off mains electricity and so this credit will not be achieved.
If a gas boiler is used then this will be specified to be a low $NO_X$ boiler.

The energy statement (FM, 4th July 2007) recommends GSHP and low NOx boilers for space heating. Solar PV panels are also specified. However, the predicted output of PV electricity is 17.33 MWh which is less than the predicted annual electricity demand of GSHP at 166MWh (email Ed Chan 10/07/07).

Therefore the GSHP will use grid electricity so this credit cannot be achieved.

**Action Required:**
No further action required

| P7 | Flood Risk / Water Run-off | *2* |
|---|---|---|

**Compliance Requirements:**
***Part A (2 Credits):***
*Two credits are awarded where evidence provided demonstrates that the assessed development is situated in a flood zone that is defined as having a low annual probability of flooding.*

*OR*

*One credit is awarded where evidence provided demonstrates that the 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 at least 600mm above the design flood level for the site's location.*

***Part B (1 Credit):***
*Where evidence provided demonstrates that Sustainable Urban Drainage techniques are specified to minimise the risk of localised flooding, resulting from a loss of flood storage on site through development.*

**Current Status:**
The site falls in the 1 in 1000 year flood risk area or less, as designated by the Environment Agency.

2 credits are achieved.

There is no space for using Sustainable Drainage techniques on site; therefore the third credit cannot be achieved.

**Action Required:**
No action required

| P8 | Minimising Water Course Pollution | *T1* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates that on site treatment such as oil separators/interceptors or filtration have been specified for areas at risk from pollution, i.e. vehicle manoeuvring areas, car parks, waste disposal facilities, delivery facilities or plant areas.*

**Current Status:**
It was stated at the meeting of 11 June 2007 that this credit would be targeted and water treatment mechanisms will be provided for the delivery yard.

**Action Required:**

Provide specification of water treatment for the delivery yard.

| P11 | Renewable & Low Emission Energy | *T1* |
|---|---|---|

**Compliance Requirements:**

3 credits are available as follows:

| Credits | |
|---|---|
| 1 | Where evidence provided demonstrates that a feasibility study considering renewable and low emission energy has been carried out and the results implemented. |
| 2 | Where evidence provided demonstrates that the first credit has been achieved and 10% of total energy demand for the building/development is supplied from **local** renewable, or low emission energy, sources. |
| 3 | Where evidence provided demonstrates that the first credit has been achieved and 15% of total energy demand for the building/development is supplied from **local** renewable, or low emission energy, sources. |

**Current Status:**
It was stated at the meeting that a feasibility study for the whole building had been undertaken for planning purposes. This has recommended renewable energy systems for the office area, which will be implemented.

This report does not currently meet BREEAM standards, but it is anticipated that this will be enhanced to meet BREEAM standards, so one credit is therefore anticipated to be achieved.

At the meeting of 13/07/2007 it was confirmed that the renewables will provide 6.5% of the energy requirements. Therefore the second credit will not be achieved.

**Action Required:**
Provide a copy of the feasibility report and specification clauses/drawings demonstrating that recommendations of renewable or low emissions energy sources have been implemented as a result of this study. Ensure feasibility study is upgraded to meet the BREEAM requirements.

| P12 | Reduction of night time light pollution | *T1* |
|---|---|---|

**Compliance Requirements:**
*One credit is awarded where evidence provided demonstrates that the external lighting design is in compliance with the guidance in the Institution of Lighting Engineers (ILE) Guidance notes for the reduction of obtrusive light, 2005 (www.ile.org.uk/documents/RLP%202005.pdf).*

*Note: Refurbishment and Extension projects: Where no external lighting is being provided as part of the project under assessment, this credit may be awarded by default.*

**Current Status:**
It was stated at the meeting that this credit would be targeted and all external lighting would meet compliance requirements shown above.

**Action Required:**
Provide specifications showing compliance.

# 2 EcoHomes 2006 Pre-Assessment Report

# 2 EcoHomes 2006 Pre-Assessment Report

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Global reach, local knowledge.
Local focus. Worldwide strength. Multi-sector experience. Multi-disciplinary expertise. Faber Maunsell offers this all – delivering outstanding solutions that help to create a better world in which to work and live.

**Chichester House**
EcoHomes 2006 Pre-Assessment Report
26th July 2007

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**Alterations**
The BRE hold the right to update or alter the scheme at any time. Faber Maunsell as their agents will implement these changes to any assessment being undertaken.

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# 1 EcoHomes 2006

# 1.1 Introduction

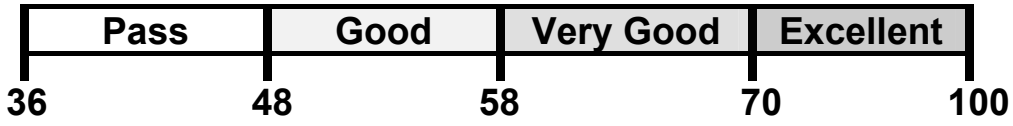
EcoHomes is the BRE's environmental rating scheme for new and refurbished homes. The schemes are regularly updated, for example the EcoHomes 2006 scheme superseded the EcoHomes 2005 scheme in April 2006.

Developments are awarded a rating under EcoHomes. The rating depends on how many environmental credits are achieved under each section and their relative environmental importance.

Each development is awarded an overall EcoHomes rating of Pass, Good, Very Good or Excellent, calculated by multiplying the percentage of credits achieved under each heading by the Environmental Weighting Factor divided by one hundred:

| CATEGORY | Number of credits available | Environmental Weighting Factor |
|---|---|---|
| Energy | 24 | 22 |
| Transport | 8 | 8 |
| Pollution | 11 | 10 |
| Materials | 31 | 14 |
| Water | 6 | 10 |
| Land Use and Ecology | 9 | 12 |
| Health and Well Being | 8 | 14 |
| Management | 10 | 10 |

The total of all these scores is the overall rating and a rating is awarded according to the following scale:



# 1.2 Development Information

Faber Maunsell's Sustainable Development Group has been commissioned by HEDF II UK to undertake an EcoHomes 2006 Pre-Assessment of Chichester House. This report aims to provide the design team with detailed information on credit compliance requirements and to give an initial indication of anticipated development performance scores under the EcoHomes scheme.

### *1.1.1 Description of Development*

Chichester House is located in the London Borough of Camden. The site is situated on the south side of High Holborn, a busy two lane two way road in the centre of London. Whetstone Park and Lincolns Inn Square are other roads just south of the site but are comparatively quieter than High Holborn.

The proposed development of Chichester House intends to demolish the existing building and erect a new building for office, retail and residential use. The existing building is an eight-story, 70,000 sq ft office and retail building located London's High Holborn neighbourhood. The site is surrounded by both commercial and residential buildings. The design team have stated that the site is entirely brownfield and has no ecological features.

The new residential units will be housed in a separate structured building to the rear of the main building and will face south onto Whetstone Park and Lincolns Inn Square. There will be a total of five residential units, comprising of one studio flat, three 2 bedroom flats and one 2 bedroom apartment which occupies the top two floors of the residential building.

### *1.1.2 Pre-Assessment Advice Meeting*

This Pre-Assessment Report has been based on drawings and verbal information gained during the EcoHomes design review meetings held on the 11 June 2007 and 13 July 2007.

The following people attended the meeting on the 11 June 2007 at the Faber Maunsell offices in Hatton Garden:

| | |
|---|---|
| **Iain Campbell** | Faber Maunsell (Project Manager) |
| **Ed Chan** | Faber Maunsell |
| **Anthony Poultney** | Faber Maunsell |
| **Georgia Arnott** | Faber Maunsell (BREEAM for Offices Assessor) |
| **Emma Hickling** | Faber Maunsell (BREEAM for Retail Assessor) |
| **Sally Powell** | Faber Maunsell (EcoHomes Assessor) |
| **Adrian Dalby** | GMW Architects |
| **Ross Blair** | HEDF II UK |
| **Andrew Reynolds** | HEDF II UK |
| **Paul Vivian** | Moseley & Webb |

A second meeting was held on 13 July 2007 at GMW's offices in London. The following people attended this meeting:

| | | |
|---|---|---|
| **Ross Blair** | **Hines** | Client |
| **Adrian Dalby** | **GMW Architects** | Architect |
| **Susan Jackson** | **GMW Architects** | Architect |
| **John Jackson** | **GMW Architects** | Architect |
| **Iain Campbell** | **Faber Maunsell** | M&E Engineer |
| **Mark Dedman** | **Buro Four** | Project Manager |
| **Peter Inskip** | **Buro Four** | Project Manager |

| | | |
|---|---|---|
| **Cameron Baylis** | **Davis Langdon** | QS |
| **Sally Powell** | **Faber Maunsell (SDG)** | BREEAM Assessor |
| **Emma Hickling** | **Faber Maunsell (SDG)** | BREEAM Assessor |

### *1.1.3 Development Data Sheet*

| | | | |
|---|---|---|---|
| **Number of units:** | 6 | **Version of EcoHomes:** | 2006 |
| **Number of unit types:** | 3 | **Building Regulations:** | 2006 |
| **BRE Reference Number** | FABM-ECO-SP16-24 | | |
| **Client:** | HEDF II UK<br>Queensberry House, 3 Old Burlington Street, London, W1S 3AE | | |
| **Architect:** | GMW Architects<br>239 Kensington High Street, London, W8 6SL | | (GMW) |
| **Planning Consultants:** | Moseley & Webb<br>70 Queen Victoria Street, London, EC4N 4SJ | | (M&W) |
| **Building Services:** | Faber Maunsell<br>The Johnson Building, 77 Hatton Garden, London, EC1N 8JS | | (FM) |

# 1.3 How To Use This Document

This Pre-Assessment report contains a credit summary and current status for Chichester House. Details of the credit requirements for a formal assessment are also included.

The aim of this report is to provide a reference document for the design team to enable them to make quick reference to the individual EcoHomes credit criteria and understand how the criteria apply to this development.

All credits in this report have been awarded/not awarded on the basis verbal expressions of intent provided during discussion with the design team members present at the meeting on 11 June 2007 and 13 July 2007 and documentary information received to date.

A *Target* rating is provided at this stage, which relates to credits anticipated to be achieved to be achieve and to be targeted by the development at the full design and procurement assessment stage. .

Section 2 outlines the overall performance of the development and provides a written and tabulated summary that should be used as a quick reference guide.

A more detailed breakdown of the EcoHomes criteria and the compliance requirements in relation to the development is outlined in Section 3. This section highlights the target credits that should be achieved under each category based on what was discussed in the pre-assessment meeting and presents a brief description of the credit criteria.

Section and credit totals have been provided as both summed credit totals and weighted percentage totals (calculated from the credit totals and the environmental impact weighting for that section). The weighted totals can be summed to provide the approximate target percentage score.

**The final rating achieved in a certified EcoHomes assessment will be dependent on the provision of acceptable information as evidence that the compliance requirements of the credits have been met. Such evidence could be in the form of marked-up drawings, specification clauses, manufacturers' literature and project specific documents or reports.**

# 2 Development Performance

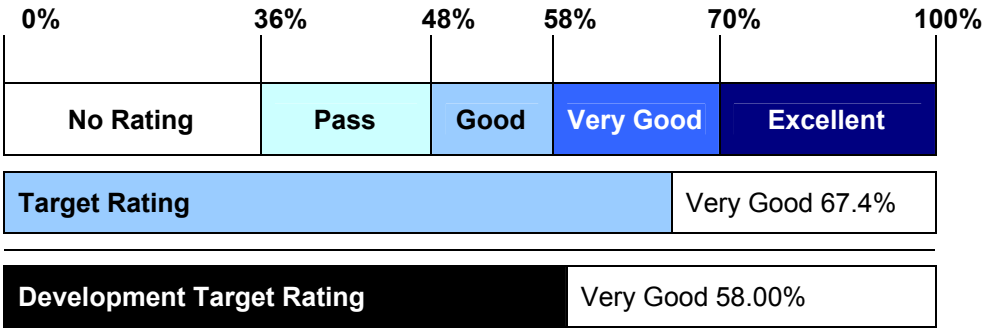
# 2.1 Overall Development Performance

As this Pre-Assessment Report shows, a rating of **VERY GOOD** can be achieved by the development provided sufficient evidence is provided in line with the guidance provided below..

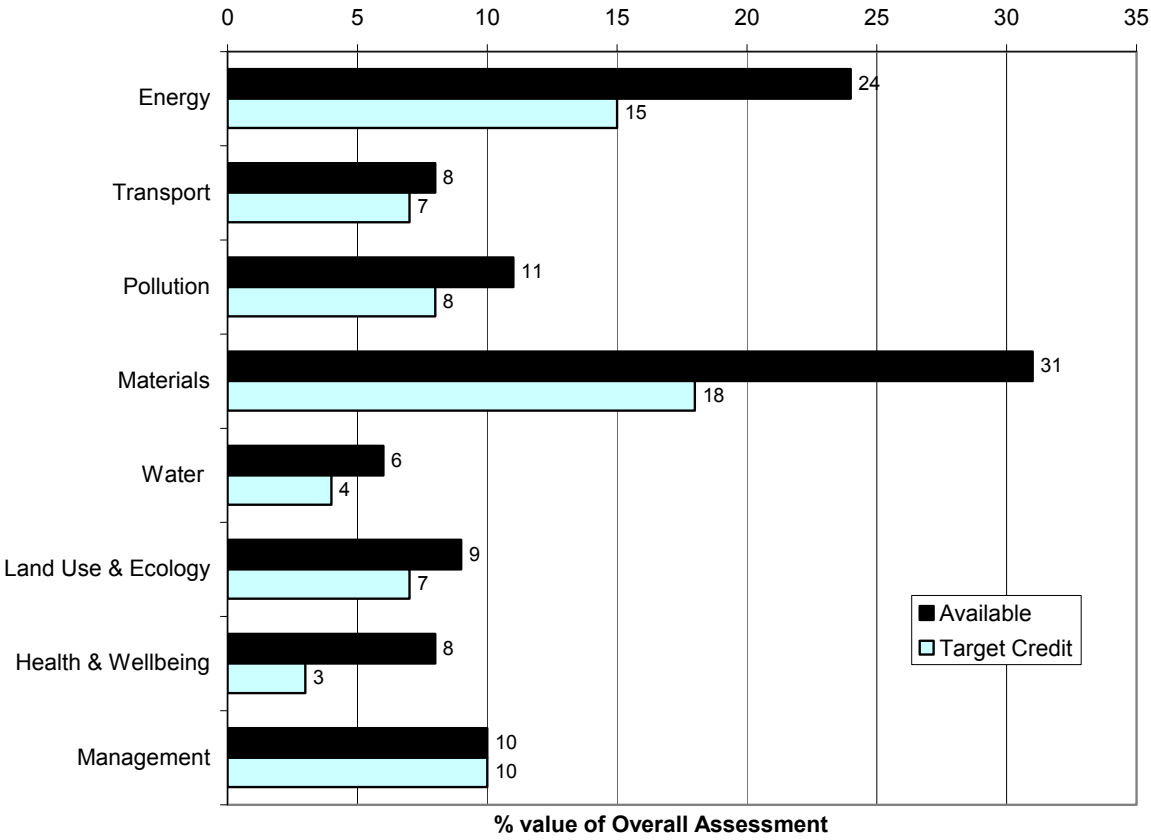
Changes to existing specifications and tender package documents to address the criteria contained in this report would enable the design team to deliver the necessary rating. EcoHomes options and requirements should be considered at every stage of development.

It can be seen that the target rating is above the development's target of 58%, required to enable the Very Good rating to be achieved.

### *2.1.1 Rating Chart*




### *2.1.2 Graphical Summary of Credit by Category*



# 2.2 Credit Summary Table

| EcoHomes 2006 Credit Summary | | Credit no. | Credits Available | Target Credit |
|---|---|---|---|---|
| **Energy** | Dwelling Emission Rate | Ene 1 | 15 | 7 |
| 0.92% | Building envelope performance | Ene 2 | 2 | 1 |
| per credit | Provision of drying space | Ene 3 | 1 | 1 |
| | Eco-labelled white goods | Ene 4 | 2 | 2 |
| | Internal Lighting | Ene 5 | 2 | 2 |
| | External lighting | Ene 6 | 2 | 2 |
| Section Credit Total | | | **24** | **15** |
| Weighted Section Total | | | **22.00%** | **13.75%** |
| No of credits required to achieve LBC target | | | 14.4 credits = 60% | |
| **Transport** | Public transport | Tra 1 | 2 | 2 |
| 1.00% | Cycle storage | Tra 2 | 2 | 2 |
| per credit | Local amenities | Tra 3 | 3 | 3 |
| | Home office | Tra 4 | 1 | 0 |
| Section Credit Total | | | **8** | **7** |
| Weighted Section Total | | | **8.00%** | **7.00%** |
| **Pollution** | Insulation ODP and GWP | Pol 1 | 1 | 1 |
| 0.91% | Low Nox emissions | Pol 2 | 3 | 2 |
| per credit | Reduction of surface runoff | Pol 3 | 2 | 0 |
| | Zero Emission Energy Source | Pol 4 | 3 | 3 |
| | Flood Risk Mitigation | Pol 5 | 2 | 2 |
| Section Credit Total | | | **11** | **8** |
| Weighted Section Total | | | **10.00%** | **7.27%** |
| **Materials** | Environmental impacts of materials | Mat 1 | 16 | 9 |
| 0.45% | Responsible sourcing - basic building elements | Mat 2 | 6 | 2 |
| per credit | Responsible sourcing - finishing elements | Mat 3 | 3 | 1 |
| | Recyclable materials | Mat 4 | 6 | 6 |
| Section Credit Total | | | **31** | **18** |
| Weighted Section Total | | | **14.00%** | **8.13%** |
| No of credits required to achieve LBC target | | | 12.4 credits = 40% | |
| **Water** | Internal water use | Wat 1 | 5 | 3 |
| 1.67% | External water use | Wat 2 | 1 | 1 |
| Section Credit Total | | | **6** | **4** |
| Weighted Section Total | | | **10.00%** | **6.67%** |
| No of credits required to achieve LBC target | | | 4 credits = 60% | |
| **Landuse/Ecology** | Ecological value of site | Eco 1 | 1 | 1 |
| 1.33% | Ecological enhancement | Eco 2 | 1 | 1 |
| per credit | Protection of ecological features | Eco 3 | 1 | 1 |
| | Change of ecological value of the site | Eco 4 | 4 | 2 |
| | Building footprint | Eco 5 | 2 | 2 |
| Section Credit Total | | | **9** | **7** |
| Weighted Section Total | | | **12.00%** | **9.33%** |
| **Health & Wellbeing** | Daylighting | Hea 1 | 3 | 2 |
| 1.75% | Sound insulation | Hea 2 | 4 | 1 |
| per credit | Private space | Hea 3 | 1 | 0 |
| Section Credit Total | | | **8** | **3** |
| Weighted Section Total | | | **14.00%** | **5.25%** |
| **Management** | Home user guide | Man 1 | 3 | 3 |
| 1.00% | Considerate constructors scheme | Man 2 | 2 | 2 |
| per credit | Construction site impacts | Man 3 | 3 | 3 |
| | Security | Man 4 | 2 | 2 |
| Section Credit Total | | | **10** | **10** |
| Weighted Section Total | | | **10.00%** | **10.00%** |
| | | **TOTALS:** | **100%** | **67.40%** |
| | | **RATING:** | | **Very Good** |

# 3 Credit Guidance, Status and Actions

# 3.1 Section Description and Key

The following section provides a summary description of the credit compliance requirements along with assessor's notes on the status of each credit based on discussions held with the design team and documentation received to date.

For each EcoHomes criterion, information on further actions required to be undertaken is also provided.

**Key to this section:**

| **CREDIT NUMBER** | **CREDIT TITLE** | **STATUS**<br>***T (Number):*** *credit(s) are already part of the current design intent or have been agreed (at the design review meeting) as credits to be targeted to achieve the desired rating.* |
|---|---|---|
| **Compliance Requirements:**<br>*EcoHomes compliance criteria and guidance for each credit are provided in this section.* | | |
| **Current Status:**<br>Description of current status based on verbal and material information received at Pre-Assessment meeting Detailed information on the evidence submitted and justification as to why the credit has (not) been awarded is provided in this section. | | |
| **Action Required:**<br>Details on what evidence is required by the assessor for this credit. | | |
| **Additional Guidance:**<br>Useful advice to inform the incorporation of EcoHomes criteria into the design process**.** | | |

# 3.2 Energy

| ENE 1 | Dwelling Emission Rate<br>Credits available: 15 | Target: | 7 |
|---|---|---|---|

**Aim**

*To minimise emissions of carbon dioxide ($CO_2$) to the atmosphere arising from the operation of a home and its services.*

**Compliance Requirements:**

*Credits are awarded on the basis of SAP 2005 related average $CO_2$ emissions in accordance with the following criteria.*

| Credits | $CO_2$ emissions/ DER ($kg/m^2/yr$) | Credits | $CO_2$ emissions/ DER ($kg/m^2/yr$) |
|---|---|---|---|
| 1 | ≤ 40 | 9 | ≤ 20 |
| 2 | ≤ 35 | 10 | ≤ 18 |
| 3 | ≤ 32 | 11 | ≤ 15 |
| 4 | ≤ 30 | 12 | ≤ 10 |
| 5 | ≤ 28 | 13 | ≤ 5 |
| 6 | ≤ 26 | 14 | ≤ 0 |
| 7 | ≤ 24 | 15 | ≤ -10 |
| 8 | ≤ 22 | | |

***Note**: Dwellings using gas will normally score better than those using other fossil fuels, as the $CO_2$ emissions from gas are the lowest of all fossil fuels.*

**Current Status:**

It was stated in the meeting of that the development is to be built to the 2006 Building Regulations and will be assessed using SAP 2005. All of the dwellings will be specified with gas fired central heating. Space and hot water heating will be supplied by means of the individual gas boilers.

There is a planning requirement to deliver a 10% carbon dioxide reduction for the whole site. Solar thermal panels have been proposed to meet a proportion of the hot water and space heating demand of the flats. The Energy Statement by FM has calculated that 21% $CO_2$ savings can be achieved by implementing this technology.

It is estimated that 7 credits will be achieved.

**Action Required:**

- Provide 2005 worksheets for each home (from an accredited SAP assessor).
- Provide the Dwelling Emission Rate (DER) and Target Emission Rate (TER) for each home (from an accredited SAP assessor).
- Provide proof of Building Regulation compliance specification.

**Additional Guidance:**

SAP 2005 assumes that 30% of fixed light fittings are energy efficient (required for new build, part L1a building regulation compliance and can be assumed for other building regulation requirements as well for the purpose of EcoHomes). Although $CO_2$ emissions from additional energy efficient lights and appliances are not taken into account here there are separate credits available for these, see Ene 4, Ene 5 and Ene 6.

| ENE 2 | **Building Fabric**<br>**Credits available: 2** | ***Target:*** | ***1*** |
|---|---|---|---|

**Aim**

*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.*

**Compliance Requirements:**

*Credits are awarded (see table) on the basis of the average heat loss across the whole site (SAP box 38).*

| Credits | Average heat loss parameter (HLP) across the whole site | |
|---|---|---|
| | New build | Refurbishment |
| 1 | ≤ 1.3 | ≤ 2.2 |
| 2 | ≤ 1.1 | ≤ 1.75 |

**Current Status:**

It was stated in the meeting of that the development is to be built to the 2006 Building Regulations and will be assessed using SAP 2005. High thermal performance will be specified for the building fabric with best practice U-values.

The thermal performance of the development cannot be deduced at this point. In addition to this the EcoHomes target for new build developments is a hard target to meet.

1 credit has been targeted for an average heat loss from the dwellings of less than or equal to 1.3. However this target is hard to meet and as such this credit may not be awarded once SAP results are available.

**Action Required:**

- Provide 2005 worksheets for each home (from an accredited SAP assessor).
- Provide the Dwelling the Heat Loss Parameter (HLP) for each home (from an accredited SAP assessor).
- Provide proof of Building Regulation compliance specification.

**Additional Guidance:**

This credit assesses the thermal performance and air tightness of the building envelope. The envelope of a building is unlikely to be radically altered during its life and therefore its thermal performance can have the most significant long-term impact on the energy consumption of the building.

| ENE 3 | **Drying Space**<br>**Credits available: 1** | ***Target:*** | ***1*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to provide an alternative drying method to tumble dryers and hence to minimise the energy used to dry clothes.*

**Compliance Requirements:**

*All dwellings in the development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | For providing space and posts, footings and fixings for drying clothes in a secure environment for each unit on the site. This may be external or internal. |

*The criteria can be met by provision of a fixed retractable line (with a minimum provision of 4m line for one or two bed units or 6m for units with more than two bedrooms) over the bath in a bathroom with a humidity-controlled extractor fan.*

**Current Status:**

It was stated in the meeting that drying space would be provided by retractable clothes lines in the bathroom. A ventilation system has been specified for the bathroom, which will help to control the humidity. The drying lines will be sufficiently sized for the size of the dwelling. All dwellings will either be 1 or 2 bedroom, therefore requiring at least 4m of retractable clothes line.

It is assumed that 1 credit will be achieved.

**Action Required:**

- Provide specifications stating the type location and details of drying appliance,
- Provide appropriate drawings showing the type location and details of drying appliance,
- Provide confirmation of length of the line specified – this can be specification or drawing details or manufacturers information.

**Additional Guidance:**

Examples of compliance include:

- for houses or apartments with gardens – posts or footing for an external line (or rotary line) within the garden
- internal drying space may be provided in a utility room or similar, provided it is adequately ventilated, i.e. an extract fan with humidistat control or passive vents, and not additionally heated; drying of clothes does not qualify for credits under EcoHomes in the following rooms: living room, kitchen, dining room, main hall or bedrooms
- for homes with a shared drying provision – this space must be secure, either in a shared garden or dedicated drying room; access should only be made available by key or code lock for those using the facility
- a line or fixings over the bath, where no other suitable external or internal space exists, and providing all other criteria are met.

| ENE 4 | **EcoLabelled Goods**<br>**Credits available: 2** | ***Target:*** | ***2*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to encourage the provision or purchase of energy efficient white goods, thus reducing the $CO_2$ emissions from the dwellings.*

**Compliance Requirements:**

*All dwellings in the development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | Where the following appliances have an **A+** rating under the EU Energy Efficiency Labelling Scheme:<br>**Fridges, freezers** and **fridge/freezers**. |
| 2 | Where the following appliances have an **A** rating under the EU Energy Efficiency Labelling Scheme:<br>**Washing machines** and **dishwashers**,<br>And the following have a **B** rating:<br>**Washer dryers** and **tumble dryers**. |
| **OR** | |
| 1 | If **no white goods are provided**, but information on purchasing energy efficient white goods is provided. |

**Current Status:**

It was stated in the meeting that HEDF II UK will provide white goods to the 5 residential units in Chichester House. All fridges, freezers and fridge/freezers will have an A+ rating, washing machines or dishwashers will have an A rating and washer dryers or tumble dryers will have a B rating.

It is assumed that 2 credits will be achieved for the provision of energy efficient white goods.

**Action Required:**

Details of the relevant white goods that will be specified, or the performance criteria, should be stated in the specifications.

**Additional Guidance:**

If not all types of appliances within a credit category are to be supplied, the credit can still be achieved provided the white goods supplied have the appropriate rating, and information on purchasing energy efficient white goods is also provided. E.g. Washing machines are to be supplied but not dishwashers or tumble dryers. Provided the washing machines supplied are A rated and information about EU Energy Efficiency Labelling is also supplied, 1 credit can be awarded.

| ENE 5 | **Internal Lighting**<br>**Credits available: 2** | ***Target:*** | ***2*** |
|---|---|---|---|

**Aim**

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

**Compliance Requirements:**

*All dwellings in the development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | 40% of fixed internal light fittings are dedicated energy efficient fittings. |
| 2 | 75% of fixed internal light fittings are dedicated energy efficient fittings. |

*The criteria covered fixed internal lighting in habitable rooms and therefore cupboard lighting and side lamps are not included.*

*Low energy lighting is defined as luminaries with an efficacy of 40 lumens/Watt or better.*

**Current Status:**

It was stated in the meeting that the internal lighting will comply with Building Regulations Part L1 providing dedicated luminaries with 40 lumens/Circuit-Watt. In addition to this it is assumed that at least 75% of all of the fixed light fittings will be specified as dedicated low energy fittings.

It is assumed that 2 credits will be achieved for the provision of 75% dedicated low energy light fittings.

**Action Required:**

- Provide specification documents identifying the type of lighting, location and details.
- Provide appropriate drawings that show the type of lighting, location and details.
- Provide manufacturers literature that confirms that the low energy fittings specified are dedicated and have an efficiency of at least 40 lumens per watt (Fluorescent fittings including CFL's will normally meet this requirement).

**Additional Guidance:**

A dedicated energy efficient light fitting must comprise of the lamp, control gear, and an appropriate housing, reflector, shade or diffuser. The fitting must be capable of only accepting lamps having a luminous efficacy greater than 40 lumens per circuit Watt. Tubular fluorescent and compact fluorescent lighting fittings would meet this requirement. Lighting fittings for GLS tungsten lamps with bayonet cap or Edison screw bases, or tungsten halogen lamps would not comply.

| ENE 6 | External Lighting<br>**Credits available: 2** | *Target:* | *2* |
|---|---|---|---|

**Aim**
*The aim of this credit section is to encourage the provision of energy efficient external lighting.*

**Compliance Requirements:**
*All dwellings in the development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | **Space lighting**<br>Where all space lighting is specifically designed to accommodate only compact fluorescent lamps (CFL) luminaires or strip lights. |
| 2 | **Security lighting**<br>Where all security light fittings are designed for energy efficiency and are adequately controlled such that:<br>all burglar security lights have:<br>- a maximum wattage of 150W,<br>- **AND** are fitted with:<br>• movement detecting shut-off devices (PIR)<br>• AND daylight cut-off devices<br>all other security lighting is:<br>- specially designed to only accommodate CFL, luminaires or strip lights<br>- **AND** be fitted with dawn-to-dusk sensors **OR** timers. |

*The criteria covered fixed internal lighting in habitable rooms and therefore cupboard lighting and side lamps are not included.*

*Low energy lighting is defined as luminaries with an efficacy of 40 lumens/Watt or better.*

**Current Status:**

It was stated in the meeting that the external lighting will comply with the EcoHomes criteria.

The space lighting fittings will be dedicated compact fluorescent fittings or will only accept lighting of a minimum of 40 lumens/Watt. The internal communal lighting to the apartments will be dedicated low energy fittings. Communal lobbies and main external entrances will be controlled with dawn to dusk sensors and timers. Communal hallways, landings, stairwells and corridors will be controlled by push button time switches or occupant sensors (PIR).

High Wattage security lighting is to be specified with a maximum of 150Watts and will be fitted with dawn to dusk sensors and motion detectors (PIR).

It is assumed that both credits for external lighting will be achieved. One credit for the space lighting and a second credit for providing security lighting that meets the EcoHomes requirements.

**Action Required:**

- Specifications must state the type of lighting, location and details.
- The appropriate drawings should show the type of lighting, location and details.
- Manufacturers literature confirming that the low energy fittings are dedicated and have an efficiency of at least 40 lumens per watt (Fluorescent fittings including CFL's will normally meet this requirement).

**Additional Guidance:**

A dedicated energy efficient light fitting must comprise of the lamp, control gear, and an appropriate housing, reflector, shade or diffuser. The fitting must be capable of only accepting lamps having a luminous efficacy greater than 40 lumens per circuit Watt. Tubular fluorescent and compact fluorescent lighting fittings would meet this requirement. Lighting fittings for GLS tungsten lamps with bayonet cap or Edison screw bases, or tungsten halogen lamps would not comply.

For flats, fittings serving the following areas should be included in the assessment of space lighting:

- Communal lobbies, main external entrances, internal entrance porches, external steps and pathways.
    - These areas should be equipped with dedicated fluorescent fittings (or more efficient luminaires like SON) and should be controlled by a timeclock or daylight sensor.
- Hallways, landings, stairwells, internal corridors and garages
    - These areas should be equipped with dedicated fluorescent fittings that are controlled by push button time switches/ occupant sensors or equivalent.
- Specific communal rooms (laundries, cycle and other storage spaces etc)
    - These areas should be equipped with dedicated fluorescent fittings and manual switching or occupant sensors.

# 3.3 Transport

| TRA 1 | **Public Transport**<br>**Credits available: 2** | ***Target:*** | ***2*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to encourage developers to provide a choice of transport modes for residents, with the aim of reducing the level of car use.*

**Compliance Requirements:**

***Urban and suburban locations***

| Credits | |
|---|---|
| 1 | If 80% of the development is within 1000m (via a safe walking route) of a transport node providing a service to a local centre, town, city or a major transport node, at the following frequency levels:<br>• 07:30 – 10:00 and 17:00 – 19:00 Monday to Friday – half hourly<br>• All other times between 07:00 and 22:00 Monday to Saturday - hourly. |
| 2 | If 80% of the development is within 500m (via a safe walking route) of a transport node providing a service to a local centre, town, city or a major transport node, at the following frequency levels:<br>• · 07:30– 10:00 and 17:00 – 19:00 Monday to Friday – every 15 min<br>• All other times between 07:00 and 22:00 Monday to Saturday – half hourly |

**Current Status:**

The site is in Central London with good transport links. Holborn underground station is within 300m of the site and there are existing bus stops within 50m of the site on High Holborn.

It is assumed that both credits will be achieved since the development is within 1000m (via a safe walking route) of a transport node with frequency levels that meet the EcoHomes criteria.

**Action Required:**

- Provide a scaled map of the site showing the transport links, pedestrian routes along safe walking routes and walking distances from the development
- Provide details of safe walking route. Where the walking route crosses a road with a speed limit greater than 20mph proof of a safe walking route must be provided (e.g. pelican, zebra, toucan or puffin crossing).
- Provide transport service times and routes on timetables or similar.

**Additional Guidance:**

A safe pedestrian route to the transport node is defined as:

BOTH

Any pavement, or specific walking path at least 900mm wide and subject to the following conditions:

- Any footpaths indicated as possible routes, are official 'rights of way' and are safe to use (i.e. with artificial lighting in all areas which are either built up or where there is significant on street parking).
- A grass verge can be accepted in rural areas to demonstrate compliance provided that this is reasonably level, is at least 900mm unobstructed width and is continuous.
- The carriageway of low-traffic roads with a speed limit of 20mph or below

AND

When any of the above pedestrian routes cross a vehicular road with a speed limit above 20 mph (except if in a rural area and any of above exceptions comply) a safe crossing point should be provided. Safe crossing points are any nationally recognised pedestrian crossings e.g. pelican/ zebra crossings, footbridges or underpasses etc.

| TRA 2 | Cycle Storage<br>**Credits available: 2** | *Target:* | *2* |
|---|---|---|---|

**Aim**

*The aim of this credit section is 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.*

**Compliance Requirements:**

*Dwellings in the development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | If **50%** of dwellings have provision for the adequate storage of cycles.<br>The provision is determined by the number of bedrooms within a dwelling:<br>• 1 and 2 bedroom flat/house – storage for 1 cycle<br>• 3 bedroom flats/houses – storage for 2 cycles<br>• 4 bedrooms and above – storage for 4 cycles. |
| 2 | If **95%** of dwellings have provision for the adequate storage of cycles, and the criteria above are met. |

**Current Status:**

It was stated in the meeting that the flats will be provided with communal cycle storage. A total of 5 spaces must be provided to meet adequate cycle storage for 95% of the dwellings.

It is assumed that 2 credits will be achieved.

**Action Required:**

- Provide relevant drawings showing the cycle storage that meets the required criteria i.e. secure and protected from the weather.
- Provide specification clauses of the cycle storage and locking fixings and manufacturer's details where proprietary storage systems are to be supplied.

**Additional Guidance:**

If a specially designed cycle store facility is **not** available, storage can be allowed in other areas, providing the cycles are not prohibiting the intended use of that area.

Communal cycle stores:

- The store should be sized to meet the requirements for the number of dwellings it serves. The number of cycles per dwelling is the same as the standard requirements.
- Keys should only be issued to those using the store.
- It must be possible to lock all cycles safely to secure fixings.

| TRA 3 | **Local Amenities**<br>**Credits available: 3** | ***Target:*** | ***3*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to encourage developers to provide a choice of transport modes for residents, with the aim of reducing the level of car use.*

**Compliance Requirements:**

| Credits | |
|---|---|
| 1 | For proximity to a food shop and post box within 500m |
| 2 | For proximity to 5 of the following amenities within 1000m:<br>postal facility, food shop*, bank/ cash point, pharmacy, primary school, medical centre, leisure centre, community centre, place of worship, public house, children's play area, outdoor open access public area |
| 3 | For providing safe pedestrian routes to the local amenities where one/ both of above criteria has been achieved. |

** Note: a food shop only qualifies for this credit, where it is greater than 500m from the development and has not been used to justify for the 1st credit.*

**Current Status:**

It was stated in the meeting that the development is in Central London. The local area around the site has several of the local amenities required to gain EcoHomes credits, including a local food shop and post box within 500m safe walking distance.

It is assumed that 3 credits will be achieved for local amenities within 1000m and safe walking routes to these amenities.

**Action Required:**

- Provide a plan of the site and surrounding area highlighting the location of the local amenities. Outline the timescale over which the amenities will be made available if they are not already in place, pedestrian routes and walking distances from the development to each local amenity.
- Please complete the relevant developer sheet
- Provide details of safe walking route. Where the walking route crosses a road with a speed limit greater than 20mph proof of a safe walking route must be provided (e.g. pelican, zebra, toucan or puffin crossing).

**Additional Guidance:**

Distance from the dwellings to the amenity needs to be measured as the shortest of either the vehicular or the **walking** distance and should be measured as follows:

- Distances should be from the individual front doors to the amenity. 80% of these distances should be less than the required distance, i.e. 80% of dwellings on the development should be within the distance.
- Distances should take into account any detours required to safely cross roads, rivers etc.
- Distances measured over a straight line are not acceptable.

In order to qualify for the third credit 'For providing safe pedestrian routes to the local amenities' there need to be **safe pedestrian routes** to all amenities that are within the required distances. The definition of safe pedestrian routes is set out in Tra 1, Additional Guidance.

| TRA 4 | **Home Office**<br>**Credits available: 1** | ***Target:*** | ***0*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to reduce the need to commute to work by providing residents with the necessary space and services to set up home office and be able to work from home.*

**Compliance Requirements:**

*To achieve this credit a spare bedroom (or in the case of one bedroom flats, the living room or bedroom– note the office must not prevent the usual usage of the room) of every unit should be supplied with:*

- ***two double sockets*** *and* ***two telephone*** *points located on a wall at least* ***1.8m*** *long.*
- *A* ***window*** *and adequate ventilation (either an openable window or alternative ventilation such as a passive stack, etc.).*

**Current Status:**

It was stated in the meeting that the necessary space and services to set up a home office may not be possible in the flats.

It is assumed that no credits will be achieved.

**Action Required:**

- Provide drawings/electrical schematics showing location of power sockets, telephone points and window for all assessment units.
- Provide specification clauses demonstrating compliance.

**Additional Guidance:**

The required services are, as a minimum:

- two double sockets; sockets should be positioned to avoid the use of extension leads;
- two telephone points (or double telephone point) or equivalent (in the case of access to broadband, cable network, etc). (Note: It is not necessary to have two separate telephone lines to the dwelling.);
- window;
- adequate ventilation, either through an openable window or with alternative ventilation such as passive stack, etc;
- minimum size (1.8m wall) to allow a desk and filing cabinet or bookshelf to be installed, with space to move around and open the door (the 1.8m wall size requirement can, in some circumstances, be altered if drawings can prove that a desk can be fitted in any other type of arrangement, i.e. alcove or similar.

# 3.4 Pollution

| POL 1 | **Insulant GWP**<br>**Credits available: 1** | ***Target:*** | ***1*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to reduce the amount of ozone depleting substances released into the atmosphere.*

**Compliance Requirements:**

*1 credit is awarded for specifying insulating materials, that have a global warming potential (GWP) of less than 5 (and an ozone depletion potential (ODP) of zero), in either manufacture or composition, for the following elements:*

- *Roof (including loft access)*
- *Wall – internal and external (including doors, lintels and all acoustic insulation)*
- *Floor (including foundations).*
- *Hot water cylinder, pipe insulation and other thermal store.*

**Current Status:**

It was stated in the meeting that the criteria for this credit will be met in the specification of insulating materials for the residential development.

It is assumed 1 credit shall be achieved for the specification of insulating materials with a GWP of less than 5 (and zero ODP).

**Action Required:**

- Provide fully completed Developers Worksheets. Where no insulation is specified for a given element (e.g. doors or no loft access) please indicate this is the case.
- Provide specification clauses and details of the elements and the finalized insulation to be used
- For materials that do not inherently have a GWP of less than 5 and an ozone-depletion potential of zero or, confirmation should be obtained from the manufacturer that the insulation materials meet the guidance requirements.

**Additional Guidance:**

Typical materials that do inherently have a zero ODP and GWP will include (when not blown): *mineral fibre, cellulose insulation, glass fibre, Wood fibre board, cork, wool, cellular glass, flax, expanded (bead) polystyrene, recycled newspaper and jute, and nitrile rubber.*

Typical materials that do not inherently have a zero ODP and a GWP of less than 5 will include: *polyurethane foams, polyisocyanurates and others.*

| POL 2 | **$NO_X$ Emissions**<br>**Credits available: 3** | ***Target:*** | ***2*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to reduce the nitrous oxides ($NO_x$) emitted into the atmosphere.*

**Compliance Requirements:**

*Credits are awarded on the basis of $NO_x$ emission arising from the operation of all space heating and hot water systems across the development in accordance with the following criteria.*

| Credits | Dry NOx level (mg/kWh) | Boiler class (BS EN 297: 1994) |
|---|---|---|
| 1 | ≤100 | 4 |
| 2 | ≤70 | 5 |
| 3 | ≤40 | Above |

***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 above.*

**Current Status:**

It was stated in the meeting that SEDBUK A rated $NO_x$ class 5 gas condensing boilers are to be specified to all flats. $NO_x$ class 5 boilers have a dry $NO_x$ emissions level of ≤70mg/kWh.

It is assumed that 2 credits will be achieved.

**Action Required:**

- Provide drawings and specification clauses confirming primary and secondary space and hot water heating systems to be used
- Data sheets from the manufacturer to confirm $NO_x$ emissions.

**Additional Guidance:**

$NO_X$ emissions are based on the British Standards BS EN 297: 1994, and credits are awarded according to this classification and are measured as dry $NO_X$.

The $NO_X$ emissions from power stations are approximately 1200mg/kWh and therefore electrical cooling and heating does not achieve the minimum $NO_x$ emissions for one credit (150mg/kWh).

| POL 3 | **Reduction of Surface Runoff**<br>**Credits available: 2** | ***Target:*** | ***0*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to reduce and delay water runoff from hard surfaces of a development to public sewers and watercourses, thus reducing the risk of localised flooding, pollution and other environmental damage reduce the nitrous oxides (NOx) emitted into the atmosphere.*

**Compliance Requirements:**

*2 credits available 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, achieve attenuation at peak times by:*

- *50%* in areas of low probability of flooding,*
- *75%* in areas of medium flood risk and*
- *100%* in areas of high flood risk*

*One credit is available for reduction of hard surface runoff and a second credit for the reduction of roof runoff.*

** Where a statutory body requires a greater attenuation then the higher requirement should be met in order to achieve these credits.*

**Current Status:**

It was stated in the meeting that all of the surface water from the development will be directed to municipal drainage. It is possible to achieve this credit by specifying a green roof that will attenuate some of the water run-off; however at this stage it has not been confirmed what type of green roof is specified for the residential unit.

It is assumed that no credits will be achieved.

**Action Required:**

- Provide specifications that state the aim, location and details of any run-off attenuation devices sufficient to meet the Credit Requirements as stated in the EcoHomes 2006 Guidance
- Provide design team calculations relevant to the credit that include: the type and storage volume (l) of the attenuation measures; the total area of hard surfaces and roofs ($m^2$), the peak flow rate (l/s) and the rainfall intensity and duration of the design storm event and for soakaways the soil infiltration rate.
- Provide written confirmation of advice and approval from the relevant statutory body for the attenuation facilities specified.

**Additional Guidance:**

Access roads and pavements are excluded from this credit requirement.

These credits can be awarded where the following are provided, subject to them meeting the full criteria and other guidance:

- Permeable paving (in areas where geographical and hydrological conditions allow them to function), e.g. block paved surface on a sub-base over a gravel bed to store the water and allow it to seep into the soil, can be used to reduce hard surface runoff.
- Local or centralised soakaways (in areas where local geological and hydrological conditions allow them to function).
- Holding ponds, swales, reed bends etc, provided that run-off from vehicular areas and other areas subject to potential pollution risks are covered by appropriate pollution-control measures such as interceptors, etc. Specialist advice should be sought from the local authority and/ or Environment Agency on what is appropriate in such instances.
- Run-off from roofs is collected as a part of a rainwater harvesting system.
- Green roofs.

| POL 4 | **Renewable and Low Emission Energy Source**<br>**Credits available: 3** | ***Target:*** | ***3*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to reduce atmospheric pollution by encouraging locally generated renewable energy to supply a significant proportion of the development's energy demand.*

**Compliance Requirements:**

*Credits are awarded on for meeting the following criteria.*

| Credits | |
|---|---|
| 1 | Where evidence provided demonstrates that a **feasibility study** considering renewable and low emission energy has been carried out and the **results implemented.** |
| 2 | 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* |
| 3 | 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.*

**Current Status:**

It was stated in the meeting that it is a Camden planning requirement for 10% of site wide energy demand to be supplied from local renewable, or low emission energy, sources. 20m$^2$ of solar thermal panels are proposed to service the hot water and space heating for the residential units. The Energy Statement by FM has calculated that 21% $CO_2$ savings can be achieved by installing 20m$^2$ of solar thermal panels.

It is assumed that 1 credit will be achieved for FM carrying out a feasibility study considering renewable and low emission energy. An additional 2 credits are achieved for implementing the results of the feasibility study and supplying 20% of the total energy demand of the residential units from solar thermal panels.

It is assumed that 3 credits will be achieved.

**Action Required:**

- Provide SAP worksheets for each house type (from accredited SAP assessor).
- Provide completed feasibility study.
- Provide appropriate drawings and/ or specification showing the type and location of renewable provision.
- Provide manufacturer's details, or similar, about the renewable or low emission energy.
- Provide calculations showing the anticipated annual energy production from any renewable sources.

**Additional Guidance:**

Feasibility study:

The developer must confirm that a feasibility study has been commissioned/undertaken to establish the most appropriate renewable or low emission energy source for the building/development. This study must cover as a minimum:

- Payback;
- Land use;
- Local planning requirements;
- Noise;
- Whole life cost/ life cycle impact of the potential specification in terms of carbon emissions;
- Any available grants;
- All technologies appropriate to the site and energy demand of the development;
- Reasons for excluding other technologies.

The developer must also confirm that a renewable and/or low emission energy technology has been specified for the development in line with the recommendations of the above feasibility study.

Note that the feasibility study should be carried out at outline proposal (RIBA stage C).

| POL 5 | **Flood Risk**<br>**Credits available: 2** | ***Target:*** | ***2*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is 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.*

**Compliance Requirements:**

*Credits are awarded for meeting the following criteria.*

| Credits | |
|---|---|
| 2 | Where evidence provided demonstrates that the assessed development is located in a zone defined as having a **low annual probability of flooding**. |
| OR | |
| 1 | Where evidence provided demonstrates that the 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. |

**Current Status:**

The site is located in an area of low flood risk (Ref: Environment Agency website) and therefore 2 credits are assumed.

**Action Required:**

- Provide specifications that state the flood zone or annual probability of flooding for the site, and the location and details of any flood protection measures.
- Provide written confirmation from the developers/ design team of the flood zone or annual probability of flooding in their sites location. The information must state how/where this definition/information was sourced.
- Where appropriate - provide confirmation of; the design flood level for the site/flood zone; site plans or specification outlining the range of ground levels of the dwellings and the car park and site access (lowest to highest).

**Additional Guidance:**

If the details are stated in the specification, they should also be clearly indicated on the drawings.

Relevant drawings would be the site layout, section or similar, where the location and layout is shown and the height above design flood level is stated.

Where the assessed development is situated in a flood zone that is defined as having a medium annual probability of flooding, the ground level of all dwellings, and access to them and the site, are designed so they are at least 600mm above the design flood level of the flood zone.

For dwellings located in a medium flood zone, areas of the car park and site access may be allowed to flood and therefore fall below the 600mm threshold. In such cases the credit is still achievable provided safe access to the site and the dwellings can be maintained (i.e. they are 600mm above the design flood level) to ensure the dwelling/ site does not become an 'island' in the event of a flood.

# 3.5 Materials

| MAT 1 | Environmental Impact of Materials<br>Credits available: 16 | Target: | 9 |
|---|---|---|---|

**Aim**

*The aim of this credit section is to encourage the use of materials that have less impact on the environment, taking account of the full life-cycle.*

**Compliance Requirements:**

*Up to 16 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. Note: **All** dwellings in the development must meet the criteria*

| Credits | Element |
|---|---|
| 3 | Roof |
| 3 | External Walls |
| 3 | Internal walls – party walls and internal partitions |
| 3 | Floors – upper and ground |
| 2 | Windows |
| 1 | External surfacing – driveways, paths and patios |
| 1 | Boundary protection |

**Current Status:**

GMW Architects completed the EcoHomes materials developer sheets, the following building materials are currently specified for the development.

- *Roof* – Precast concrete slab, warm deck construction, insulation, felt isolating layer & polyester reinforced bitumen felt and recycled chippings.
- *External walls* – Lime render on dense block outer leaf, insulation, aerated block inner leaf, plasterboard and paint.
- *Internal walls (party)* – Dense blockwork cavity wall and plasterboard.
- *Internal walls (partition)* – Timber stud, insulation, plasterboard and paint.
- *Floors* – Concrete beam & block floor.
- *Windows* – Aluminium composite with internal timber frame.
- *External surfacing* –Reclaimed York stone paving slabs.
- *Boundary protection* – Stainless steel railings.

According to the Green Guide for Housing Specification, credits will be achieved for the roof, external walls and internal walls. The rating of the external surfacing needs to be confirmed with the BRE materials team since reclaimed York stone is not included in the Green Guide for Housing Specification.

It is assumed that 9 credits will be achieved for specifying the roof, external walls and internal walls from A rated materials.

**Action Required:**

- Provide fully completed Developers Worksheets with supporting references to specifications and drawing details.
- Where construction type is not listed in the Green Guide provide full construction specifications for construction types to allow submission to the BRE for confirmation of Green Guide rating where necessary.

**Additional Guidance:**

Quantitative data on materials has been translated into simple environmental profiles for building elements in the Green Guide for Housing Specification. An 'A,B,C' rating system is used to rank elements and components, where 'A' represents the least environmental impact.

If no similar specification is listed in the Green Guide for an element, we can contact BRE for a bespoke rating. In order to obtain a bespoke rating we need to provide BRE with the following:

- the development reference number
- scaled, dimensioned and fully labelled construction drawing clearly showing the specified element, all materials and specification references.

| MAT 2 | **Responsible Sourcing of Materials: Basic Building Elements**<br>**Credits available: 6** | ***Target:*** | ***2*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to recognise and encourage the specification of responsibly sourced materials for key building elements.*

**Compliance Requirements:**

*Credits are awarded on for meeting the following criteria.*

| Tier level | Issue assessed | Points available per element | Evidence/ measure assessed | Examples of compliant schemes |
|---|---|---|---|---|
| 1 | Legality & responsible sourcing | 3 | Certification scheme | FSC, CSA, SFI with CoC |
| 2 | Legality & responsible sourcing | 2 | Certification scheme | PEFC |
| 3 | Legality & responsible sourcing | 1.5 | Certification scheme/EMS | Certified EMS at process and extraction stage (see Guidance Note 14 and 15) |
| 4 | Legality & additional issues | 1 | Certification scheme/EMS | MTCC, Verified*, SGS, TFT, certified EMS at process stage (see Guidance Note 14 and 15) |

*The major building element of the development are assessed within this credit section:*
*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)*

*The materials in each element are assessed and points are awarded based on the tier level achieved by the material(s) and the weighting (by volume) of the material(s) within the element.*

*Credits for the section are then calculated based on the total number of points achieved for all of the elements assessed. These are awarded as follows:*

| | **Credits available** | | | |
|---|---|---|---|---|
| | 6 | 4 | 3 | 2 |
| **No of elements present** | **Points range** | | | |
| 8 | ≥18 | ≥12 | ≥9 | ≥6 |
| 7 | ≥15.75 | ≥10.25 | ≥7.87 | ≥5.25 |
| 6 | ≥13.5 | ≥9 | ≥6.75 | ≥4.5 |
| 5 | ≥11.25 | ≥7.5 | ≥5.625 | ≥3.75 |

**Current Status:**

It was stated in the meeting that two credits would be targeted for responsible sourcing of basic building elements.

**Action Required:**

- Provide documentation from the supplier/s/ and/or manufacturer/s and developer regarding the sourcing and manufacturing status of materials and products. For example commitment to supply and retain FSC Chain of Custody Certificates, actual certificates for EMS systems/timber batches, confirmation and any details of EMS systems.
- Provide the volumes ($m^3$) of materials (as defined in the 'Additional Guidance' section) used for all basic building elements listed above.
- Complete the relevant Developer Sheet.

**Additional Guidance:**

For each of the elements above determine what proportion of the following materials (by volume) form part of the element (up to a maximum of four). These should amount to at least 80% of the total material within the element.

1. Brick
2. Composites
3. Concrete (including blocks, tiles etc.)
4. Glass
5. Plastics
6. Metals (steel, aluminium etc.)
7. Stone
8. Timber

Note that insulation materials, fixings, adhesives, additives and other materials not listed above are also to be excluded from the assessment of this credit.

All materials (including those listed above) which form less than 10% of a total element can be excluded from the credit assessment (e.g. steel screws if there is no other steel in the element).

At least 80% of the materials in an element must comply with the criteria to achieve points (i.e. 20% of the timber in a timber frame can be uncertified).

The total number of points achieved for a material within and element is calculated by multiplying the tier point score with the proportion of the material within that element. The elemental point score is calculated by adding the all of the materials points scores within that element. As indicated above all of the points scores for the elements within the development are used to determine the number of credits achieved (as shown in the tables above).

For further guidance on these credits please contact us.

| MAT 3 | **Responsible Sourcing of Materials: Finishing Elements**<br>**Credits available: 3** | ***Target:*** | ***1*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to recognise and encourage the specification of responsibly sourced materials for secondary building and finishing elements.*

**Compliance Requirements:**

*Credits are awarded on for meeting the following criteria.*

| Tier level | Issue assessed | Points available per element | Evidence/ measure assessed | Examples of compliant schemes |
|---|---|---|---|---|
| 1 | Legality & responsible sourcing | 3 | Certification scheme | FSC, CSA, SFI with CoC |
| 2 | Legality & responsible sourcing | 2 | Certification scheme | PEFC |
| 3 | Legality & responsible sourcing | 1.5 | Certification scheme/EMS | Certified EMS at process and extraction stage (see Guidance Note 14 and 15) |
| 4 | Legality & additional issues | 1 | Certification scheme/EMS | MTCC, Verified*, SGS, TFT, certified EMS at process stage (see Guidance Note 14 and 15) |

*The finishing element of the development are assessed within this credit section:*
*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.*

*The materials in each element are assessed and points are awarded based on the tier level achieved by the material(s) and the weighting (by volume) of the material(s) within the element.*

*Credits for the section are then calculated based on the total number of points achieved for all of the elements assessed. These are awarded as follows:*

| | Credits available | | |
|---|---|---|---|
| | 3 | 2 | 1 |
| **No of elements present** | **Points range** | | |
| 8 | ≥18 | ≥12 | ≥6 |
| 7 | ≥15.75 | ≥10.25 | ≥5.25 |
| 6 | ≥13.5 | ≥9 | ≥4.5 |
| 5 | ≥11.25 | ≥7.5 | ≥3.75 |

**Current Status:**

It was stated in the meeting that one credit would be targeted for responsible sourcing of finishing elements.

**Action Required:**

- Provide documentation from the supplier/s and/or manufacturer/s and developer regarding the sourcing and manufacturing status of materials and products. For example commitment to supply and retain FSC Chain of Custody Certificates, actual certificates for EMS systems/timber batches, confirmation and any details of EMS systems.
- Provide the volumes ($m^3$) of materials (as defined in the 'Additional Guidance' section) used for all basic building elements listed above.
- Complete the relevant Developer Sheet.

**Additional Guidance:**

For Additional Guidance see credit Mat 2 above.

| MAT 4 | Recycling Facilities<br>**Credits available: 6** | *Target:* | *6* |
|---|---|---|---|

**Aim**

*The aim of this credit section is to provide homeowners with the opportunity and facilities to recycle household waste.*

**Compliance Requirements:**

*Credits are awarded on for meeting the following criteria.*

| Credits | |
|---|---|
| 2 | Providing one of the following recycling facilities.<br>3 internal storage bins with: minimum total capacity of 60 litres; no individual bin smaller than 15 litres; all bins in a dedicated position.<br>**OR**<br>3 external bins with: minimum total capacity of 180 litres*; no individual bin smaller than 40 litres; all bins in a dedicated position (within 2m of an external door).<br>**OR**<br>A local authority collection scheme for recyclable material*. |
| 6 | Provide full recycling facilities of: 3 internal storage bins with: a minimum total capacity of 30 litres; no individual bin smaller than 7 litres; all bins in a dedicated position.<br>**AND EITHER**<br>3 external bins with: minimum total capacity of 180 litres*; no individual bin smaller than 40 litres; all bins in a dedicated position (within 10m of the external door).<br>**OR**<br>A local authority collection scheme for recyclable material*. |

**Current Status:**

It was stated in the meeting that internal and external recycling facilities will be provided to all the dwellings in line with the EcoHomes criteria and Local Authority requirements. The location of internal and external storage must be included in drawings to meet the EcoHomes criteria.

It is assumed that 6 credits will be achieved.

**Action Required:**

- Provide specifications stating the location of bins and bin stores with sufficient detail to meet the EcoHomes credit requirements.
- Provide relevant drawings showing recycling bin and bin store locations with sufficient detail to meet the EcoHomes credit requirements.

**Additional Guidance:**

Three bins for recyclable materials should be provided in addition to the normal waste bins, both externally and internally.

The internal recycling bins should be located in a dedicated position, ideally in the cupboard under

the sink or any other cupboard in the kitchen, next to the nonrecyclable waste bin. Where a kitchen cupboard location is not possible, the bins should be located near to the kitchen, in a utility room or adjacent garage. If a bin or storage container for recyclable paper is provided, this could be in any location in the home, provided it is a dedicated and practical space.

# 3.6 Water

| WAT 1 | Internal Potable Water Use<br>**Credits available: 5** | *Target:* | *3* |
|---|---|---|---|

**Aim**

*The aim of this credit section is reduce consumption of potable water in the home.*

**Compliance Requirements:**

*Up to 5 credits are awarded depending on the level of water consumption ($m^3$/bedspace/year) in all dwellings in the development:*

**Current Status:**

It was stated at the meeting that the sanitary ware for the dwelling will be specified as:

- Dual flush WCs (6/4 litre flush)
- Aerating taps
- Standard bath
- Shower with flow rate less than 9 litres per minute
- No dishwasher/low water use dishwasher (max 12litres/cycle)
- Low water use washing machine/washer dryer (max 40litres/cycle)

Specifying all the above will achieve a water consumption of approximately 41$m^3$/bedspace/year achieving 3 credits.

It is assumed that 3 credits will be achieved.

**Action Required:**

- Provide specifications showing sufficient detail to meet the EcoHomes credit requirements and allow water calculations to be undertaken.
- Provide Manufacturers' information of the sanitary ware.

**Additional Guidance:**

| Credits | Water consumption ($m^3$/bedspace/year) |
|---|---|
| 1 | <52 |
| 2 | ≤47 |
| 3 | ≤42 |
| 4 | ≤37 |
| 5 | ≤32 |

If water recycling is used, the volume of water collected will be deducted from the water use calculation. Grey-water recycling systems normally collect shower, bath and tap water and recycle this for toilet flushing.

| WAT 2 | External Potable Water Use<br>**Credits available: 1** | *Target:* | *1* |
|---|---|---|---|

**Aim**

*The aim of this credit section is to encourage the recycling of rainwater, and reduce the amount of water taken from the mains, for use in landscape/garden watering.*

**Compliance Requirements:**

***All** dwellings in the development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | For specifying a system that will collect rain water for use in external irrigation/ watering , e.g. water butts, central rainwater collection systems, etc. |

**Current Status:**

It was stated in the meeting that there are no individual or communal outdoor spaces specified, therefore this credit can be awarded by default.

It is assumed that 1 credit will be achieved.

# 3.7 Land Use and Ecology

| Eco 1 | Ecological Value of Site<br>Credits available: 1 | Target: | 1 |
|---|---|---|---|

**Aim**

*The aim of this credit section is to encourage development on land that already has a limited value to wildlife and discourage the development of ecologically valuable sites.*

**Compliance Requirements:**

*The development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | For developing land of inherently low ecological value and demonstrating this by either:<br>• Meeting the defined criteria for low ecological value (using the EcoHomes checklist)<br>**OR**<br>• Providing an ecological report of the site prepared by a suitably qualified ecologist, which should state that the land being developed:<br>○ is of low or insignificant ecological value<br>OR<br>○ will remain undisturbed |

**Current Status:**

It was stated in the meeting that the site is currently occupied by buildings and hard standing. It is assumed that one credit will be achieved for developing land of low/no ecological value.

**Action Required:**

- Provide plans of the site **AND** surrounding area, both before and after the proposed development. These should show natural and built features with details sufficient to meet the EcoHomes requirements.
- Provide the complete Land Use and Ecology Developer Sheets
- Where using an appointed ecologist:
  - Provide details of the ecologist's survey/report, with details sufficient to meet the Ecohomes credit requirements,
  - Provide membership details of the 'Suitably Qualified Ecologist' (see additional guidance for Eco 2 below).

**Additional Guidance:**

The land that should be considered for this credit, the 'Development site', include any land used for buildings, hard standing, landscaping or for site access, including any other land where construction work is carried out (or land being disturbed in any other way) plus a 3m boundary in either direction around these areas. It also includes any area used for temporary site storage and buildings.

The suitably qualified ecologist is to base their findings on data collected from a site visit conducted at appropriate time(s) of the year when different plant and animal species are evident. Where the ecologist has made no on-site visit, the credit cannot be awarded on the basis of the ecologist's report.

| ECO 2 | **Ecological Enhancement**<br>**Credits available: 1** | ***Target:*** | ***1*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to enhance the ecological value of a site.*

**Compliance Requirements:**

*The entire development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | Where ecological features have been designed-in for positive enhancement of the site ecology in accordance with advice from a 'suitably qualified ecologist'. |

*The developer will be required to adopt/implement **all key recommendations** and over **30% of additional recommendations** made by this ecologist.*

**Current Status:**

It was stated in the meeting that the commissioning of a registered ecological consultant to recommend ecological enhancement has not been included in the design process.

It has subsequently been confirmed that a suitably qualified ecologist would be appointed to report on enhancing and protecting the ecological value of the site, and to provide a report to EcoHomes standards.

It is assumed that one credit will be achieved.

**Action Required:**

- Commission a registered ecological consultant to visit the site and complete a report.
- Provide a copy of the Ecology Report with details of the full ecological site survey and the planned works by the developer based on that survey.
- Written confirmation or evidence on drawings, schedule etc that the ecologist's recommendations are to be undertaken.
- Provide membership details of the 'Suitably Qualified Ecologist'.

**Additional Guidance:**

An individual who meets all of the following requirements is deemed to be a 'Suitably Qualified Ecologist' under BREEAM and EcoHomes:

- Holds a degree or equivalent qualification in ecology or a related subject.
- Is a practising ecologist, with a minimum of 3 years relevant experience (within the last 5 years).
- Is covered by a professional code of conduct and subject to peer-review.

Full members of the following organisations, who meet the above requirements are deemed Suitably Qualified Ecologists:

- Association of Wildlife Trust Consultancies (AWTC)
- Chartered Institution of Water and Environmental Management (CIWEM)
- Institute of Ecology and Environmental Management (IEEM)
- Institute of Environmental Management and Assessment (IEMA)
- Landscape Institute (LI)

**Please Note**: It should be confirmed **before** appointment that the individual meets the criteria for a suitably qualified ecologist.

| ECO 3 | **Protection of Ecological Features**<br>**Credits available: 1** | ***Target:*** | ***1*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to protect existing ecological features from substantial damage during the clearing of the site and the completion of construction works.*

**Compliance Requirements:**

*The entire development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | All existing features of ecological value are maintained and adequately protected from damage during site preparation and construction works. |

**Current Status:**

It was stated in the meeting that the site has no ecological features (e.g. trees) to protect, therefore this credit will be achieved by default.

It is assumed that one credit will be achieved.

**Action Required:**

- Show evidence that the site has no ecological features to protect.

OR

- Provide specifications stating the protection measure to be undertaken.
- Provide the appropriate drawings showing the location and protection measures for all features of ecological value.

**Additional Guidance:**

All existing features of ecological value on the site and boundary area are to be adequately protected from damage during clearance, preparation and construction works. The following must be included in the specification and shown on relevant drawings.

- Trees of **over 100 mm trunk diameter**, and/or designated to be of significant ecological amenity value, are to be protected by barriers.
- Minimum distance between tree trunk and barriers must be either the distance of the branch spread or half the height of the tree, whichever is the greater.
- In all cases trees should be protected from direct impact and from severance or asphyxiation of the roots.
- Hedges and natural areas requiring protection must either have barriers erected and be protected, or, when remote from site works or storage areas, be protected with a prohibition of construction activity in their vicinity..
- Watercourses and wetland areas are to be protected by bunds, cut off ditches and site drainage to prevent run-off to the natural watercourse. Specialist advice should be obtained from the Environment Agency, English Nature or specialist ecological consultants.

In all cases, the contractor is required to **construct ecological protection prior to any preliminary construction or preparation works** commencing in the vicinity (e.g. clearing of the site or erection of temporary site facilities).

Protection of all existing features of ecological value on site will need to include, but **go beyond, current EU and UK legislation** relating to protected species and habitats applicable to the development site.

If a suitably qualified ecologist has **confirmed a feature to be removed has no significant ecological value** and **all other features** have been **adequately protected** the credit **can be awarded.**

If the site is defined as being of **low or insignificant ecological value** (either as defined in Eco 1 – Table 1, or according to a 'Suitably Qualified Ecologist') the credit can be **awarded by default**.

| ECO 4 | Change of Ecological Value of Site<br>**Credits available: 4** | *Target:* | *2* |
|---|---|---|---|

**Aim**

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

**Compliance Requirements:**

*The entire development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | For a change of ecological value of between –9 and –3 natural species. |
| 2 | For a change of ecological value of between –3 and +3 natural species. |
| 3 | For a change of ecological value of between +3 and +9 natural species. |
| 4 | For a change of ecological value of greater than +9 natural species. |

**Current Status:**

Given that the site is currently occupied with buildings and hard standing, and is being replaced by buildings, urban garden planting and some green roofing, it is assumed that there will be a small increase in the ecological value of the site.

It is therefore assumed that two credits will be achieved.

**Action Required:**

- Provide plans of the site **AND** surrounding area, both before the proposed development, and the proposed layout. These should show natural and built features, and any proposed planting schemes. These plans should be marked up according to the landscape and plot categories in the EcoHomes 2006 Guidance and Supplementary Guidance.
- Provide calculated lists of areas as part of the Developers Sheets submission.

**Additional Guidance:**

By calculating the average species for the whole site before and after development, the change in ecological value can be determined and credits awarded as above. This calculation is carried out by Faber Maunsell using plot areas supplied by the design team.

The option exists to consult a Registered Ecological Consultant for an estimate of the number of species on certain types of land.

Where a suitably qualified ecologist has been appointed and has been able to identify more specific habitat types and more accurate species numbers per habitat type for the development site, this information can be used to calculate the Change in Ecological Value. This information (contained within an ecology report) must be based on an ecological site survey conducted at appropriate time(s) of the year when different species are evident and represent existing site ecology immediately prior to the commencement of initial site preparation works. A copy of the Ecologist Report must be provided along with details of habitat types, their areas, and number of species surveyed per habitat type. Where the ecologist has made no on-site visit, the credit cannot be awarded on the basis of the ecologist's report.

| ECO 5 | **Building Footprint**<br>**Credits available: 2** | ***Target:*** | ***2*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to promote the most efficient use of a building's footprint by ensuring that land and material use is optimised across the development.*

**Compliance Requirements:**

| Credits | |
|---|---|
| 1 | Where the total combined Floor Area: Footprint ratio for **all houses** on the site is **greater than 2.5:1**.<br>**AND**<br>Where the total combined Floor Area: Footprint ratio for **all flats** on the site is **greater than 3.5:1**. |
| 2 | Where the total combined Floor Area: Footprint ratio for **all dwellings** on the site is **greater than 3.5:1**. |

***Please Note****: ALL dwellings on the development must be included in the calculation and assessed against above requirements.*

**Current Status:**

The residential component of Chichester House is arranged over 6 storeys, which meets the EcoHomes requirement for a floor area to footprint ratio greater than 3.5:1.

It is assumed that 2 credits will be achieved.

**Action Required:**

Provide the appropriate drawings showing dimensioned floor plans for all dwellings (and other buildings, e.g. garages).

**Additional Guidance:**

The total combined **floor area** of all dwellings on the site = the sum of all individual floor areas for all units (flats and/or houses) built on site. The total combined **footprint area** of all dwellings on the site = the sum of all footprint areas created by all buildings (flats and/or houses) on the site.

The total combined Floor area : Foot print ratio for the whole site is the total combined Floor area devided by the total combined Footprint area of the whole site.

Habitable loft space and basements should be counted in the Floor Area. Areas that normally count towards the footprint include conservatories, garages, permanent outhouses, communal garages or storage rooms. Areas that do NOT normally count towards the footprint include hard landscaping, semi-enclosed external spaces, pergolas and carports. Garden sheds do not count unless they are built on a permanent solid foundation and are fitted out as habitable space with heating, lighting and power (i.e. cycle sheds are unlikely to count).

Where residential accommodation is constructed above other occupied space such as shops or offices, these areas can be counted as part of the Floor Area but ONLY where they are situated directly beneath the residential space. Note that garage space would not be included.

# 3.8 Health and Wellbeing

| Hea 1 | Daylighting<br>Credits available: 3 | Target: | 2 |
|---|---|---|---|

**Aim**

*The aim of this credit section is to improve the quality of life to residents through good daylighting, and to reduce the need for energy to light a home.*

**Compliance Requirements:**

*All dwellings in the development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | Kitchen to achieve a minimum average daylight factor of at least 2%*. |
| 1 | Living rooms, dining rooms and studies to achieve a minimum average daylight factor of at least 1.5%*. |
| 1 | Kitchens, living rooms, dining rooms and studies to be designed to have a view of the sky*. |

***Please Note**: * calculated according to the method set out below. Targets based on British Standard BS 8206: Part 2 recommendations.*

**Current Status:**

The residential component of Chichester House is south facing and benefits from the open space of Lincolns Inn Fields south of the site. It was stated in the meeting that the residential units were likely to achieve the daylight credits; however it was unclear whether the credits for view of the sky would be achievable.

It is assumed that 2 credits will be achieved.

**Action Required:**

Professionally produced calculations (the output from daylighting software is acceptable) for each house type and sufficient information to enable the assessor to perform a 'reasonableness' check on the daylight factors. The following information is needed in order to carry out the calculations and should be provided to the assessor:

- room dimensions, both plan and elevation
- window schedules, including the type of glazing (e.g. double, low-e, etc), and preferably the glazing transmission factor
- location, distance and height of all adjacent buildings or obstacles (if the 'view of the sky' credit is sought).

**Additional Guidance:**

When calculating the average daylight factor for rooms in housing, the following minimum daylight factors need to be achieved:

- kitchen: 2%
- living room, dining room and study/office: 1.5%

Where the View of Sky Credit is being sought, the view of the sky should be from a height of 0.85m from the floor for 80% of the room area for living room, dining room and studies, and from every work-surface and table in the kitchen.

For further guidance on calculating daylighting please contact us.

| Hea 2 | **Sound Insulation**<br>**Credits available: 4** | ***Target:*** | ***1*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to ensure the provision of sound insulation and reduce the likelihood of noise pollution and associated complaints.*

**Compliance Requirements:**

| Credits | |
|---|---|
| 1 | • A commitment to carry out a programme of pre-completion testing based on the frequency listed in Table 2, column A in the BRE EcoHomes 2006 Guidance (Guidance A: Frequency of Testing Required) for every group or subgroup of houses or flats*<br>AND<br>• A commitment to achieve the performance standards set out in the Building Regulations for England and Wales, Approved Document E (2003 Edition). |
| 2 | • A commitment to carry out a programme of pre-completion testing based on the frequency listed in Table 2, column A in the BRE EcoHomes 2006 Guidance (Supplementary Guidance A: Frequency of Testing Required) for every group or subgroup of houses or flats*<br>AND<br>• A commitment to achieve the performance standards set out in the Building Regulations for England and Wales, Approved Document E (2003 Edition). |
| 3 | • A commitment to carry out a programme of pre-completion testing based on the frequency listed in Table 2, column B in the BRE EcoHomes 2006 Guidance (Supplementary Guidance A: Frequency of Testing Required) for every group or subgroup of houses or flats*<br>AND<br>• A commitment to achieve airborne sound insulation values that are at least 3dB higher, and impact sound insulation values that are at least 3dB lower, than the performance standards set out in the Building Regulations for England and Wales, Approved Document E (2003 Edition). |
| | • A commitment to carry out a programme of pre-completion testing based on the frequency listed in Table 2, column B in the BRE EcoHomes 2006 Guidance (Supplementary Guidance A: Frequency of Testing Required) for every group or subgroup of houses or flats*<br>AND<br>• A commitment to achieve airborne sound insulation values that are at least 5dB higher, and impact sound insulation values that are at least 5dB lower, than the performance standards set out in the Building Regulations for England and Wales, Approved Document E (2003 Edition). |

**Current Status:**

It was stated in the meeting that Building Regulation sound insulation levels will be met and the developer commits to carrying out a programme of pre-completion testing to meet the EcoHomes criteria for one credit.

It is assumed that 1 credit will be achieved.

**Action Required:**

- Specifications must include the details of the programme of precompletion testing to be carried out on the development, including the number of groups and sub-groups and the relevant

clauses should be provided.

- Provide evidence that the proposed building design has the potential to achieve the performance standards associated with the EcoHomes credit. This evidence could be field test data from previous developments or expert advice from an acoustic consultant.
- Provide confirmation that the acoustic consultancy is accredited by UKAS or a European equivalent for field sound insulation testing, OR that the testing is carried out in accordance with the relevant ISO requirements and the report and all measurement data are checked and verified by an organisation with UKAS accreditation for field sound insulation testing.

**Additional Guidance:**

The commitments to pre-completion testing and to achieve the performance standards means that if any test is failed (according to either the performance standards in Approved Document E or the enhanced performance standards in EcoHomes, which are 3dB or 5dB higher) then remediation work shall be carried out on the construction and re-tests carried out to confirm that the performance standards have been met.

Detached homes achieve all 4 credits by default as this section is only concerned with direct transfer of neighbour noise. It is rare however to have a development consisting entirely of detached homes.

Where there are insufficient separating walls or floors in a development to carry out the number of tests specified, all of the available separating walls or floors should be tested. Where all the available separating walls and floors have been tested this will be considered to be equivalent to the maximum required number of tests and 2 or more credits will be awarded as appropriate.

No more than two airborne and two impact sound insulation tests should be undertaken between a pair of houses or flats i.e. a maximum of two airborne sound insulation tests should be carried out on any separating wall and a maximum of two airborne and two impact tests on any separating floor.

| **Hea 3** | **Private Space**<br>**Credits available: 1** | ***Target:*** | ***0*** |
|---|---|---|---|

**Aim**

*The aim of this credit section is to improve occupiers' quality of life by providing a private outdoor space.*

**Compliance Requirements:**

*1 credit is awarded if all the dwellings in the development have the provision of outdoor space that is at least partially private.*

**Current Status:**

It was stated in the meeting that the dwellings will not have access to a private outdoor space.

It is assumed that no credits will be achieved.

# 3.9 Management

| Man 1 | Home User Guide<br>Credits available: 3 | Target: | 3 |
|---|---|---|---|

**Aim**

*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.*

**Compliance Requirements:**

*All dwellings in the development must meet the following criteria.*

| Credits | |
|---|---|
| 2 | 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 operation and environmental performance of their home. |
| 1 | Where evidence can be provided to demonstrate that the guide also covers information relating to the site and its surroundings. |

*The guide can be incorporated into the Home Information Pack, but must be an extractable or 'stand alone' section.*

**Current Status:**

It was stated in the meeting that a commitment will be made to provide a simple guide to each apartment regarding the operation and environmental performance of their home. The guidance will also be expanded to address the site and its surroundings as detailed in the EcoHomes 2006 Guidance.

It is assumed that 3 credits will be achieved.

**Action Required:**

- Specifications must state that a guide is to be supplied to all homes and outline its content. Provide relevant specification clauses.
- Provide a copy of the Home User Guide, or a contents list describing what the proposed Home User Guide will include.
- Where the guide is not yet complete, a written confirmation/specification clause is required confirming that the Guide will be developed to the EcoHomes standard.

**Additional Guidance:**

The list below indicates the type of information that should be included in the Home User Guide.

To achieve the first **two credits** the following must be included:

**A. Environmental strategy/ design and features**

- Details of any specific environmental/energy design strategy/features including an overview of the reasons for their use (e.g. environmental and economic savings) and how they should best be operated (if not passive features such as insulation). Strategies/ features can include passive solar design, super insulation, energy efficient timber windows, heat recovery systems, solar hot water systems, photovoltaic, passive vents, the use of certified timber, etc.
- EcoHomes issues – where the home/ development scored well, what environmental features have been designed into the home.
- Copy, or photocopy, of the EcoHomes certificate

**B. Energy**

- Information as set out by the Building Regulations Part L1

**AND**

- Details of any renewable system/s and how it/they operate.
- Details of low energy light fittings and their use and benefits, e.g. how much energy they save compared to traditional light fittings.
- General information on heat loss from the home, draughts etc.
- Tips on other energy saving measures such as no leaving your TV on standby, no leaving mobile phone chargers in the socket, buying low energy appliances etc and examples on how much/ what impact these measures will have.

**C. Water Use**

- Details of water saving features and their use and benefits. How much water is saved by using these appliances and what can be done to save more water on a day to day basis i.e. having a quick shower instead of a bath, not letting the tap run when you brush your teeth etc.
- External water use and efficiency.

**D. Recycling and Waste**

- Information on the location and use of recycle bins·
- Information on the location and use of possible compost bins.
- Information about Local Authority collection scheme/s.
- if the home is not covered by a Local Authority collection scheme, details and location of communal recycling bins/ skips/ facilities.

**E. Sustainable DIY**

- Environmental recommendations for consideration in any home improvement works
- Low VOC products
- Certified timber

**F. Emergency Information**

- Information on smoke detector/s

**G. Links, References and Further Information**

This should include references/ links to other information including websites, publications and organisations providing information on how to run the home efficiently and in the best environmentally sound way. In particular, the 'Energy Savings Trust' programme should be referenced (www.est.org.uk/myhome) and links provided to its website and good practice guidance. Information and links should also be provided to the Local Authority, the company responsible for the construction and, if applicable, the organisation responsible for management of the home. In all instances both an address/ telephone contact number and a web link will need to be provided.

**To achieve the additional one credit the following must be included in addition to the above:**

**H. Recycling and Waste**

- Information on what to do with waste not covered by the standard weekly Local Authority collection scheme.
- Information and location of local recycling facilities and waste tips.

**I. Public Transport**

- Details of local public transport facilities including maps and timetables and the location of nearby bus stops and/ or train/tube stations.
- Details of cycle storage and cycle paths in the area including, if available, cycle path network maps for the whole town/ local area.
- Details of car parking and information on available park and ride, car sharing schemes and/ or car pools/ renting in the area.

Details on how to get to local amenities in the area by public transport or cycling

**J. Local amenities**

The location of food shops, post box's, postal facilities, bank/cash points, pharmacies, schools, medical centres, leisure centres, community centres, places of worship, public houses, children's play areas, outdoor open

| **Man 2** | **Considerate Constructors**<br>**Credits available: 2** | ***Target:*** | ***2*** |
|---|---|---|---|

**Aim**

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

**Compliance Requirements:**

*All dwellings in the development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | Where evidence can be provided to demonstrate that there is a commitment to comply with best practice site management principles. |
| 2 | Where evidence provided demonstrates that there is a commitment to go significantly beyond best practice site management principles. |

**Current Status:**

It was stated at the meeting that signing up to the Considerate Constructors Scheme (CCS) was likely to be a requirement for construction in Camden Borough.

It is assumed that 2 credits will be achieved for a CCS score between 32 and 40.

**Action Required:**

Specifications must state a requirement for the appointed contractor to comply. Provide specific specification clauses.

- Information must be provided that confirms:

**EITHER**

- a commitment from the contractor, or on the contractor (if not yet appointed), to comply with the Considerate Constructors Scheme and achieve the appropriate score.

**OR**

- a commitment from the contractor, or on the contractor (if not yet appointed), to comply with an equivalent local or nationally recognised independent scheme.
- The necessary information should be provided to allow the assessor to satisfactorily complete the appropriate checklist.

**Additional Guidance:**

The two credits should be awarded as follows:

- One credit where there is a commitment to achieve a CCS score between 24 and 31.5;
- Two credits where there is a commitment to achieve a CCS score between 32 and 40.

**Note**: No credits can be awarded for the Considerate Constructors Scheme where any of the section scores within the scheme are less than 3, as this represents non compliance with the CCS code.

**OR**

Compliance with alternative scheme A commitment from the contractor, or on the contractor (if yet not appointed), to comply with an alternative, independently assessed scheme monitoring

construction site impacts and achieve the set out performance levels (See EcoHomes 2006 guidence for futher detail)

The two credits should be awarded as follows:

- One credit can be awarded where the site is to be independently assessed using the alternative scheme and the alternative scheme addresses all the mandatory items plus 50% of the optional items in Checklist A2.
- Two credits can be awarded where the site is to be independently assessed using the alternative scheme and the alternative scheme addresses all the mandatory items plus 80% of the optional items inChecklist A2.

| **Man 3** | **Construction Site Impacts**<br>**Credits available: 3** | ***Target:*** | ***3*** |
|---|---|---|---|

**Aim**

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

**Compliance Requirements:**

*All dwellings in the development must meet the following criteria.*

| Credits | |
|---|---|
| 1 | Where evidence provided demonstrates that there is a commitment and a strategy to monitor, sort and recycle construction waste on site.<br>**AND** |
| 1 | Where evidence provided demonstrates that 2 or more of items a-f, listed below are achieved.<br>**OR** |
| 2 | Where evidence provided demonstrates that 4 or more of items a-f, listed below are achieved. |
| | **a.** monitor and report $CO_2$ or energy arising from site activities;<br>**b**. monitor and report $CO_2$ or energy arising from transport to and from site;<br>**c.** monitor and report on water consumption from site activities;<br>**d**. adopt best practice policies in respect of air (dust) pollution arising from the site;<br>**e**. adopt best practice policies in respect of water (ground and surface) pollution occurring on the site.<br>**f**. 80% of site timber is reclaimed, reused or responsibly sourced. |

**Current Status:**

It was indicated at the meeting that a commitment would be made to monitor, sort and recycle construction waste on site and achieve at least four of the above listed items (ideally c-f).

It is assumed that 3 credits will be achieved.

**Action Required:**

- Specifications must state the commitment to contraction site impacts. Provide that specific specification clauses.
- Provide confirmation, in writing, or documentary evidence that confirms that the credit requirements will be met.

**Additional Guidance:**

- Commitment to monitor site construction waste – so as to identify methods of waste reduction, reuse and/or recycling. This point can be awarded where the client or contractor confirms that BRE's SMARTStartTM (part of the SMARTWaste TM system) scheme is to be used.
- Commitment to sort and recycle site construction waste: Waste must either be re-cycled on site

or sorted on site and collected for recycling locally. The site's construction waste will be required to be sorted into at least five categories and recycled / reused s appropriate.

**a**. **Commitment to monitor, report and set targets for $CO_2$** production or energy use arising from site activities. Will require: Monthly measurements of energy use to be recorded and displayed on site; The setting and prominent display of appropriate target levels of energy consumption; monitoring to include checking the meters and displaying some form of graphical analysis in the site office; A nominated individual responsible for the monitoring and collection of data.

**b. Commitment to monitor and report $CO_2$ or energy arising from commercial transport** to and from the site. Monitoring and reporting system should record: the number of deliveries; mode of transport; kilometres/miles travelled for all deliveries, for site specific deliveries - total distance travelled should be used, i.e. a round trip (Where the delivery to the site is part of a multiple delivery route, the recorded figure for distance travelled should be the distance travelled to the site (from the previous delivery), plus the distance to the next delivery or return.

**c. Commitment to monitor, report and set targets for water consumption arising from site activities.** Monitoring and reporting system should record and display monthly measurements of water consumption and target levels of water consumption. Monitoring to include checking the meters and displaying some form of graphical analysis in the site office and a nominated individual should be made responsible for the monitoring and collection of data.

**d. Commitments to adopt best practice policies in respect to air (dust) pollution.** Confirmation should be proivided of the site's procedures to minimise air / dust pollution. This can include: 'dust sheets'; regular proposals to damp down the site in dry weather; covers to skips etc. The site team must indicate how this information is disseminated to site operatives.

**e. Commitment to adopt best practice policies in respect to water (ground and surface) pollution** Confirmation is required of the site's procedures to minimise water pollution following best practice guidelines outlined in the following Environment agency documents: PPG 1;PPG 5; PPG. The site team must also indicate how this information is disseminated to site operatives.

**f. Commitment to source timber used during construction from sustainably managed sources** 80% of timber used during construction, including formwork, site hoardings and other temporary site timber used for the purpose of facilitating construction, is to be procured from sustainably managed sources, independently certified by one of the top two levels as set out in the Responsible Sourcing of Materials credits, Mat 2 & 3, in the Materials section.

| **Man 4** | **Security**<br>**Credits available: 2** | ***Target:*** | ***2*** |
|---|---|---|---|

**Aim**

*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.*

**Compliance Requirements:**

| Credits | |
|---|---|
| 1 | A commitment to work with an Architectural Liaison Officer and to achieve the Secured by Design award. |
| 1 | Security standards for external doors and windows to achieve a minimum of either:<br>• LPS1175 SR1 (All doors and windows)<br>**OR**<br>• PAS24-1 (All external pedestrian doorsets falling within scope of PAS24-1) AND BS7950 (All windows falling within the scope of BS7950) |

**Current Status:**

It was stated in the meeting that Secure by Design would be achieved for the development.

All of the external doors and windows specified for the development will meet the minimum security standards:
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).

It is assumed that 2 credits will be achieved for meeting the minimum security standards and development achieving the Secure by Design award.

**Action Required:**

Specifications must state security commitment and details. Provide specific specification clauses. This should include:

- a commitment to work with an Architectural Liaison Officer and achieve the Secure By Design award for the development. Details of features that will be included in the development in order to achieve the award should also be included.

and/or

- details of the external doors and windows and their third party certification levels.

Provide evidence that an Architectural Liaison Officer (ALO) has been contacted at an early stage of the design, preferably before detailed planning and that their advice will be followed.

**Additional Guidance:**

As the 'Secured by Design' scheme covers site layout, external lighting, carparking, planting, footpaths, communal areas, doors and windows etc, the advice of the Architectural Liaison Officer ALO) should be sought at a very early stage in the design.

The developer needs to verify that an Architectural Liaison Officer (ALO) has been appointed and that the developer has sought and adopted the ALO's recommendations in the early design stages. There should be a firm commitment to follow the advice of the ALO during the latter design stages and to achieve the 'Secure By Design' award. The ALO also needs to confirm that the developer is designing the development in a way that is likely to grant them the award.

Door and window certification details and/or a copy of the Secure By Design Award will need to be kept for the Post Construction Review stage or in case of a BRE audit.

# 3 BREEAM Retail 2006 Pre-Assessment Summary Report

# 3 BREEAM Retail 2006 Pre-Assessment Summary Report

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Global reach, local knowledge.
Local focus. Worldwide strength. Multi-sector experience. Multi-disciplinary expertise. Faber Maunsell offers this all – delivering outstanding solutions that help to create a better world in which to work and live.

**Building Research Establishment Environmental Assessment Method**
BREEAM Retail 2006 Pre-Assessment Summary Report

Chichester House
31 July 2007

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**Alterations**
The BRE hold the right to update or alter the scheme at any time. Faber Maunsell as their agents will implement these changes to any assessment being undertaken.

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# 1. Pre-Assessment Summary

### 1.1.1 Overview of BREEAM Retail

BREEAM (Building Research Establishment Environmental Assessment Method) seeks to minimise the adverse effects of new buildings on the environment at global and local scales, whilst promoting healthy indoor conditions for the occupants. The environmental implications of buildings are assessed and compared with good practice by independent assessors. An overall rating of the building's performance is given using the terms Pass, Good, Very Good or Excellent. This is determined from the total number of BREEAM criteria met and their respective environmental weighting.

BREEAM Retail provides a tailored assessment approach as a development is only assessed against the criteria that are under the influence of the assessment stakeholder. For example, where a development has no car parks, all assessment credits relevant to car parks will be filtered out of the scheme before conducting the assessment.

The following report aims to provide a summary of the pre-assessment undertaken on the retail unit within the proposed development at Chichester House.

### 1.1.2 Summary of Chichester House, BREEAM Retail 2006 Pre-Assessment

Faber Maunsell's Sustainable Development Group has been commissioned by HEDF II UK to undertake a BREEAM Retail pre-assessment for the retail unit with the proposed development at Chichester House, London.

As mentioned above, in BREEAM Retail assessments the credits are filtered according to the type of retail development, level of fit out, and associated areas included such as delivery yards and car parks so that those included in the final assessment are relevant to the development in question.

A filtering exercise has been undertaken for the retail unit within the proposed Chichester House development to enable relevant credits to be allocated for the assessments. The key influence on the scope of the assessment is that the retail unit is only being fitted out to shell level, and no heating ventilation or air conditioning is to be provided. This will be carried out by the tenants at fitout stage. In addition, only mains water supply connection is to be provided with sanitary fittings to be supplied by the tenant.

The limited scope of works is reflected in the number of credits selected as applicable to assess the scheme by. Under some assessment area the number of assessment credits becomes greatly reduced. For example the credit summary table for retail illustrates that only two credits E01 and E03 have been allocated to assess the energy impacts of the development. Each credit is therefore highly weighted as the value of each credit in an assessment is determined by:

**5 value of credit = weighting factor / number of credits in the category**

Therefore if one credit is not achieved Chichester House is penalised more than a larger retail development would tend to be as a larger number of credits would tend to have been allocated.

These factors, combined with the small size of the small size of the retail unit proposed within Chichester House of 298m$^2$ (gross external area) were discussed with the London Borough of Camden (telephone call between Georgia Arnott and Celeste Giusti 04/06/07) and as discussed it is not intended to progress the pre-assessment to a full Design and Procurement assessment that is submitted to the BRE. In addition, many of the issues (e.g. management, ecology, materials, and a number of health and wellbeing issues) are the same for offices as the retail

building. Therefore, by addressing them in the office assessment these issues will be addressed in the retail unit at Chichester House.

However, to determine how the development would perform against BREEAM criteria and to enable the client to identify sustainability issues relevant to the retail unit BREEAM retail pre-assessment has been undertaken.

An initial pre-assessment meeting was held on 11 June 2007, at Faber Maunsell's offices in London. The following people attended this meeting:

| | | |
|---|---|---|
| **Andrew Reynolds** | **HEDF II UK** | Client |
| **Ross Blair** | **HEDF II UK** | Client |
| **Adrian Dalby** | **GMW Architects** | Architect |
| **Paul Vivien** | **Mosley and Webb** | Planning Consultant |
| **Edward Chan** | **Faber Maunsell** | M&E Engineer |
| **Iain Campbell** | **Faber Maunsell** | M&E Engineer |
| **Anthony Poultney** | **Faber Maunsell** | M&E Engineer |
| **Sally Powell** | **Faber Maunsell (SDG)** | BREEAM Assessor |
| **Georgia Arnott** | **Faber Maunsell (SDG)** | BREEAM Assessor |
| **Emma Hickling** | **Faber Maunsell (SDG)** | BREEAM Assessor |

A second meeting was held on 13 July 2007, at GMW's offices in London. The following people attended this meeting:

| | | |
|---|---|---|
| **Ross Blair** | **HEDF II UK** | Client |
| **Adrian Dalby** | **GMW Architects** | Architect |
| **Susan Jackson** | **GMW Architects** | Architect |
| **John Jackson** | **GMW Architects** | Architect |
| **Iain Campbell** | **Faber Maunsell** | M&E Engineer |
| **Mark Dedman** | **Buro Four** | Project Manager |
| **Peter Inskip** | **Buro Four** | Project Manager |
| **Cameron Baylis** | **Davis Langdon** | QS |
| **Sally Powell** | **Faber Maunsell (SDG)** | BREEAM Assessor |
| **Emma Hickling** | **Faber Maunsell (SDG)** | BREEAM Assessor |

The credit requirements for each credit applicable to the Chichester House retail unit were discussed with the design team and client at meetings on 11 June 2007 and 13 July 2007 and a full pre-assessment report, detailing credit requirements has been issued to the client and design team. The credit summary table detailing the result of this exercise is provided in section 2.2.2. For each credit which is identified as 'target', the client and design team have confirmed that the compliance requirements of each 'target' credit will be met by the development's design and/or through a tenant requirement on the future user of the unit.

# 2. Building Details and Performance

## 2.1 Building Data Sheet

| PROJECT DETAILS | |
|---|---|
| **DEVELOPMENT:** | **Chichester House, London** |
| **Developer:** | HEDF II UK |
| **Architect:** | GMW Architects |
| **Building Services:** | Faber Maunsell |
| **BREEAM Assessor:** | Faber Maunsell, Sustainable Development Group |
| **RETAIL BUILDING DETAILS** | |
| **Scheme Information:** | The Chichester House development is situated in London and it comprises a single covered unit which forms part of a new office block.<br>The net internal area for the unit is 279m$^2$. |
| **Assessment Details:** | Stakeholder: Tenant<br>Building Scope: Single 'covered' retail unit<br>Size Band(m$^2$): 100-499<br>General retail space: Yes<br>Food Retail: No<br>**HVAC services:** Shell Only<br>**Lighting:** Shell Only<br>Internal: No<br>External: No<br>**Sanitary services:** Mains water supply connection<br>Multiple cubicle WC and/or urinal pods: No<br>**Associated building areas and facilities**<br>Office(s) (fitted out): No<br>Car park : No<br>Delivery yard: No<br>Goods storage: No<br>Waste disposal: No<br>Lifts: No<br>Escalators or travelling walkways: No<br>Commercial food preparation: No<br>Food and/or drink servery (fitted out): No<br>Cold food storage cabinets (fitted): No<br>Walk in cold food stores (fitted): No<br>External hard surfacing/landscaping: Yes |

| | |
|---|---|
| **Services** | Shell only. |
| **Materials** | The whole building is a steel frame structure with insulated glass cladding panels and Portland stone facing. |

## 2.2 Performance of Building

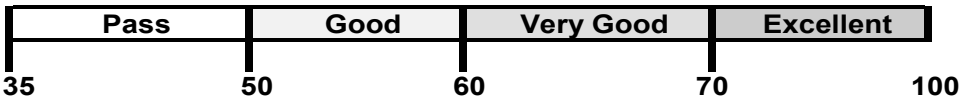
The BREEAM Rating is based on the number of credits achieved under each section multiplied by the Environmental Weighting Factor. The BREEAM Rating is given as Pass, Good, Very Good or Excellent, according to the percentage score achieved.

Based on the BREEAM Retail pre-assessment exercise outlined above and current design intent, it is anticipated that a score of **60.94% - "Very Good**" rating would be achieved under a BREEAM Retail 2006 assessment.

### 2.2.2 Summary of Credit Status

| Credit Summary BREEAM 2006 | | Credit no. | Available Credits | Target Credits |
|---|---|---|---|---|
| Management | Considerate Constructors | M4 | **2** | 2 |
| 1.15% | Construction Site Impacts | M5 | **4** | 4 |
| | Environmental Responsibility | M7 | **1** | 1 |
| | Building User Guide | M12 | **1** | 1 |
| | Building User Education | M13 | **1** | 1 |
| | Environmental Policy | M18 | **1** | 1 |
| | Environmental Purchasing Policy | M19 | **1** | 1 |
| | Environmental Management System | M22 | **2** | 0 |
| Section Credit Total | | | 13 | 11 |
| Weighted Section Total | | | 15% | 12.7% |
| Health and | Daylighting | HW01 | **2** | 1 |
| Wellbeing | Internal Air Pollution | HW09 | **1** | 0 |
| 2.50% | Ventilation Rates | HW11 | **1** | 1 |
| | Thermal Comfort | HW14 | **1** | 1 |
| | Microbial Contamination | HW16 | **1** | 1 |
| Section Credit Total | | | 6 | 4 |
| Weighted Section Total | | | 15% | 10.0% |
| Energy | Reduction of $CO_2$ Emissions | E01 | **15** | 6 |
| 1.14% | Sub-metering - Areas | E03 | **1** | 1 |
| Section Credit Total | | | 16 | 7 |
| Weighted Section Total | | | 18% | 8.0% |
| No of credits required to achieve LBC target | | | | 10 credits = 60% |
| Transport | Provision of Public Transport | T1 | **4** | 4 |
| 1.14% | Cyclist Facilities | T5 | **2** | 1 |
| Section Credit Total | | | 6 | 5 |
| Weighted Section Total | | | 7% | 5.7% |
| Water | Water Meter | W02 | **1** | 1 |
| 2.50% | Mains Leak Detection | W03 | **1** | 1 |
| Section Credit Total | | | 2 | 2 |
| Weighted Section Total | | | 5% | 5.0% |
| No of credits required to achieve LBC target | | | | 2 credits = 60% |
| Materials&Waste | Major Building Elements | MW01 | **4** | 0 |
| 0.77% | Low Impact Paints and Varnishes | MW04 | **1** | 1 |
| | Reuse of Building Facade | MW05 | **1** | 0 |
| | Reuse of Building Structure | MW06 | **1** | 0 |
| | Recycled Aggregates | MW07 | **1** | 1 |
| | Responsible Materials Sourcing | MW08 | **3** | 2 |
| | Designing for Robustness | MW10 | **1** | 1 |
| | Storage of Retailer Recyclables | MW13 | **1** | 1 |
| Section Credit Total | | | 13 | 6 |
| Weighted Section Total | | | 10% | 4.6% |
| No of credits required to achieve LBC target | | | | 6 credits = 40% |
| Land use/Ecology | Reuse of Land | LE01 | **1** | 1 |
| 1.50% | Contaminated Land | LE02 | **1** | 0 |
| | Ecological Value and Protection | LE03 | **1** | 1 |
| | Mitigating Ecological Impact | LE04 | **2** | 2 |
| | Enhancing Site Ecology | LE05 | **3** | 1 |
| | Long Term Impact on Biodiversity | LE06 | **2** | 0 |
| Section Credit Total | | | 10 | 5 |
| Weighted Section Total | | | 15% | 7.5% |
| Pollution | Insulant ODP and GWP | P04 | **1** | 1 |
| 1.88% | Minimising Flood Risk | P07 | **3** | 2 |
| | Renewable/Low carbon Energy | P11 | **3** | 0 |
| | Noise Attenuation | P13 | **1** | 1 |
| Section Credit Total | | | 8 | 4 |
| Weighted Section Total | | | 15% | 7.5% |
| | | **TOTALS:** | 100% | 60.94% |
| | | **RATING:** | | **Very Good** |

Key to BREEAM Retail 2006 scoring structure:



# 3. Performance Summary

In the Management section it is anticipated that 11 credits of the 13 available credits would be achieved. HEDF II UK has committed to comply with the Considerate Constructors Scheme (CCS) and go beyond best practice site management principles and achieve a CCS score between 32 and 40, therefore all available credits would be achieved under this credit. Under credit M5 Construction Site Impacts HEDF II UK has committed to implementing at least 6 of the environmentally sound practices recommended by BREEAM on site. In addition, they have committed to ensuring all site timber used during the construction phase will be responsibly sourced. Therefore all credits are anticipated to be achieved.

BREEAM Retail has additional management requirements which go beyond those of BREEAM Offices; including designation of an individual with environmental responsibility for monitoring and managing environmental impacts during the construction phase as assessed by credit M7. HEDF II UK have confirmed that the contractor will be required to employ an individual on site to report on and influence environmental issues, on this basis it is anticipated that this credit would be achieved.

In line with credit M12 HEDF II UK has confirmed that a Building User Guide would be prepared which covers this credit's requirements for the retail element of Chichester House. In addition building user education is to be provided to the tenants. This training will cover the appropriate use of building controls and procedures to maintain efficient building operation, minimise operational environmental impacts, and will be based on the content of the building user guide.

BREEAM Retail also assesses whether the developer has effective environmental policies. HEDF II UK have committed to develop a UK based environmental policy and environmental purchasing policy that would meet the BREEAM requirements. Therefore Credit M19 and M21 would be achieved.

In the Health and Wellbeing section it is anticipated that 4 credits could be achieved. This includes achievement of 1 credit under Daylighting credit HW1 as over 35% of the sales and common floor area is anticipated to be adequately daylit. Thermal modelling, compliant with CIBSE AM11, is being undertaken for the larger office building and incorporates the retail unit therefore credit HW14 would be achieved. As this is a shell-only development the requirement to ensure suitable ventilation rates and implement measures to prevent microbial contamination in the heating, ventilation and air conditioning systems will be made tenant requirements.

In the Energy section it is anticipated that 7 credits would be achieved which is 44% of available credits under this section. As shown by the credit summary table below only 2 credits: E01 and E03 have been allocated by the filtering exercise for the Chichester House assessment, thereby making the LBC target to obtain 60% of all available energy credits harder to achieve.

Initial Part L compliance calculations have been undertaken of the retail units at Chichester House. As this is a shell and core design only plant is not to be installed by the developer; this would be installed by the tenant as part of the fitout works, therefore assumptions have had to be made in terms of plant within the Part L Calculations. The calculations indicate that, with the proposed building fabric and assuming installation of fan coil units an improvement of 6.7% above the Part L Target Emission Rate in terms of $CO_2$ emissions would be achieved. The developer confirmed that it will be made a tenant requirement that the tenant achieves an improvement of the Building Emission Rate over the Target Emission Rate of greater than 10% following. On this basis it is anticipated that 6 credits will be achieved under Credit E01. In line with credit E03 sub-meters will be provided to the retail unit to enable the future user to monitor energy use.

In the Transport section it is anticipated that 5 of the 6 available credits would be achieved. The unit has excellent public transport links along High Holborn and there are public cycle racks within 250m of the retail entrance and therefore 1 credit under credit T5 would be achieved.

In the Water section it is anticipated that both credits (i.e. 100% of available credits) allocated by the filtering process would be achieved, based on current design intent. The design team have confirmed that a pulsed water meter would be installed for the retail unit in line with Credit W02. As this is a shell-only design only connection to the mains water is to be provided by the client; the fit-out is to be undertaken by the tenant. Therefore it is not part of the current design to fit a water leak detection system. To address credit W03 the client has confirmed that it will be made a tenant requirement to fit a main water leak detection system in line with this credit requirement.

In the Materials and Waste section it is anticipated that 6 credits could be achieved, which is 40% of available credits. It is anticipated that none of the major building elements will achieve an 'A rating', as defined in the Green Guide to Specification, and therefore at no credits will be achieved under Major Building Elements, credit MW01. Low impact paints and varnishes are to be used throughout the decoration of the retail shell in line with the requirements of credit MW4. BREEAM also encourages specification of materials from a responsible source under credit MW8 in BREEAM. The design team have confirmed that the employers' requirements will state that all material suppliers should have a certified environmental management system (EMS) covering the process and extraction stages of the materials making up the element. On this basis it is anticipated that 2 of the 3 available credits would be achieved.

In line with credit MW10, Designing for Robustness the design team have confirmed that the retail unit will include durability measures such as protection rails to walls of corridors and kick plates provided on doors to protect vulnerable parts of the building and reduce need for frequent replacement. In line with credit MW7 and to reduce the amount of virgin material used within the development HEDF II UK are seeking to ensure that at least 25% of the aggregate used in the high grade aggregate uses on site will be from a recycled source. In line with credit MW13 adequate storage facilities for recyclable waste will be provided in the retail unit.

In the Land Use and Ecology section it is anticipated that 5 credits could be achieved. The existing site is currently occupied by an office block; therefore credit LE01, Reuse of land will be achieved. There are no ecological features on site and the developer is planning to install some green roofs on the main office block resulting in an increase in ecological value on site. On this basis it is anticipated that all available credits will be achieved by credit LE03 and LE04. HEDF II UK are planning to appoint an ecologist and so one credit in LE05 is anticipated.

In the Pollution section it is anticipated that 4 credits could be achieved. The site is in a low flood risk area thereby achieving 1 credit under P07. The architect and M&E engineer will both be specifying insulation materials that have a global warming potential of less than 5 in line with credit P04. As this is a shell only development it will be made a tenant requirement for the tenant to carry out a "plant noise assessment" (to BREEAM standards) on the plant to be installed in the retail unit, and for the tenant to act on any noise abatement recommendations made in the report.