



**Ramsay Hall of
Residence**

**Bespoke EcoHomes
Assessment**

Prepared for: -
University College London

January 2008
Client report no 5259/BRE
BRE reference no GA-BESEC-
CD01-1



Prepared on behalf of DBK Goyne Adams Limited by

Name CHRIS DUFF

Position BESPOKE BREEAM ASSESOR

Signature

Approved on behalf of DBK Goyne Adams Limited

Name RUSSELL PITTER

Position BREEAM / CODE ASSESSOR

Date

Signature

DBK Goyne Adams Limited
Streate Place
St. Peter's Road
Bournemouth
BH1 2LT
T + 44 (0) 1202 208000
F + 44 (0) 1202 553542
E enquiries@cduff@dbkgroup.com
www.dbkgroup.com

Disclaimer

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

Copyright

Copyright exists on the BREEAM logo and this may not be used or reproduced for any purpose without the prior written consent of the BRE.

The BREEAM name and logo are registered trademarks of the Building Research Establishment Limited.

Executive Summary

DBK Goynne Adams Limited has been commissioned by University College London to carry out a Bespoke EcoHomes assessment of the Ramsay Hall of Residence

This report details the performance of the Ramsay Hall of Residence against the Bespoke EcoHomes 2006 final criteria issued by the BREEAM centre. The building currently achieves a score of 60.10%, which translates into a BREEAM rating **VERY GOOD**. The assessor has determined this rating using an auditable trail of evidence, all of which is referenced throughout this report.

Contents

Bespoke BREEAM Certificate Information	2
Introduction	4
Bespoke BREEAM	4
Bespoke BREEAM Scoring	6
Project Team	7
Building Details	11
Summary of Building Performance	12
Score Calculation	12
Detailed Assessment Information	13
Management	13
Health and Wellbeing	18
Energy	25
Transport	30
Water	34
Materials	37
Land Use and Ecology	42
Pollution	46
Appendix A – Spreadsheet Tools and Calculators	51

Bespoke BREEAM Certificate Information

Certificate Request Form	
Assessment Details	
BRE reference number (provided on registration.)*	GA-BESEC-CD01-1
Assessment type*	Bespoke EcoHomes
Assessment stage*	Design & Procurement
Date of accompanying report*	January 2008
Net floor area assessed*	2374 m sq

Assessment Details required to appear on the certificate.

(Please recreate this box for every certificate required. add extra rows for additional parties/stakeholders as required)

Building name/Plot number/Building or site address*	University College London Ramsay Hall of Residence 20 Maple Street London W1T 5HB
Bespoke BREEAM rating*	Very Good
Bespoke BREEAM percentage*	60.10%
Assessment scope	Area of Building
Assessor organisation*	DBK Goyne Adams Limited
Assessor name*	Christopher Duff
Architect / Design Team	Pellings
Client	UCL Properties Ltd
Bespoke EcoHomes version*	2006
Certificates to be sent to:	
Assessor <input type="checkbox"/> Client <input checked="" type="checkbox"/>	
(a photocopy of the original certificate will always be sent to the assessor.)	
Company name: UCL Properties Ltd	Number of certificates: One
Contact person: Angela Clemo	
Address: UCL Properties Ltd Gower Street London WC1E 6BT	
Tel: 020 7679 1220	
Fax: 020 7813 0524	
Email: a.clemo@ucl.ac.uk	

Introduction

DBK Goyne Adams has been commissioned to carry out a Bespoke BREEAM (**BRE Environmental Assessment Method**) Design and Procurement assessment of The Ramsay Hall of residence for University College London.

BREEAM

Bespoke BREEAM is part of the BREEAM family of environmental assessment methods (**BRE's Environmental Assessment Method**). It is a voluntary scheme that aims to quantify and reduce the environmental burdens of buildings by rewarding those designs that take positive steps to minimise their environmental impacts.

There are number of standard schemes under which certain building types can be assessed. These include Offices, Schools Retail and Court buildings. Where a non domestic building can not be assessed under one of these schemes it can be assessed under the Bespoke BREEAM scheme.

With a Bespoke BREEAM assessment BRE will develop criteria specific to the building and the functions within it (and there is an additional fee for this work). Information to develop the criteria is collected via a building questionnaire for the design team to complete or, for technically complex buildings, a kick off meeting is held.

Following the return of the questionnaire/attendance of the kick off meeting, BRE will produce a set of draft assessment criteria which are then issued to the assessor and design team for comment/discussion. Once the design team's comments have been received BRE will produce the final criteria and these will be issued to the appointed assessor. After this the assessor takes over and (as with a standard scheme) once the assessment is complete it will be submitted to BRE for quality checks and certification.

Projects are assessed using a system of credits. The credits are grouped within the following categories:

- Management
- Energy
- Transport
- Health and Well Being
- Water
- Materials and Waste
- Land use
- Site Ecological Value
- Pollution

The assessment process results in a report covering the issues assessed together with a formal certification giving a rating on a scale of PASS, GOOD, VERY GOOD and EXCELLENT.

Bespoke BREEAM Scoring

Within each of the BREEAM categories outlined above, there are a number of credit requirements that reflect the options available to designers and managers of buildings.

Due to the nature of Bespoke BREEAM projects not every credit is applicable to all function areas. To reflect this, credit scores are area weighted according to the floor area within the building that the credits have been achieved for. This recognises the environmental benefits of achieving a credit in an area that represents a large proportion of the building compared to where a credit is achieved in only a small proportion of the building.

An environmental weighting is applied to the scores achieved under each category, as shown below, in order to calculate the final BREEAM score. The weighting factors have been derived from consensus based research with various groups such as government, material suppliers and lobbyists. This research was carried out by BRE to establish the relative importance of each environmental issue.

The environmental weightings are as follows:

Issue Category	Issue Weighting
Management	0.15
Health and Wellbeing	0.15
Energy	-
Transport	-
Energy and Transport	0.25
Water	0.05
Materials and Waste	0.10
Land Use and Ecology	0.15
Pollution	0.15

The BREEAM rating bands are as follows:

RATING	SCORE
PASS	25
GOOD	40
VERY GOOD	55
EXCELLENT	70

Project Team

Client

UCL Properties Ltd

Gower Street

London

WC1E 6BT

Tel: 020 7679 1220

Fax: 020 7813 0524

Contact: Angela Clemo

Email: a.clemo@ucl.ac.uk

Employers Agent

Potter Raper Partnership

Julco House

26-28 Great Portland Street

London

WIW 8QT

Tel: 0207 436 5005

Fax: 0207 436 5115

Contact: Joe Parker

Email: Joe.parker@prp.gb.com

Architect

Pellings

24 Widmore Road

Bromley

Kent

BR1 1RY

Tel: 0208 460 9114

Fax: 0208 313 0019

Contact: Sarah Jones

Email: sjones@pellings.co.uk

Structural Engineer

WSP Cantor Seinuk
24-30 Buchanan House
Holborn
London
EC1N 2HS

Tel: 020 7314 5155
Fax: 020 7314 5155
Contact: Peter Butler
Email: Peter.Butler@WSPGroup.com

Electrical Consultant

CDP
8 Upper High Street
Winchester
Hampshire
SO23 8UT

Tel: 01962 870 497
Fax:
Contact: Colin Griffiths
Email: Colin.griffiths@thecdp.com

Mechanical Consultant

Lorne Stewart
6-8 Richmond Road
Essex
CM2 6UA

Tel: 01245 459 062
Fax: 01425 459 072
Contact: Stephen Sparshott
Email: Stephen.sparshott@lornestewart.co.uk

Quantity Surveyor

Potter Raper Partnership

Julco House

26-28 Great Portland Street

London

W1W 8QT

Tel: 0207 436 5005

Fax: 0207 436 5115

Contact: Ann Walder

Email: Ann.walder@prp.gb.com

Landscape Architect

Pellings

24 Widmore Road

Bromley

Kent

BR1 1RY

Tel: 0208 460 9114

Fax: 0208 313 0019

Contact: Sarah Jones

Email: sjones@pellings.co.uk

BREEAM Assessor

DBK Goyne Adams

Streate Place

St Peter's Road

Bournemouth

Dorset

BH1 2LT

Tel: 01202 208000

Fax: 01202 553542

Contact: Russell Pitter

Email: rpitter@dbkgroup.com

Principal Contractor

Mulalley & Company Limited
Teresa Gavin House
Woodford Avenue
Woodford Green
Essex
1G8 8FA

Tel: 020 8551 9999
Fax: 020 8551 7575
Contact: Andrew Macallister
Email: Andrew.macallister@mulalley.co.uk

Plumbing Sub Contractor

Lorne Stewart
6-8 Richmond Road
Essex

CM2 6UA
Tel: 01245 459 062
Fax: 01425 459 072
Contact: Stephen Sparshott
Email: Stephen.sparshott@lornestewart.co.uk

Building Services Commissioning Agent

Lorne Stewart / CDP
Tel: 01425 459 062 / 01962 870 497
Fax: 01425 459 072 /
Contact:
Email:

Building Details

General	Building	Ramsay Hall of Residence
	Site	20 Maple Street, London
	Floor area	2374m sq
Building fabric	Walls	Brickwork
	Roof	Concrete
	Floor	Concrete
Building Services	Heating	Existing CHP
	Ventilation	Mixed natural and mechanical
	Cooling	
	Hot water	Existing CHP

Summary of Building Performance

Ramsay Hall currently achieves a score of 60.10% against the Bespoke EcoHomes criteria. This translates into an overall BREEAM rating of VERY GOOD.

Score Calculation

Due to the area weighting of some credits, please refer to appendix A for the scoring spreadsheet which illustrates how the BREEAM score has been calculated.

The BREEAM rating bands show that a score of 60.10% translates into a BREEAM rating of VERY GOOD:

RATING	SCORE
PASS	25
GOOD	40
VERY GOOD	55
EXCELLENT	70

Detailed Assessment Information

The following section summarises each of the bespoke credit requirements from BRE Bespoke EcoHomes 2006 Assessment tool, and the information that has been provided relating to UCL Ramsay Hall of residence against each credit, to allow the appropriate number of credits to be awarded.

Management

M1 Commissioning

1 of 2 credits achieved

Credit criteria

One 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 carried out in line with current Building Regulations and (where applicable), best practice.

One credit where evidence provided demonstrates that seasonal commissioning will be carried out during the first year of occupation, post construction (or post fit out).

Credit validation

1 credit awarded: Several clauses in the specification refer to commissioning and UCL have confirmed that Fowler Martin, Consultant Building Services Engineers, are retained to witness the commissioning of all the building services of this project therefore the criteria for this credit is met.

Credit references

Employers Requirements and Tender Summary of Electrical Services clauses Y81 281.000, 281.020

Employers Requirements and Tender Summary of Mechanical Services clauses Y51, R10 251.000

Letter from Angela Clemo of UCL dated 3/10/07 confirming Fowler Martin, Consultant Building Services Engineers, are retained to witness the commissioning of all the building services of this project

Further information/action

No further action required.

M2 Considerate Constructors

2 of 2 credits achieved

Credit criteria

One credit is awarded where evidence provided demonstrates that there is a commitment to comply with best practice site management principles.

One credit is awarded where evidence provided demonstrates that there is a commitment to go significantly beyond best practice site management principles.

Credit validation

2 credits awarded: Clause 115, Section A32 of the Employers Requirements states that before starting work the Contractor must register the site with under the Considerate Constructors Scheme and pay the appropriate fee and comply with the schemes Code of Considerate Practice. A monitor from the Considerate Constructors Scheme carried out a site visit on 17 May 2007 and awarded a score of 35.5 therefore the criteria for this credit is met.

Credit references

Employers Requirements, Volume 1, Section 4 General Conditions / Preliminaries, Section A32, Clause 115

Letter from Edward Hardy of the Considerate Constructors Scheme dated 30/05/07

Monitor Malcolm Viccars' (ID 20684) Site Report dated 17/05/07

Bespoke EcoHomes Checklist A1, Apx. A

Further information/action

No further action required.

M3 Construction Site Impact

3 of 4 credits achieved

Credit criteria

One credit is awarded where evidence provided demonstrates that 2 or more of items a-g, listed below are achieved.

One credit is awarded where evidence provided demonstrates that 4 or more of items a-g, listed below are achieved.

One credit is awarded where evidence provided demonstrates that 6 or more of items a-g, listed below are achieved.

- a. Monitor, report and set targets for CO₂ or energy arising from site activities;
- b. Monitor, report and set targets for CO₂ or energy arising from transport to and from site;
- c. Monitor, report and set targets for water consumption arising from site activities;
- d. Monitor construction waste on site;
- e. Sort and recycle construction waste;
- f. Adopt best practice policies in respect of air (dust) pollution arising from the site;
- g. Adopt best practice policies in respect of water (ground and surface) pollution occurring on the site.

One additional credit where evidence provided demonstrates that all site timber is responsibly sourced.

Credit validation

3 credits awarded: Various clause's have been inserted into the Employers Requirements with regards to Water (A33 180), Pollution (A34 340), and Waste (A34 430). A recycling and waste minimisation report has been provided to demonstrate compliance with items d & e. A policy statement has been provided with regard to dust pollution (g) and fuel will be stored in a bunded tank and spillage kits will be provided on site.

FSC & PEFC certificates with CoC numbers have been provided to demonstrate that all site timber will be responsibly sourced therefore the criteria for this credit is met.

Credit references

Employers Requirements Document Ref: L8918 dated December 2006

Email from Elizabeth Sturman of Mulalley dated 26/06/07 confirming compliance.

TT-COC-1912, BMT-PEFC-0228

M3 Construction Site Impacts tool, Apx. A

Further information/action

No further action required

M4 Stakeholder Consultation

2 of 2 credits achieved

Credit criteria

One credit is awarded where evidence provided demonstrates that consultation has been, or is being, undertaken and feedback given to the local community and building users. In addition, advice should also have been sought from any relevant national and local history, archaeological bodies or military history groups regarding the heritage value of the building/site/surroundings.

One credit is awarded where, in addition to the above, evidence provided demonstrates that changes to the design and/or action has been taken as a result of the above consultation process. This should include the protection of any parts of the building (or site) having historic or heritage value in accordance with independent advice from English Heritage or a relevant local heritage body.

Credit validation

2 credits awarded: The following stakeholders were consulted:
Bernard Holloway – UCL Client Project Manager
William Wilson – UCL Student Residences Manager
Patricia McGurran – Ramsay Hall manager
Clive Horscroft – UCL Student Residences Maintenance Surveyor
Jim Roake – UCL Student Residences Services Maintenance Engineer
Jim Vanner – UCL Services Engineer
Simon Cooke – UCL Fire Officer

Minutes and details regarding stakeholder consultation have been provided aswell as a finishes schedule which highlights changes made due to client/end user requests therefore the criteria for this credit is met.

Credit references

Email from Elizabeth Sturman dated 21/11/07 and attachments of stakeholder consultation which occurred during the month October 2005.

Further information/action

No further action required

M5 Building User Guide**1 of 1 credits achieved****Credit criteria**

One credit is awarded where evidence provided demonstrates the provision of a simple guide that covers information relevant to the residents and 'non-technical' building manager / staff on the operation and environmental performance of the building and relevant information relating to the site and its surroundings.

Credit validation

1 credit awarded: The Employers Requirements require a Building User Guide to be provided in accordance with the Bespoke EcoHomes standard therefore the criteria for this credit is met.

Credit references

Employers Requirements document Ref: L8918 dated December 2006, Section A37, clauses 110, 120, 130, 140, 150, 160

Email from Elizabeth Sturman of Mulalley dated 21/11/07

Further information/action

No further action required

M6 Security**0 of 2 credits achieved****Credit criteria**

One credit is awarded where a commitment to work with an Architectural Liaison Officer and to achieve the Secured by Design award. 1 further credit is awarded where the Design Team can demonstrate changes in the design and/or action taken as a result of the above consultation process. This should include the protection of any parts of the site having historic or heritage value.

One credit awarded where security standards for external doors, doors to self contained flats and windows to achieve a minimum of either:

- a. LPS1175 SR1 (All doors and windows) **OR**
- b. PAS24-1 (All external pedestrian doorsets falling within scope of PAS24-1) AND BS7950 (All windows falling within the scope of BS7950)

Credit validation

Credit withheld: The Secured by Design award has not been achieved.

Credit references

N/A

Health and Wellbeing

HW1 Daylighting

0 of 1 credits achieved

Credit criteria

One credit awarded where at least 80% of occupied floor area is adequately daylit

Credit validation

Credit withheld: daylighting calculations not provided.

Credit references

N/A

Further information/action

No further action required

HW2 View Out

1 of 1 credits achieved

Credit criteria

One credit is awarded where evidence provided demonstrates that:

1. all workstations / desks in office and IT areas have a view out and are within a 7m radius of a window AND
2. all study bedrooms in student halls have a view out with the desk within a 7m radius of a window AND
3. all living rooms (in self contained flats), communal sitting areas or individual bedrooms/bedsits in sheltered housing have a view out within a maximum radius of 5m of a window.

Credit validation

Credit awarded: the following drawings by Pelling Ltd: 696.013-103-110 show that all workstations/desks have a view out and are within 7m of a window in all flats, bedrooms and offices therefore the criteria for this credit is met.

Credit references

See Credit validation for any Credit References

Further information/action

No further action required

HW3 Glare Control**1 of 1 credits achieved****Credit criteria**

One credit awarded where evidence provided demonstrates that an occupant controlled glare control system (e.g. internal or external blinds) is fitted to all areas where computer workstations will be located, close work will be undertaken or visual aids will be used (such as projectors etc).

Credit validation

Credit awarded: UCL are going to fit black-out blinds to each room therefore the criteria for this credit is met.

Credit references

Project Note reference 102/003 from CDP dated 18/12/07

Email from Elizabeth Sturman of Mulalley dated 23/10/07

Further information/action

No further action required

HW4 High Frequency Lighting**1 of 1 credits achieved****Credit criteria**

One credit awarded where evidence provided demonstrates that high frequency ballasts are installed on all fluorescent and compact fluorescent lamps.

Credit validation

Credit awarded: Clause B.2.18 of the Employer's Requirements and Tender Summary for Electrical Services states that all fluorescent luminaires shall employ high frequency ballasts controllers therefore the criteria for this credit is met.

Credit references

See Credit validation for any Credit References

Further information/action

No further action required

HW5 Internal & External Lighting Levels

1 of 1 credits achieved

Credit criteria

One credit awarded where evidence provided demonstrates that all internal and external lighting, where relevant, is specified in accordance with the appropriate maintained illuminance levels (in lux) recommended by CIBSE.

Credit validation

Credit awarded: Clause V21 100.010 of the Employer's Requirements & Tender Summary for Electrical Services states that all lighting must be compliant with the CIBSE Code for interior lighting and appropriate CIBSE published Lighting Guides therefore the criteria for this credit is met.

Credit references

See Credit validation for any Credit References

Further information/action

No further action required

HW6 Potential for Natural Ventilation

1 of 1 credits achieved

Credit criteria

One credit awarded where evidence provided demonstrates that external façade windows to all occupied areas are openable

Credit validation

Credit awarded: external façade windows to all occupied areas are openable including window types 1 - 22 and CW1 - CW8 therefore the criteria for this credit is met. Pellings drawings 696.013-341 - 344 Window Schedules.

Credit references

See Credit validation for any Credit References

Further information/action

No further action required

HW7 Internal Air Pollution

1 of 1 credits achieved

Credit criteria

One credit awarded where air intakes serving occupied areas avoid major sources of external pollution and recirculation of exhaust air.

Credit validation

Credit awarded: Levitt Bernstein site plan 2528 L100 shows that windows are over 10m away from the car park therefore the criteria for this credit is met.

Credit references

See Credit validation for any Credit References

Further information/action

No further action required

HW8 Ventilation Rates

1 of 1 credits achieved

Credit criteria

One credit awarded where evidence provided demonstrates that each space within the development achieves recommended minimum fresh air rates.

Credit validation

Credit awarded: credit HW6 is achieved and background ventilation is to be in accordance with the Building Regulations Part F. The plan depth of the building is less than 15m therefore the criteria for this credit is met. Pellings drawings 696.013 101-111. Employers Requirements and Tender Summary for Mechanical Services.

Credit references

See Credit validation for any Credit References

Further information/action

No further action required

HW9 Thermal Zoning

1 of 1 credits achieved

Credit criteria

One credit awarded where evidence provided demonstrates that local occupant control is available for temperature adjustment in both communal and residential areas to reflect differing load requirements.

Credit validation

Credit awarded: Clause T31 100.030 of the Employer's Requirements and Tender Summary for Mechanical Services states that thermostatic radiator valves shall be applied on flow to each radiator therefore the criteria for this credit is met.

Credit references

See Credit validation for any Credit References

Further information/action

No further action required

HW10 Microbial Contamination

1 of 1 credits achieved

Credit criteria

One credit is awarded where evidence provided demonstrates that the risk of waterborne and airborne legionella contamination has been minimised.

Credit validation

Credit awarded: Clause S10 251.100 of the Employer's Requirements & Tender Summary for Mechanical Services states that the provisions of L8 – the control of legionella bacteria in water systems must be satisfied before handover therefore the criteria for this credit is met.

Credit references

See Credit validation for any Credit References

Further information/action

No further action required

HW11 Sound Insulation

0 of 4 credits achieved

Credit criteria

One credit awarded where there is a commitment to carry out a programme of pre-completion testing based on the frequency listed in Table 2, column A (Supplementary Guidance A: Frequency of Testing Required) for every group or sub-group of flats or study bedrooms* AND a commitment to achieve the performance standards set out in the Building Regulations for England and Wales, Approved Document E (2003 Edition).

One credit awarded where there is a commitment to carry out a programme of pre-completion testing based on the frequency listed in Table 2, column B (Supplementary Guidance A: Frequency of Testing Required) for every group or sub-group of flats or study bedrooms* AND a commitment to achieve the performance standards set out in the Building Regulations for England and Wales, Approved Document E (2003 Edition).

One credit awarded where there is a commitment to carry out a programme of pre-completion testing based on the frequency listed in Table 2, column B (Supplementary Guidance A: Frequency of Testing Required) for every group or sub-group of flats or study bedrooms* AND 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).

One credit awarded where there is a commitment to carry out a programme of pre-completion testing based on the frequency listed in Table 2, column B (Supplementary Guidance A: Frequency of Testing Required) for every group or sub-group of flats or study bedrooms* AND 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).

Credit validation

Credit withheld: Evidence not provided

Credit references

N/A

Further information/action

No further action required

HW12 Home Office

1 of 1 credits achieved

Credit criteria

One credit awarded for the provision of a space and services which allows the occupants to set up a home office in a quiet room.

Credit validation

1 credit awarded: there is provision of space and services which allows the occupants to set up a home office in a quiet room therefore the criteria for this credit is met.

Credit references

Pellings drawing 696.013 300-304.

Fowler Martin small power + auxiliary systems installation drawings 591-ES-201B, 202 B

Further information/action

No further action required

HW13 Outdoor Space

1 of 1 credits achieved

Credit criteria

For the provision of an outdoor amenity space.

Credit validation

Credit awarded: The development includes a 900m² internal garden which equates to 9.89m² per dwelling. As it is internal it allows easy access to occupants of designated dwellings therefore the criteria for this credit is met.

Credit references

Environment Assessment of Ramsay Hall by XCO2 dated August 2006

Further information/action

No further action required

Energy

E1a Dwelling Emission Rate

8 credits of 15 achieved

Credit criteria

One credit awarded where the building demonstrates the minimisation of CO₂ emissions based on the Average Dwellings Emissions Rate from the SAP 2005 worksheets.

Credit validation

8 credits awarded: Section 3 of the Part L & CO₂ Emissions - Schedule of Contents document, criterion 1 states that the Building CO₂ Emissions Rate (BER) is 21.88kg/CO₂/m²/annum therefore the criteria for this credit is met.

Credit references

See Credit validation for any Credit References

Further information/action

No further action required

E1b Reduction of CO₂ Emission

6 of 15 credits achieved

Credit criteria

One credit awarded where the building demonstrates a percentage improvement above the requirement for CO₂ emissions as set out in the Building Regulations.

Credit validation

6 credits awarded: Item number 4 of the Part L & CO₂ Emissions - Schedule of Contents states that a 10% improvement over the current target (TER) has been achieved therefore the criteria for this credit is met.

Credit references

See Credit validation for any Credit References

Further information/action

No further action required

E2 Building Fabrics**0 of 2 credits achieved****Credit criteria****New Build**

One credit awarded where the Average Heat Loss Parameter (HLP) across the whole building / site is ≤ 1.3

One credit awarded where the Average Heat Loss Parameter (HLP) across the whole building / site is ≤ 1.1

Refurbishment

One credit awarded where the Average Heat Loss Parameter (HLP) across the whole building/ site is ≤ 2.2

One credit awarded where the Average Heat Loss Parameter (HLP) across the whole building / site is ≤ 1.75

Credit validation

Credit withheld: due to the absence of any SAP calculations, we assume that the average Heat Loss Parameter will not be below 1.3.

Credit references

N/A

Further information/action

No further action required

E3	Submetering of Substantial Energy Uses	0 of 1 credits achieved
-----------	---	--------------------------------

Credit criteria

One credit awarded where evidence is provided to demonstrate the provision of direct submetering of substantive energy uses within the building.

Credit validation

Credit withheld: Not all substantial energy uses will be sub-metered.

Credit references

N/A

Further information/action

No further action required

E4	Internal Luminaires	1 of 1 credit achieved
-----------	----------------------------	-------------------------------

Credit criteria

One credit available where evidence is provided to demonstrate that 75% of internal light fittings are dedicated energy efficient fittings capable of only accepting lamps achieving an efficacy of 40 luminaire-lumens/Watt or greater.

Credit validation

Credit awarded: Clause B.1.4 of the Employer's Requirements & Tender Summary for Electrical Services states that energy efficient designs are expected as a standard, to be achieved by a dual approach in selecting efficient components and implementing efficient control measures. The luminaire schedule shows that light fittings specified to the flats only accept lamps achieving an efficacy of 40 luminaire-lumens/Watt or greater therefore the criteria for this credit is met.

Credit references

See Credit validation for any Credit References

Further information/action

No further action required