



BREEAM for Offices 2006

Pre-Assessment Advice for

City Park Gate, Plot 1

28th July 2008

Status: Pre-Assessment Report Rev A

Project reference: 0103165

Report produced by: Richard Monksmith

Hoare Lea Consulting Engineers

Auchinleck House

Five Ways

Birmingham

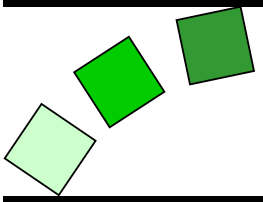
B15 1DP

Tel: 0121 643 6331

Fax: 0121 643 2419

e-mail: richardmonksmith@hoarelea.com

web: www.hoarelea.com



ISSUE STATUS

Rev.	Description	Prepared By	Date
-	Initial Pre-Assessment Report	RCM	12.06.08
A	Updated Pre-Assessment based on discussions with the team	TBB	28.07.08

Disclaimer

Hoare Lea shall not be liable whether in contract or in tort or otherwise for any loss or damage sustained as a result of using or relying on the information given in this report and on the final certificate.

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.

Alterations

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

EXECUTIVE SUMMARY

Hoare Lea have undertaken a preliminary BREEAM 2006 Design and Procurement Assessment on City Park Gate, Plot 1.

BREEAM (Building Research Establishment Environmental Assessment Method) 2006 for Offices is the latest version of the BREEAM scheme first launched in 1990. The BREEAM assessment provides authoritative guidance on ways of minimising the adverse effects of buildings on the global and local environments whilst promoting healthy and comfortable indoor environments. In the UK BREEAM has been widely accepted as representing best practice, with significant market penetration.

The basis of the scheme is to provide a certificate for an individual building based upon a set of complex performance criteria. There are three types of assessment available:

- Design and Procurement Assessment - Design Stage
- Management and Operation Assessment - Occupied Existing Buildings
- Core Assessment - Vacant Existing Buildings

An independent assessor will assess the overall environmental performance of the building. For the Design and Procurement and Management and Operation Assessments the building is awarded a BREEAM rating using the terms Pass, Good, Very Good and Excellent.

This report is a Design & Procurement Assessment and covers a range of aspects relating to the design and management of a building during the design stage of the construction process. The main categories that are assessed are as follows:

Management
Health and Wellbeing
Energy and Transport
Water
Materials
Land Use and Ecology
Pollution

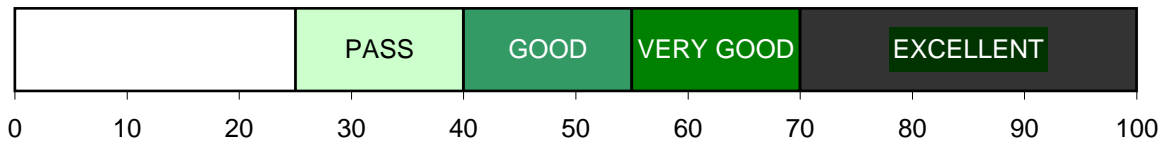
Following a preliminary Design and Procurement assessment it is believed that City Park Gate, Plot 1 is likely to achieve a BREEAM rating of EXCELLENT.

DESCRIPTION OF RATINGS

The BREEAM rating is based on the number of environmental credits achieved under each category multiplied by a weighting factor. The BREEAM rating is given as Pass, Good, Very Good or Excellent.

The BREEAM rating awarded is dependant on the score achieved.

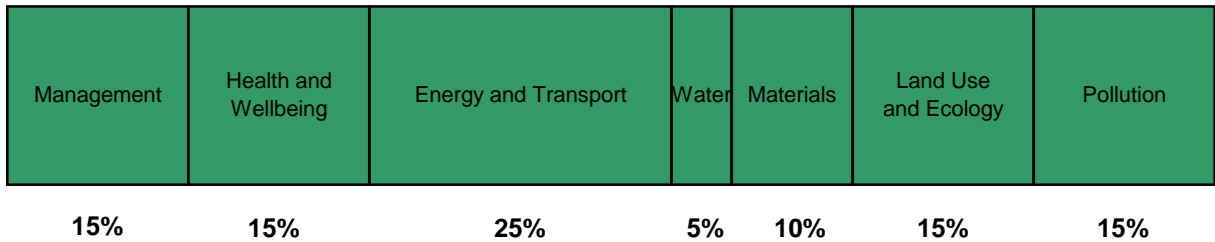
BREEAM Ratings:



BREEAM WEIGHTING

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 with various groups such as government, material suppliers and lobbyists. This research was carried out by the BRE to establish the relevant importance of each environmental credit.

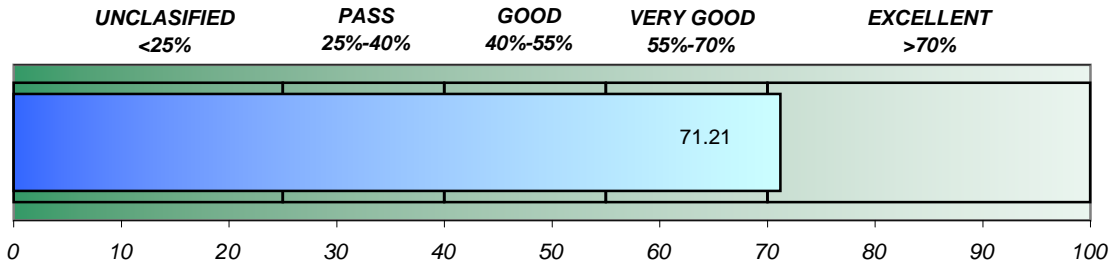
BREEAM Weightings:



PREDICTED PERFORMANCE OF BUILDING

Predicted BREEAM Rating for City Park Gate, Plot 1, based upon preliminary meeting and assumptions.

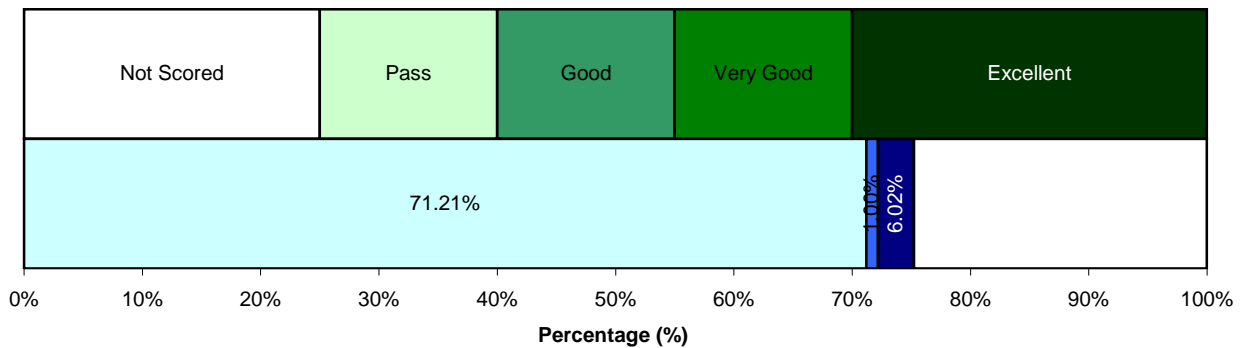
Approximate Predicted Score **71.21**



Therefore the BREEAM rating could be **EXCELLENT**

Potential BREEAM Rating for City Park Gate, Plot 1, based upon preliminary meeting and assumptions.

- A - Awaiting Evidence**
- B - Low Effort Credits**
- C - High Effort Credits**



If all of the additional credits were achieved then a score of 75.23, EXCELLENT could be attained.

CREDIT SUMMARY

Category	Assessment Criteria	Credit Reference	Credits Available	Credits Assumed		Potential Additional Credits	
				A	B	C	
Management	Commissioning	M1	2	2	-	-	
	Considerate Constructors	M4	2	2	-	-	
	Construction Site Impacts	M5	4	4	-	-	
	Building Users Guide	M12	1	1	-	-	
Health and Wellbeing	Daylighting	HW1	1	0	-	-	
	View Out	HW2	1	0	-	-	
	Glare Control	HW3	1	1	-	-	
	High Frequency Lighting	HW4	1	1	-	-	
	Internal & External Lighting Levels	HW5	1	1	-	-	
	Lighting Zones	HW6	1	1	-	-	
	Potential for Natural Ventilation	HW8	1	0	-	-	
	Internal Air Pollution	HW9	1	1	-	-	
	Ventilation Rates	HW11	1	1	-	-	
	Thermal Comfort	HW14	1	1	-	-	
	Thermal Zoning	HW15	1	1	-	-	
	Microbial Contamination	HW16	1	1	-	-	
	Acoustic Performance	HW17	1	1	-	-	
Energy	Reduction of CO ₂ Emissions	E1	15	5	-	1	
	Sub-metering of Substantial Energy Uses	E2	1	1	-	-	
	Sub-metering of Areas/Tenancy	E3	1	0	-	1	
	External Lighting	E4	1	1	-	-	
Transport	Provision of Public Transport	T1	2	2	-	-	
	Transport CO ₂	T2	10	10	-	-	
	Cyclist Facilities	T5	2	2	-	-	
	Travel Plan	T8	1	1	-	-	
Water	Water Consumption	W1	3	2	-	-	
	Water Meter	W2	1	1	-	-	
	Mains Leak Detection	W3	1	1	-	-	
	Sanitary Supply Shut Off	W4	1	1	-	-	

Category	Assessment Criteria	Credit Reference	Credits Available	Credits Assumed		Additional Credits	
				A	B	C	
Materials	Materials Specification	MW1	4	0	-	-	
	Floor Finishes	MW3	1	1	-	-	
	Reuse of Building Façade	MW5	1	0	-	-	
	Reuse of Building Structure	MW6	1	0	-	-	
	Recycled Aggregates	MW7	1	1	-	-	
	Responsible Sourcing of Materials	MW8	3	1	-	-	
	Storage of Recyclable Waste	MW12	1	1	-	-	
Land Use & Ecology	Reuse of Land	LE1	1	1	-	-	
	Contaminated Land	LE2	1	0	-	1	
	Ecological Value of Land & Protection of Ecological Features	LE3	1	0	-	-	
	Mitigating Ecological Impacts	LE4	2	2	-	-	
	Enhancing Site Ecology	LE5	3	2	-	-	
	Long Term Impact on Biodiversity	LE6	2	2	-	-	
Pollution	Refrigerant GWP	P1	1	0	-	-	
	Preventing Refrigerant Leaks	P2	2	1	1	-	
	Insulant GWP	P4	1	1	-	-	
	NO _x Emissions of Heating Source	P6	3	3	-	-	
	Flood Risk/Water Run-Off	P7	3	2	-	-	
	Minimising Water Course Pollution	P8	1	1	-	-	
	Renewable/Low Emission Energy	P11	3	1	-	-	
	Reduction of Night Time Light	P12	1	1	-	-	

Credit Reference	Assessment Criteria	Assumptions	Credits Assumed	Additional Credits
MANAGEMENT				
M1	Commissioning	A letter of appointment is required confirming the responsibilities of HL as the witnessing agent for all standard systems, detailing all relevant building services, and a specification clause confirming that commissioning is to be carried out in accordance with best practice and current building regulations. Evidence should also include a requirement for seasonal commissioning to be carried out during the first year of occupation.	2	-
M4	Considerate Constructors	Written confirmation is required that the contractor will comply with the Considerate Constructors Scheme and be obliged to score 32 or more. This requirement must be included in the Contract prelims.	2	-
M5	Construction Site Impacts	<p>It is assumed that 4 credits will be obtained by the Contractor achieving the following:</p> <ul style="list-style-type: none"> -adopt Best Practice Policies in respect of air and water pollution; -monitor, report and set targets for water consumption arising from site activities, and; -monitor, report and set targets for CO2 arising from site activities. -monitor, sort and recycle construction waste on site ; -ensure that the timber for temporary uses is procured from sustainably managed sources; <p>Written confirmation is required identifying how the above requirements will be met by the Contractor.</p>	4	-
M12	Building Users Guide	A Building Users Guide shall be provided in accordance with BREEAM requirements. A copy of the Building Users Guide contents list or written confirmation confirming that one will be developed in accordance with BREEAM requirements is required.	1	-

ASSUMPTIONS

Credit Reference	Assessment Criteria	Assumptions	Credits Assumed	Additional Credits
HEALTH AND WELLBEING				
HW1	Daylighting	In order to achieve this credit, an average daylight factor of 2% is required in 80% of the office space and either a uniformity ratio of 0.4 or a view of the sky from desk height and the room depth criterion is satisfied. It is not anticipated that this credit will be achieved.	0	-
HW2	View Out	A drawing showing the notional layout of workstations is required where the desks are no more than 7m from a window. It is not anticipated that this credit will be achieved.	0	-
HW3	Glare Control	Confirmation is required that future tenants will be required to provide internal blinds to all windows to occupied rooms as part of their fit out.	1	-
HW4	High Frequency Lighting	HL to provide a lighting specification or plan confirming that all fluorescent and compact fluorescent lamps to occupied areas will be specified/installed with high frequency ballasts.	1	-
HW5	Internal & External Lighting Levels	Written confirmation confirming that the maintained illuminance levels for internal and external areas are in accordance with the relevant CIBSE guidelines and details of the lighting installation and that the design is in compliance with LG7 (for areas with computer screens) is to be provided.	1	-
HW6	Lighting Zones	Lighting is to be controlled with good zoning for less than 4 workstations, separate for circulation spaces and day lit areas. Drawings and specifications detailing the control systems specified and their installation and zoning are required to achieve the credit.	1	-
HW8	Potential for Natural Ventilation	There is no provision for natural ventilation and therefore this credit cannot be achieved.	0	-

ASSUMPTIONS

Credit Reference	Assessment Criteria	Assumptions	Credits Assumed	Additional Credits
HW9	Internal Air Pollution	The location of air intakes for air handling plant must be more than 10m from exhausts and 20m from other sources of pollution (flues and roads). This credit will have an impact on the roof top plant layout.	1	-
HW11	Ventilation Rates	A fresh air supply of at least 12 l/s/person is required to achieve this credit.	1	-
HW14	Thermal Comfort	A feasibility study must be completed aimed at optimising thermal comfort and then used to guide design decisions that influence thermal comfort levels. Thermal comfort levels must meet the requirements set out in CIBSE Guide A.	1	-
HW15	Thermal Zoning	This credit will be achieved through the use of independantly controlled FCU's linked to the BMS.	1	-
HW16	Microbial Contamination	All water and HVAC systems to be designed to HSE ACoP L8/TM13 and confirmation is required that no humidification is present.	1	-
HW17	Acoustic Performance	Indoor ambient noise levels in unoccupied offices should fall within the following ranges: -Single Occupancy offices - 35-40dB $L_{Aeq,T}$ -Medium offices <40m ² area - 40-45dB $L_{Aeq,T}$ -Large offices >40m ² area - 45-50dB $L_{Aeq,T}$ Acoustic calculations required to demonstrate compliance.	1	-

ASSUMPTIONS

Credit Reference	Assessment Criteria	Assumptions	Credits Assumed	Additional Credits
ENERGY				
E1	Reduction of CO2 Emissions	A copy of the output report from an IES Part L assessment is required. 5 CREDITS have been provisionally assumed based upon a targeted 8% improvement on Building Regulations requirements and using standard low U-value glazing. An extra credit could be achieved if a 10% improvement was realised. However, the improvement would require solar control glazing to be installed.	5	+1
E2	Sub-metering of Substantial Energy Uses	In order to achieve this credit separate sub-meters are to be provided for the following systems: space heating; cooling plant; fans (major); lighting and small power (for each floor plate/department) and other major energy uses (typically over 10kW).	1	-
E3	Sub-metering of Areas/Tenancy	To achieve this credit, sub-metering is required to lighting and small power and heating and cooling for each separate tenancy area. As heat meters are expensive items this is considered to be a high cost item.	0	+1
E4	External Lighting	To achieve this credit, 80% of external luminaires should have an efficacy of 50 luminaire-lumens/circuit-watt. The external lighting should be controlled through a timeswitch or daylight sensor to allow for daylight control.	1	-

Credit Reference	Assessment Criteria	Assumptions	Credits Assumed	Additional Credits
TRANSPORT				
T1	Provision of Public Transport	A site plan is required showing the location of the development relative to the town centre and local public transport nodes. Timetables showing the frequency of service are also required in order to assess the credit.	2	-
T2	Transport CO2	Confirmation is required of the floor area of each building and the number of car parking spaces to be provided. It is assumed that 10 credits will be achieved by limiting the number of spaces provided to one per 200m ² of office space.	10	-
T5	Cyclist Facilities	In order to achieve these credits confirmation is required of the floor area of the buildings, that 48 cycle spaces will be provided for Building 1 and 30 spaces for Building 2. The bike racks must allow both the wheel and the frame to be locked and be spaced a minimum of 0.8m apart, lit in accordance with BS5489 Part 1 and located within 50m of the building entrances. A second credit will be achieved for providing 5 showers for Building 1 and 3 showers for Building 2. Drying rooms must be provided in each building.	2	-
T8	Travel Plan	A copy of the travel plan is required showing actions to discourage dependance on single passenger car journeys.	1	-

ASSUMPTIONS

Credit Reference	Assessment Criteria	Assumptions	Credits Assumed	Additional Credits
WATER				
W1	Water Consumption	Confirmation is required of the following: that PIR control will be provided to all urinals; 6/4l dual flush WC cistern size, that all taps will be aerated and the shower flow rate is between 9 and 15 litres/minute.	2	-
W2	Water Meter	A water meter with pulsed output to be provided on the mains supply to each building. Written confirmation/specification clause is required to receive credit.	1	-
W3	Mains Leak Detection	A credit is achieved where a leak detection system is specified for each mains water supply to allow detection both within the building and between the site boundary and the building, that is audible when activated, flow rate dependent, able to identify different leakage rates and programmable. Written confirmation that this system is specified for all water supplies to the building, technical details of the detection system and commitment from the design team to pre-set the alarm in accordance with BREEAM requirements.	1	-
W4	Sanitary Supply Shut Off	A credit is achieved where proximity detection shut off systems are provided for all toilet areas within the development. Written confirmation required.	1	-

Credit Reference	Assessment Criteria	Assumptions	Credits Assumed	Additional Credits
MATERIALS				
MW1	Materials Specification	Confirmation is required of the building materials used for the following elements: external walls, roof, upper floor slabs and windows and the relevant façade areas to assess this credit. It is not currently anticipated that any credits will be achieved in this section.	0	-
MW3	Floor Finishes	Written confirmation is required from the client that no floor finishes will be installed or that only a display area of flooring (less than 25% of the floorplate) will be provided.	1	-
MW5	Reuse of Building Façade	The project is completely new build and this credit cannot be obtained.	0	-
MW6	Reuse of Building Structure	The project is completely new build and this credit cannot be obtained.	0	-
MW7	Recycled Aggregates	Confirmation is required that over 25% (by weight) of the high grade aggregate use on site is reused or recycled from sources within 30km of the site.	1	-
MW8	Responsible Sourcing of Materials	Information is required as to the volume or proportion that the following materials (metals, concrete, brick, stone, glass, composites, timber and plastics) form part of the following elements (roof, frame, walls (external), floors (ground/upper), foundations/substructure, doors and windows). Confirmation will be required from the supplier for any materials that are responsibly sourced (EMS for non-timber, FSC/CSA/PEFC/SFI with Chain of Custody for timber).	1	-
MW12	Storage of Recyclable Waste	Confirmation is required that a dedicated and clearly labelled storage space for recycling is provided that is 2m ² for every 1000m ² in size, within 20m from the base of a stairwell serving all floors and in a location with good vehicular access. This requirements is necessary for Building 1 and Building 2.	1	-

ASSUMPTIONS

Credit Reference	Assessment Criteria	Assumptions	Credits Assumed	Additional Credits
LAND USE AND ECOLOGY				
LE1	Reuse of Land	Design drawings required to demonstrate that at least 75% of the footprint of the development falls within the boundary of previously developed land.	1	-
LE2	Contaminated Land	Remedial measures may be necessary to decontaminate the ground but this will not be confirmed until ground works commence.	0	+1
LE3	Ecological Value of Land & Protection of Ecological Features	The land is not currently defined as being of low ecological value due to presence of bushes and a tree on site therefore this credit cannot be awarded.	0	-
LE4	Mitigating Ecological Impacts	Information required on the previous layout of the development before construction and the current layout of the development in order to achieve this credit. 2 credits are assumed as the ecological value of the site will be no worse than it was previously.	2	-
LE5	Enhancing Site Ecology	2 credits can be awarded where: - a suitably qualified ecologist is appointed to advise and report on enhancing and protecting the ecological value of the site and the professional's recommendations for general enhancement and protection for site ecology should be implemented, e.g brown roof. - where the ecologist can show an increase in species of up to 6 species.	2	-

ASSUMPTIONS

Credit Reference	Assessment Criteria	Assumptions	Credits Assumed	Additional Credits
LE6	Long Term Impact on Biodiversity	<p>1 CREDIT is available where a suitably qualified ecologist confirms that all relevant UK/EU legislation relating to protection and enhancing of ecology will be complied with and a management plan is produced for the first 5 years. Four of the following are also required:</p> <ul style="list-style-type: none"> - Contractor to nominate a 'Biodiversity Champion'; - Contractor to train all relevant site work-force on how to protect site ecology; - Contractor to record actions taken to protect biodiversity and monitor their effectiveness; - Client to require that a new ecologically valuable habitat be created; - Client to require that the Contractor programmes all site works to minimise disturbance to wildlife; and/or - Client to require actions to be taken to protect/enhance biodiversity. 	2	-

Credit Reference	Assessment Criteria	Assumptions	Credits Assumed	Additional Credits
POLLUTION				
P1	Refrigerant GWP	This credit cannot be achieved as all conventional refrigerants have a GWP of 5 or more.	0	-
P2	Preventing Refrigerant Leaks	Automatic refrigerant leak detection can be specified as part of the chillers to achieve one credit. An additional credit could be achieved if the chillers are able to have automatic pump down of the refrigerant in the event of a leak.	1	+1
P4	Insulant GWP	This credit can be achieved if insulants used in the building fabric and building services avoid the use of substances that have a Global Warming Potential of 5 or more and an Ozone Depleting Potential of zero in either manufacture or composition.	1	-
P6	NOx Emissions of Heating Source	Manufacturers information required stating that the heating source will have a maximum dry NO _x emissions of less than or equal to 40 mg/kWh at 0% excess O ₂ . These credits may be difficult to achieve if the heating is from the district CHP as the large CHP engines normally have higher NOx emissions.	3	-
P7	Flood Risk/Water Run-Off	Confirmation is required from the local authority/EA or SEPA/flood maps etc. that the annual probability of flooding is low.	2	-
P8	Minimising Water Course Pollution	On site treatment such as oil separators/ interceptors or filtration are specified for areas at risk from pollution, i.e. vehicle manoeuvring areas, car parks, waste disposal facilities, delivery facilities or plant areas.	1	-
P11	Renewable/Low Emission Energy	1 credit is awarded where a feasibility study considering renewable and low emission energy has been carried out and the results implemented.	1	-
P12	Reduction of Night Time Light Pollution	1 CREDIT is available where the external lighting scheme is in compliance with the ILE Guidance Notes for the reduction of obtrusive light (2005) and where all external lighting is either switched off or reduced to a lower security level between 2300 and 0700.	1	-

CONCLUSION

Further to the pre-assessment meeting, where BREEAM credits were reviewed, and discussions with the team we have assessed the predicted BREEAM rating of the current scheme. The current rating likely to be achieved is **EXCELLENT** (71.21%).