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TECHNOLOGY

BREEAM: Retail 2008

Pre Assessment Report & Action List

Land at Market Street
Hoyland
South Yorkshire

For

Litton Properties Ltd

March 2011

1.0 Summary

This report has been prepared on a provisional BREEAM Retail 2008 assessment of the proposed retail foodstore development at Market Street, Hoyland, South Yorkshire. This report is a summary of the outcome of a pre assessment meeting held with members of the design team on the 27th of January 2011 and a follow up conference call held on the 11th of March 2011. It is important to note that the information contained within this report is primarily based upon information verbally supplied to the Assessor by the design team during this meeting and call, and that this report should be used for guidance purposes only.

It should be noted that this is not a formal BREEAM assessment and will not be submitted to BRE for certification purposes.

The proposed retail foodstore at Market Street, Hoyland is required to achieve a BREEAM rating of 'Very Good' under CS29 of Barnsley Metropolitan Councils Core Strategy. On the basis of this pre assessment it is anticipated that the overall rating for the proposed development will be a 'Very Good' BREEAM rating. The percentage score achieved in the pre assessment BREEAM Retail analysis is 57.41%.

Assessed Building's BREEAM Performance by Section

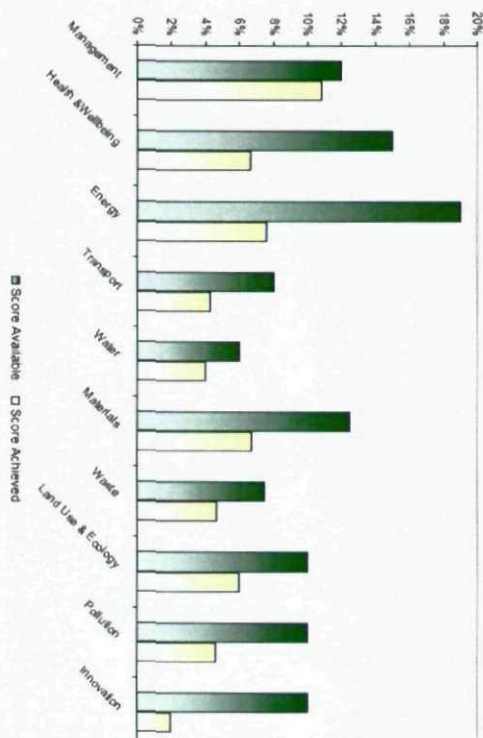


Figure 1.1 Excerpt from BREEAM assessment sheet detailing achievable credits (green) and awarded credits (yellow)

Reference: Land at Market Street, Hoyland, South Yorkshire - BREEAM Pre Assessment			
Issue:	Status	Prepared by	Checked by
V1	22.03.2011	For Planning	
V2			
V3			
V4			
File			
Ref:	03-10-18517 - BREEAM PA Planning Issue		
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Land at Market Street
Hoyland, South Yorkshire

BREEAM Pre Assessment Report
March 2011

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1. Introduction

1.1 Background

Stroma Technology has been commissioned by Litton Properties Limited to undertake an environmental assessment of the proposed retail foodstore at Market Street, Hoyland in accordance with the Building Research Establishment (BRE) methodology BREEAM (Building Research Establishment Environmental Assessment Method) for Retail Buildings 2008. This report forms the pre assessment stage of the assessment, and is intended as a 'first run' to make an initial assessment and to formulate a strategy to achieve the BREEAM Very Good rating.

BREEAM Retail is a comprehensive tool for analysing and improving the environmental performance of retail buildings from design through to management. This method analyses the environmental performance against criteria set by BRE, awarding 'credits' based on the buildings individual performance.

2.0 Local Planning Criteria

The development is located in Hoyland, in the District of Barnsley Metropolitan Council. Barnsley Council's draft Core Strategy is currently undergoing examination by the Secretary of State, and is therefore not yet part of the Development Plan. Once adopted however, the Core Strategy will replace elements of the UDP moving forward and it is therefore appropriate to give weight to it in certain circumstances. This BREEAM pre-assessment focuses on Draft Core Strategy Policy CS29, which states:

'Sustainability is a key facet of good design. The Council will only support planning applications which are compliant with a BREEAM building assessment rating of at least 'very good'. We will require sustainable building design which makes a valuable contribution to the natural environment by;

- *reducing the need for new building materials*
- *reducing demolition and construction waste production*
- *reducing the use of energy and water*
- *minimising air pollution'*

This report demonstrates how the development at Market Street Hoyland has committed to meeting this policy requirement within CS29.

3.0 BREEAM: Retail Assessment

3.1 BREEAM: Retail Approach and Methodology

BREEAM Retail is part of the BREEAM family of environmental assessment methods (BRE's Environmental Assessment Method) and 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.

BREEAM Retail uses a standard set of criteria applicable across the following types of retail buildings:

- General display and sale goods
- Food retail
- Food preparation and service (e.g. restaurants, cafes, pubs and takeaways)
- Service provider e.g. banks, post offices and bookmakers

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

Management	Overall policy and procedural issues
Health and Wellbeing	Indoor and external issues affecting occupants
Energy	Operational energy and CO ₂ issues
Transport	Transport related CO ₂ and location issues
Water	Consumption and leakage related issues
Materials and Waste	Environmental implications of material selection
Land-use and Ecology	Greenfield/brownfield and ecological value of site issues
Pollution	Air and water pollution (excluding CO ₂)

Within each category there are a number of credit requirements that reflect the options available to designers and managers of buildings. Credits are awarded where evidence has been provided to confirm that

the specific requirements have been met. The number of credits within each of the above categories does not reflect the relative importance of these issues; this is given by the weighting factors applied by the methodology.

The overall classification of the building's performance is given as a rating: 'Unclassified', 'Pass', 'Good', 'Very Good', 'Excellent' and 'Outstanding'.

3.2 BREEAM Retail Scoring

The BREEAM Retail assessment splits the building into function categories including:

- Retail sales and display areas
- Counter and customer service areas
- Customer dining and seating areas
- Petrol station
- Goods storage/warehousing
- Workshops
- Cold storage
- Food preparation
- Office areas
- Reception and waiting areas
- WC and changing facilities
- Plant rooms

Credits are applicable to different function categories within the building. To reflect this, credit scores are area weighted according to the floor area within the building that the credits have been achieved. 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.

Within each issue category, credits are awarded where evidence has been provided to confirm the specific requirements have been met. A score for each category is calculated based on the percentage of credits awarded within that category. An environmental weighting is applied to each category score to reflect the relative environmental importance of the category. These 'weighted' scores are then combined to give an overall single percentage score. The weightings can be seen in table 1 on page 8 of this report. The final BREEAM rating is awarded based on this overall score as follows:

Unclassified	<30%
Pass	≥30%
Good	≥45%
Very Good	≥55%
Excellent	≥70%
Outstanding	≥85%

The diagram and text below describes how BREEAM scores and rates an assessed building:

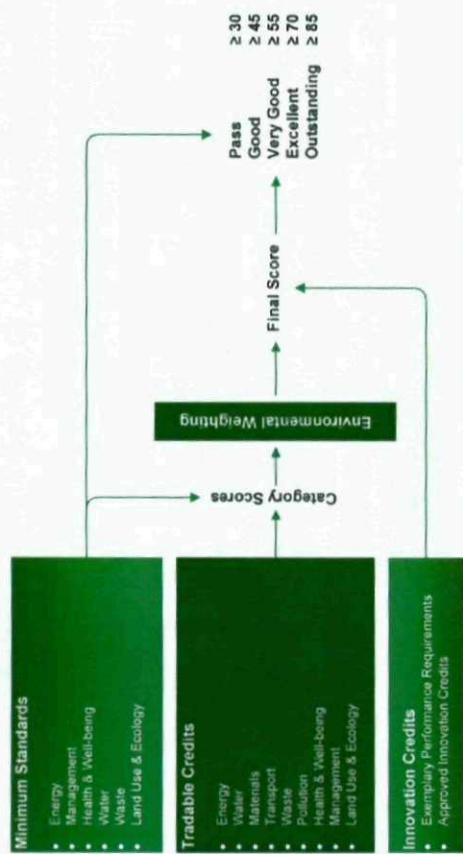


Figure 1.2: Process of calculation of overall rating under BREEAM.

4.0 Building Specifications

4.1 Location

The site is located in Hoyland at the north end of Market Street at its junction with Wombwell Road. The proposed development occupies a site which contains a former school which has been demolished

4.2 Building Details

The proposed development consists of a retail foodstore (Use Class A1) with associated access, servicing, car parking and landscaping.

The store is a shell and core building which will be constructed by the applicants design team. Tesco will appoint a separate design team responsible for the store fit-out. The fit out design team will be required to supply evidence such as drawings, specification notes and letters of intent to support the BREEAM Very Good assessment. In this respect, this report will be made available to the fit out design team to ensure they are aware of the evidence requirements and any impact on their design proposals.

In terms of satisfying the BREEAM evidence requirements on a shell and core building, there are four options available. These are detailed below.

4.3.1 Shell & Core Assessment Requirements

Option 1

Use of a tenancy lease agreement between the developer and tenants

BREEAM rewards the use of formal legally binding Green Lease Agreements between a developer/owner and their tenants. Green Lease Agreements can be used as evidence demonstrating compliance with the relevant BREEAM issues at the interim and post construction stages of the assessment. Where a legally binding tenancy agreement that commits the tenants fit out to meet the BREEAM criteria is provided as evidence the full value of the available BREEAM credits covered by the criteria can be awarded

Option 2

A Green Building Guide for tenant fit outs

Part compliance with BREEAM credits can be demonstrated where a building specific Green Building Guide is distributed to all future tenants of the assessed building. This is not a legally binding document and therefore does not provide conclusive evidence that the tenant will implement suggestions. This is reflected in the fact that only half the value of the available credits can be achieved.

Option 3

Developer/Tenant Collaboration

Where the future tenant is known a collaborative assessment may be carried out. The performance of the building and compliance with the BREEAM criteria can be assessed using the design and procurement evidence for the shell and core elements and evidence provided by the future tenants fit out design and specification. The full value of the available credits can be achieved when using this method.

Option 4No evidence provided for tenants fit out specification

Where a shell and core developer cannot confirm compliance with a particular issue or chooses not to produce a Green Lease Agreement or a *Green Building Guide to cover the content of a particular issue* (or where one or more of the above documents are produced but a particular BREEAM issue is excluded from the content), the BREEAM credits available for the particular issue must be withheld.

The design team have initially agreed to use Option 3 and obtain Tesco specification to assess against the BREEAM criteria. Should issues not be covered in the specification, the next preferred option will be Option 1 and draw up a Green Lease Agreement between the developer and Tesco.

5.0 BREEAM Assessment

Contained within the following pages is a breakdown of the specific credit criteria and the actions required to achieve the respective credit(s). The breakdown should be referenced as quick guidance and is not an exhaustive summary; should further guidance be required, the credit criteria should be consulted. The minimum BREEAM standards table included with appropriate credits should be noted as some credits are mandatory to achieve certain BREEAM standards.

Any gaps in the numbering of credit categories are the result of that particular credit not been assessed under the BREEAM Retail scheme.

The assessment is split into the following categories:

- Management (**Man**)
- Health and Wellbeing (**Hea**)
- Energy (**Ene**)
- Transport (**Tra**)
- Water (**Wat**)
- Materials (**Mat**)
- Waste (**Wst**)
- Land use and Ecology (**LE**)
- Pollution (**Pol**)

6.0 Assessment Summary

A summary of the number of credits achieved in each category is provided below, based on the BREEAM Pre Assessment undertaken on the proposed development at Market Street, Hoyland. The score details the percentage achieved for each section. In order to calculate the overall BREEAM score, weighting factors are applied to each section as detailed in table.

Table 1 Overall percentage of credits awarded for each category for the building

Stage of Assessment		BREEAM Score		BREEAM Rating	
Interim - Design Stage		57.41%		VERY GOOD	

Minimum BREEAM Standards					
Rating / Level	Pass	Good	Very Good	Excellent	Outstanding
Minimum Standards Achieved	YES	YES	YES	NO	NO

Building Performance by Section					
Environmental weighting	Credits available	Credits achieved	% Achieved	Weighted Score	
Management	12.00%	10.00	9.00	90.00%	10.80%
Health & Wellbeing	15.00%	9.00	4.00	44.44%	6.67%
Energy	19.00%	25.00	10.00	40.00%	7.60%
Transport	8.00%	13.00	7.00	53.85%	4.31%
Water	6.00%	9.00	6.00	66.67%	4.00%
Materials	12.50%	13.00	7.00	53.85%	6.73%
Waste	7.50%	8.00	5.00	62.50%	4.69%
Land Use & Ecology	10.00%	10.00	6.00	60.00%	6.00%
Pollution	10.00%	13.00	6.00	46.15%	4.62%
Innovation	10.00%	10.00	2.00	20.00%	2.00%
Total BREEAM Score				57.41%	

The building is required to achieve a 'VERY GOOD' BREEAM rating which is a minimum of 55% of the available credits. The current overall score is **57.41%** which equates to a 'VERY GOOD' rating.

Unclassified	<30%
Pass	≥30%
Good	≥45%
Very Good	≥55%
Excellent	≥70%
Outstanding	≥85%

The final BREEAM Retail rating that is achievable for the current design is 'VERY GOOD'. This has not been independently verified by BRE and is purely an estimation of the likely score based on verbal comment and information provided by the design team. Documentary evidence to support commitments made by the design team have not been viewed at this stage.

7.0 Action List

The action list below sets out the information required by the assessor for each credit that will be sought.

EVIDENCE

Evidence can be provided in a number of formats, the preferred format is for the design team to collate a single evidence file with divisions between evidence for each credit. Where the same piece of evidence is provided for different credits, it is not necessary to provide two copies of the same piece of information (the design team should reference the initial evidence). Evidence submitted to the assessor should specifically mark the credit associated with that evidence. For example where a services specification is provided, the design team should either reference the clause(s) associated with a credit evidence request, or only provide the specific section of the specification.

IMPORTANT: The information in the evidence required column is a summary of evidence requirements taken from the BREEAM Retail 2008 Technical Guide. This guide should be sought for the full evidence required by the Assessor.

Appendix A of the action list contains various checklists and documentary assistance to assist design team members in preparing evidence for the BREEAM Assessment.

Action List

Key to Design Team members:

- CON – Main Contractor (not yet appointed)
MM – Mascot Management
HP – The Harris Partnership
EDCM – EDCM
BSP – BSP Consulting
SBA – Savell Bird & Axon
TES – Tesco Fit Out Team
ST – Stroma Technology
ECO – Ecologist (Stroma Technology)
ADT – Acoustic Design Technology

Issue Status

DATE	ISSUE	Description	Current Score	Required Score	Potential uplifted Score
22/03/11	V1	Amendments made following conference call	0%	57.41%	

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Gen1	HP	0	0	0		The design team should confirm the gross and net internal floor areas of the building	
MANAGEMENT CREDITS							
Man1	EDCM TES	2 Mandatory	2	0	Commissioning 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 further credit available where the above credit has been achieved and evidence provided demonstrates that seasonal commissioning will be carried out during the first year of occupation, post construction (or post fit out).	First Credit A letter of appointment specifically detailing the requirement that a member of the design team is responsible for commissioning and the scope of their role. A specification clause stating that commissioning will be carried out in accordance with current Building Regulations and CIBSE and BSRIA guidelines. A copy of the specification clause confirming the stages of the BMS Controls commissioning procedures. Second Credit A letter confirming that seasoning commissioning will be carried out and a specialist commissioning manager is appointed to carryout seasonal commissioning at 3, 6, 9 and 12 month intervals.	
Man2	CON	2	2 +1	0	Considerate Constructors One credit where evidence provided demonstrates that there is a commitment to comply with best practice site management principles. Two credits where evidence provided demonstrates that there is a commitment to go beyond best practice site management principles.	A copy of the relevant specification clause confirming: - The requirement to comply with the CCS - A minimum score over 36 in the CCS scheme - Confirmation of the score sought in each section of the CCS	1 innovation credit also sought for a score over 36 in CCS

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Man3	CON	4	3	0	Construction Site Impacts One credit is available where evidence provided demonstrates that 2 or more of items a-g, listed below are achieved. Two credits are available where evidence provided demonstrates that 4 or more of items a-g, listed below are achieved. Three credits are available where evidence provided demonstrates that 6 or more of items a-g, listed below are achieved. • Monitor, report and set targets for CO2 or energy arising from site activities • Monitor, report and set targets for CO2 or energy arising from transport to and from site • Monitor, report and set targets for water consumption arising from site activities • Implement best practice policies in respect of air (dust) pollution arising from the site • Implement best practice policies in respect of water (ground and surface) pollution occurring on the site • Main contractor has an environmental materials policy, used for sourcing of construction materials to be utilized on site • Main contractor operates an Environmental Management System • One further credit where evidence provided demonstrates that at least 80% of site timber is responsibly sourced and 100% legally sourced.	Confirmation is required that 6 or more items from the list opposite will be achieved. This is demonstrated by completing Checklist A3 and confirming obligations in respect to each item on the checklist. Confirmation that at least 80% of site timber will be sourced from suppliers capable of providing FSC or equivalent certification All timber will come from a legal source and is not on the CITES	

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Man4	CON, EDCM, TES	1	1	0	Building User Guide One credit 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 design team should provide a letter confirming the intention to complete a building user guide and confirmation of the contents. (a sample list of the contents required is given in the appendix) Alternatively the guide itself can be provided	
Man8	NONE	1	0	0	Security One credit where evidence provided demonstrates that an Architectural Liaison Officer (ALO) or Crime Prevention Design Advisor (CPDA) from the local police force has been consulted at the design stage and their recommendations incorporated into the design of the building and its parking facilities (if relevant).	None The design team confirmed that this credit will not be sought.	
HEALTH & WELLBEING							
Hea1	HP	1	1 +1	0	Daylighting One credit is available where evidence provided demonstrates that at least 35% of the sales and common spaces have point daylight factors of at least 2%. In addition the provision of daylight has been designed in accordance with CIBSE Guide 10 Daylighting and Window Design	Design plans for each floor in the building with each room/area appropriately labeled for use. Daylight calculations confirming: • Building areas assessed • The daylight variables/criterion measured • Average daylight factor for each area • Daylight provision is in accordance with CIBSE guide 10, NS8206 and the BRE site layout guide • The percentage of areas where point daylight factors are at least 2%	1 innovation credit also targeted if 50% of the floor area of sales and common spaces have point daylight factors of at least 2%

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Hea4	TES	1 Mandatory	1	0	High Frequency Lighting One credit where evidence provided demonstrates that high frequency ballasts are installed on all fluorescent and compact fluorescent lamps.	A letter or specification clause confirming that all fluorescent lighting will be fitted with high frequency ballasts.	
Hea5	NONE	1	0	0	Internal and External Lighting Levels One credit 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.	None The design team confirmed that this credit will not be sought	
Hea8	NONE	1	0	0	Indoor Air Quality One credit where air intakes serving occupied areas avoid major sources of external pollution and recirculation of exhaust air.	Marked up site plan showing: • Locations of intakes, extracts, operable windows, ventilators • Any existing sources of pollution are 20m from sources of pollution • Exhausts and intakes are over 10m apart • Calculations showing the fresh air rate for each space in the building • Relevant standard to which the design is in accordance with	Credit appears to be unachievable
Hea9	NONE	1	0	0	Volatile Organic Compounds One credit where evidence provided demonstrates that the emissions of VOCs and other substances from key internal finishes and fittings comply with best practice levels.	A copy of the specification clause confirming the VOC content of the relevant specified product types will comply with the standards set in appendix A of this report – Hea9.	Credit not sought at this stage

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Hea10	EDCM TES	1	1	0	Thermal Comfort One credit where evidence provided demonstrates that thermal comfort levels in occupied spaces of the building are assessed at the design stage to evaluate appropriate servicing options, ensuring appropriate thermal comfort levels are achieved. The thermal modelling has been carried out using software selected and applied in accordance with CIBSE AM11. The modelling must demonstrate that the internal summer temperatures can deliver thermal comfort levels in occupied spaces in accordance with the criteria set out in CIBSE Guide A. In particular that internal winter and summer temperatures ranges will be in line with the recommended comfort criteria in table 1.5.	Copy of the specification clause confirming the criteria for thermal comfort analysis or correspondence from the design team confirming: The name of the thermal comfort modelling software used. A copy of the results from the modelling software demonstrating the internal temperatures in compliance with CIBSE AM11	
Hea12	EDCM TES	1 Mandatory	1	0	Microbial Contamination One credit where evidence provided demonstrates that the risk of waterborne and airborne legionella contamination has been minimised.	Copy of the specification clause confirming all types of water system in the building and on the site along with confirmation that they will be designed in accordance with the measures outlined in the HSE Legionnaires disease – The control of legionella bacteria in water systems.	

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Heat14	HP TES EDCM	2	1	0	Office Space Up to two credits where evidence provided demonstrates that office space that is less than 500m ² achieves best practice in terms of occupant comfort and control	Three of the following measures must be achieved: • Heat Daylighting • Heat2 View Out • Heat3 Glare Control • Heat6 Lighting controls and zones • Heat7 Potential for natural ventilation • Heat11 Thermal zoning • Heat13 Acoustic Performance	
ENERGY							
Ene1	EDCM	15	6	0	Reduction of Carbon Emissions Up to fifteen credits where evidence provided demonstrates an improvement in the energy efficiency of the building's fabric and services and therefore achieves lower building operational related CO2 emissions.	A copy of the EPC output from the SBEM software and confirmation of the accredited energy assessors name and accreditation number. The SBEM will need to cover only the new extension to Central House	

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Ene2	TES EDCM	1 Mandatory	1	0	Sub metering of Substantial Energy Use One credit where evidence provided demonstrates the provision of direct sub-metering of energy uses within the building.	Specification document confirming that separate accessible sub-meters labeled with the end energy consuming use are provided for: • Space Heating • Domestic Hot Water • Humidification • Cooling • Major Fans • Lighting • Small Power (lighting and small power can be on the same sub meter where supplies are taken at each floor) • Other major energy consuming item • Confirmation of type and location of meters and scope of BMS and its energy monitoring capability (if present).	
Ene3	NONE	1	0	0	Sub metering of high energy load and tenancy One credit where evidence provided demonstrates sub-metering of energy consumption by tenancy/building function area is installed within the building.	None The design team confirmed that this credit will not be sought	
Ene4	EDCM	1	1	0	External Lighting One credit where energy-efficient external lighting is specified and all light fittings are controlled for the presence of daylight.	Drawing showing location of all external light fittings. Specification or lighting designers calculations confirming: • Lamp lumens/circuit watt for each type of fitting as well as the colour rendering index RA • Fittings must be controlled through a time switch or daylight sensor	

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Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Ene5	EDCM	3	1	0	Low or Zero Carbon Technologies One credit where evidence provided demonstrates that a feasibility study considering local (on-site and/or near site) low or zero carbon (LZC) technologies has been carried out and the results implemented. Two credits where evidence provided demonstrates that the first credit has been achieved and there is a 10% reduction in the building's CO2 emissions as a result of the installation of a feasible local LZC technology. Three credits where evidence provided demonstrates that the first credit has been achieved and there is a 15% reduction in the building's CO2 emissions as a result of the installation of a feasible local LZC technology. Or alternatively: A maximum of one credit where evidence provided demonstrates that a contract with an energy supplier is in place to provide sufficient electricity used within the assessed building/development to meet the above criteria from a 100% renewable energy source. (Note: a standard Green Tariff will not comply)	<u>First Credit</u> A copy of the feasibility report Letter from the energy specialist confirming that they meet the requirements of "an individual who has acquired substantial expertise or a recognized qualification for undertaking assessments, designs and installations of LZC solutions in the commercial buildings sector; and is not professionally connected to a single LZC technology or manufacturer." Design plans/specifications confirming the installation of the LZC technology Manufacturers technical data and calculations stating the carbon savings from the LZC Second and Third Credits Copy from the report output from the approved modeling software Name of software used Total CO2 emissions for the building before LZC technology installed Calculations confirming the total carbon savings as a result of the installed LZC technology	1 credit assumed for a reduction of under 10% in the carbon emissions through the introduction of an LZC technology as recommended by a feasibility study.
Ene6	None	1	0	0	Building Fabric and Avoidance of Air Infiltration One credit where evidence provided demonstrates that appropriate design and as built performance measures (as identified in the compliance requirements) are taken to minimise heat loss and air infiltration through the building fabric.	None Credit not sought at this stage.	

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Ene7	TES	3	1	0	Cold storage equipment One credit where evidence provided demonstrates that the cold storage refrigeration plant components are on the ECA Energy Technology Product List. One credit where evidence provided demonstrates that the cold food storage plant is designed to minimise energy consumption in operation. One credit where evidence provided demonstrates that opportunities for heat recovery, free cooling or thermal storage are identified and taken advantage of.	First Credit Cold storage equipment should be on the ECA Energy Technology Product List. Second Credit The plant must comply with the following criteria: • Variable speed drives on compressors, pumps and fans • Strip curtains on openings • Low powered/heat lighting eg LED's • Defrost on demand for evaporators • The installed plant is specified in accordance with the guidelines in the Food and Drink Industry Refrigeration Efficiency Guide 2 • Plant is commissioned in accordance with issue Man1	
TRANSPORT							
Tra1	ST	5	2	0	Provision of Public Transport Up to five credits are awarded on a sliding scale based on the assessed buildings' accessibility to the public transport network.	Stroma will gather the required evidence.	
Tra2	ST	1	1	0	Proximity to amenities One credit where evidence provided demonstrates that the building is located within 500m of accessible local amenities appropriate to the building type and its users.	Stroma will gather the required evidence.	
Tra3	HP	2	1	0	Cyclist Facilities One credit where evidence provided demonstrates that covered, secure and well-lit cycle storage facilities are provided for all building users. Two credits where, in addition to the above, adequate changing facilities are provided for staff	Confirmation that compliant cycle storage spaces will be provided for 10% of building staff. The number of spaces is equivalent to 5% of the total number of customer car park spaces (excluding disabled and mother and baby	

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Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
					use.	spaces) This requirement can be halved if 3 credits are gained in Tra 1 and BRE confirm that Harrow is classed as a city centre location. Drawings confirming the type, dimensions, layout and location of the storage Materials and construction specified for the covered facility Lighting is in accordance with BS5489 P1 Further guidance is given in the appendix	
Tra4	HP	2	1	0	Pedestrian & Cyclist Safety One credit where evidence provided demonstrates that the site layout has been designed in accordance with best practice to ensure safe and adequate pedestrian and cycle access.	Site plan showing all features referred to in the BREEM Retail 2008 Technical Guide. See appendix A for additional guidance.	
Tra5	SBA	1	1	0	Travel Plan One credit where evidence is provided to demonstrate that a travel plan has been developed and tailored to the specific needs of the building users.	Copy of the travel plan Copy of the site specific transport survey/assessment Copy of site plan indicating examples of measures implemented in support of the travel plans findings. Refer to the guide contained in appendix A for further assistance with this credit.	
Tra7	NONE	1	0	0	Travel Information Point One credit where evidence provided demonstrates there is a dedicated space within the development for the provision of real-time public transport information.	None The design team confirmed that this credit will not be sought	

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Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Tra8	CON TES	1	1	0	Deliveries and Manoeuvring One credit where evidence provided demonstrates that vehicle access areas have been designed to ensure adequate space for manoeuvring delivery vehicles and provide space away from manoeuvring area for storage of refuse skips and pallets.	Site plan showing manoeuvring area, delivery waiting areas, area for skips/pallets. Parking and delivery areas are designed to avoid repeated shunting of the vehicles likely to access the site. Separate delivery vehicle waiting area. Type of vehicle that will deliver to the site and predicted frequency of deliveries.	
WATER							
Wat1	EDCM TES	3 At least 1 credit mandatory	2	0	Water Consumption Up to three credits where evidence provided demonstrates that the specification includes taps, urinals, WCs and showers that consume less potable water in use than standard specifications for the same type of fittings.	<u>First Credit</u> Copy of the specification clause confirming that all WC's have an effective flush volume of 4.5 litres or less. Dual flushes to have guidance or symbols on the appropriate operation of the devices. <u>Second Credit</u> Confirmation that all toilets have an effective flush volume of 3 litres or less OR All WC's are compliant with the first credit and are fitted with a delayed action inlet valve. <u>Third Credit</u> Of the following, the two that offer the greatest possible reduction in annual water consumption have been specified: All taps except kitchen, cleaners sinks and external taps have a maximum flow rate less than 6 litres/min for a water pressure of 0.3 MPa and are one of or combination CONT.	

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Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
						• of the following types: • Timed automatic shut off e.g. push taps • Electronic sensor taps • Low flow screw-down/lever taps • Spray taps All showers have a measured flow rate that does not exceed 9 litres a minute for a water pressure of 0.3 MPa assuming a delivered water temperature of 37 °C All urinals are either: • Fitted with individual presence detectors that operate the flushing control after each use Ultra low flush or waterless urinals	
Wa12	TES	1 Mandatory	1	0	Water Meter One credit where evidence provided demonstrates that a water meter with a pulsed output will be installed on the mains supply to each building/unit.	Copy of the specification clause confirming a water meter with a pulsed output will be provided and a drawing showing location of the water meter	
Wa13	NONE	1	0	0	Major Leak Detection One credit where evidence provided demonstrates that a leak detection system is specified or installed on the building's water supply.	None The design team confirmed that this credit will not be sought	
Wa14	NONE	1	0	0	Sanitary Supply Shut Off One credit where evidence provided demonstrates that proximity detection shut-off is provided to the water supply to all toilet areas.	None The design team confirmed that this credit will not be sought	

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Wat5	EDCM TES	2	2	0	Water Recycling Up to two credits where evidence provided demonstrates the specification of systems that collect, store and, where necessary treat, rainwater or greywater for WC and urinal flushing purposes. Where a rainwater collection tank is installed to collect at least 50% of either the total predicted rainwater run-off from the roof area or 50% of the rainwater run-off require to meet the total predicted flushing demand for the defined period of collection. OR Waste water from wash hand basins is collected form 80% of fittings and recycled to meet a minimum of 10% of the total WC/urinal flushing demand. OR A combination of waste water and rainwater collection that meets 50% of either the total predicted toilet and urinal flushing demand for the defined period of collection or 50% of the total predicted toilet and urinal flushing demand and irrigation of planting and landscaping.	A copy of the specification confirming: - Type of collection system specified - WC, urinal, taps and shower specification (where appropriate) Design team calculations for the defined period of collection demonstrating (where appropriate): - Rainwater yield for the catchment area (mm) - Predicted W/urinal flushing demand - Estimated potential for waste water collection from taps/showers Size (litres) of the rainwater/greywater collection tank specified.	

STROMA TECHNOLOGY

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Wat6	HP	1	1	0	Irrigation Systems One credit where evidence provided demonstrates that a low-water irrigation strategy/system has been installed, or where planting and landscaping is irrigated via rainwater or reclaimed water.	Confirmation that no dedicated mains supplied irrigation systems (including pop up sprinklers and hoses are specified, and therefore planting will rely solely on manual watering by building occupier or landlord.	
MATERIALS							
Mat1	HP	4	2	0	Materials Specification of Major Building Elements Up to four credits are available, determined by the Green Guide to Specification ratings for the major building/finishing elements.	Detailed description of each applicable element and its constituent materials. Design drawings showing location and area of each applicable element	
Mat2	HP	1	1	0	Hard landscaping and boundary protection One credit where evidence provided demonstrates that at least 80% of the combined area of external hard landscaping and boundary protection specifications achieve an A or A+ rating, as defined by the Green Guide to Specification.	Detailed description of each element and its constituent materials Drawings showing location and area in m2 of each applicable element.	
Mat3	NONE	1	0	0	Re-use of Facade One credit is awarded where evidence provided demonstrates that at least 50% of the total facade (by area) is reused and at least 80% of the reused facade (by mass) comprises in-situ reused material.	None. This credit is unachievable on new build developments.	

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Mat4	NONE	1	0	0	Re-use of Structure 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.. Responsible Sourcing of Materials Major Building Elements Up to 3 credits are available where evidence provided demonstrates that 80% of the assessed materials in the following building elements are responsibly sourced: a. Structural Frame b. Ground floor c. Upper floors (including separating floors) d. Roof e. External walls f. Internal walls g. Foundation/substructure h. Staircase Additionally 100% of any timber must be legally sourced.	None This credit is unachievable on new build developments.	
Mat5	HP	3	2	0		A copy of the output from the Mat 5 calculator tool to be provided by the assessor. AND/EITHER A letter from the design team confirming: • The product shall be sourced from suppliers capable of providing certification to the level required for the particular tier claimed OR If the material has been ordered, supplied or the supplier is known: • Purchase order from the supplier including (as appropriate) Chain of Custody (CoC) number and/or BES6001:2008 Certificate number and/or EMS Certificate number OR • A copy of the CoC and/or BES6001 and/or EMS certificate	

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Mat6	HP, TES, EDCM	2	1	0	Insulation One credit where evidence provided demonstrates that thermal insulation products used in the building have a low embodied impact relative to their thermal properties, determined by the Green Guide to Specification ratings. One credit where evidence provided demonstrates that thermal insulation products used in the building have been responsibly sourced.	Drawings showing location of insulating materials including: • Ground floor • External walls • Roof • Building services Area and thickness or volume of insulation specified Manufacturers technical literature confirming thickness and thermal conductivity of the insulating materials specified Confirmation at least 80% of the insulation is certified in accordance with tiers 1, 2 or 3 of Mat5.	
Mat7	HP	1	1	0	Designing for Robustness One credit where protection is given to vulnerable parts of the building such as areas exposed to high pedestrian traffic, vehicular and trolley movements.	Design drawings marked up illustrating the vulnerable areas of the building Design drawings and/or specification confirming the durability measures specified	
WASTE							
Wst1	CON	4	3	0	Construction Site Waste Management Up to three credits are available where evidence provided demonstrates that the amount of non-hazardous construction waste (m³/100m² or tonnes/100m²) generated on site by the development is the same as or better than good or best practice levels. One credit where evidence provided demonstrates that a significant majority of non-hazardous construction waste generated by the development will be diverted from landfill and reused or recycled.	Evidence required: • Copy of the Site Waste Management plan containing the appropriate benchmarks, commitments and procedures OR • Confirmation that the specification will contain a clause confirming a commitment for the main contractor to generate less than 4.7 tonnes of	

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Wst2	CON	1	1	1	Recycled Aggregates One credit where evidence provided demonstrates the significant use of recycled or secondary aggregates in 'high-grade' building aggregate uses.	waste per 100m2 of GIA Confirmation that 75% of non hazardous waste by weight will be diverted from landfill by reuse on site, reused on other sites, salvaged/reclaimed for reuse, returned to supplier or recovered from site by an approved waste management contractor and recycled.	
Wst3	NONE	1	0	0	Recyclable Waste Storage Up to two credits are available: One credit where storage space is provided for recyclable household waste in each: • Self contained dwelling/bedsit • Communal kitchen or other suitable communal room One additional credit where a central, dedicated space is provided for the storage of the building's recyclable waste streams	Confirmation that at least 25% of the total high grade aggregate used on site is recycled. These recycled aggregates must be either: • Obtained on site • Obtained from a waste processing site with 30km radius of the site • Secondary aggregates Alternatively written confirmation that no new aggregates are to be used on the site. None The design team confirmed that this credit will not be sought.	

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
WS14	TES	1	1	0	Compactor/baler One credit where evidence provided demonstrates that either an industrial waste compactor or baler is installed for compacting/baling waste materials generated on site and a. A water outlet is provided for cleaning b. The development achieves the BREEAM credit for storage of recyclable waste.	Design plan showing provision of waste compactor/baler Location and size of space for waste compactor/baler along with the manufacturers literature confirming the type specified. Water outlet on baler	
WS15	NONE	1	0	0	Composting One credit where evidence provided demonstrates there is a vessel on site for composting food waste, and adequate storage for such waste generated by the building's users and operation. OR Where space or access is limited, there is a dedicated space for compostable food waste to be stored prior to removal and composting at an alternative site.	None Credit not sought at this stage	
LAND USE AND ECOLOGY							
Le1	HP	1	1	0	Re-use of Land One credit where evidence provided demonstrates that the majority of the footprint of the proposed development falls within the boundary of previously developed land.	Existing and proposed site plan drawings showing type of existing and proposed land use.	
Le2	NONE	1	0	0	Contaminated Land 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	A specialist contaminated land study should be produced. Confirmation of the remediation strategy for	

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Le3	NONE	1	0	0	remedial steps have been taken to decontaminate the site prior to construction.	treating the contamination on site. Contamination is defined as any solid, liquid or gaseous material in or on the ground to be covered by the building which is classed as a hazard and therefore presents an unacceptable risk to human health and the environment. This includes Japanese Knotweed and Giant Hogweed. Significant contamination is contamination as above that would prevent the development going ahead without remediation. Remediation is defined as activity undertaken to prevent, minimise, remedy or mitigate the risk cause by contaminated land to human health or the environment. A completed copy of checklist A4 signed and dated by the client, their representative or design team member. Site plan of the existing site highlighting any existing ecological features. Copy of the contract specification requiring the contractor to protect all identified features of ecological value. Confirmation of the scope of protection measures and that these were implemented prior to commencement of site activities.	Ecology Report confirms that this credit is unachievable
Le4	ECO	2 Mandatory	1	0	Ecological Value of Site and Protection of Ecological Features 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. Mitigating Ecological Impact One credit where evidence provided demonstrates that the change in the site's existing ecological value, as a result of development, is minimal. Two credits where evidence provided demonstrates that there is no negative change in the site's existing ecological value as a result of development.	Existing and proposed site plans and photographs confirming: - Landscaping and vegetation plot types - Area m2 of vegetation plot types And a copy of the Ecology Calculator 1 (Stroma can carry this out)	

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Le5	ECO MM	3	2	0	Enhancing Site Ecology One credit where the design team (or client) has appointed a suitably qualified ecologist to advise and report on enhancing and protecting the ecological value of the site; and implemented the professional's recommendations for general enhancement and protection of site ecology. Two credits where, in addition to the above, there is a positive increase in the ecological value of the site of up to (but not including) 6 species. Three credits where, in addition to the above, evidence is provided to demonstrate a positive increase in the ecological value of the site of 6 species or greater. Long Term Impact on Biodiversity	A suitably qualified ecologist should be appointed and provides a report which demonstrates that the ecological value of the site will increase by up to 6 plant species. Confirmation that the recommendations in the ecology report will be implemented.	
Le6	ECO MM CON	2	2	0	One credit where the client has committed to achieving the mandatory requirements listed below and at least two of the additional requirements. Two credits where the client has committed to achieving the mandatory requirements listed below and at least four of the additional requirements.	A suitably qualified ecologist should be appointed and provides landscape and habitat management plan for the site – specifically for the green roof and other soft landscaped areas.	
POLLUTION							
Pot1	NONE	1	0	0	Refrigerant GWP – Building Services One credit 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.	None The design team confirmed that this credit will not be sought	

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Pol2	NONE	2	0	0	Preventing Refrigerant Leaks One credit where evidence provided demonstrates that refrigerant leaks can be detected AND that the provision of automatic 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.	None The design team confirmed that this credit will not be sought	
Pol3	TES	1	1	0	Refrigerant GWP – Cold Storage One credit where evidence provided demonstrates the use of refrigerants within cold storage systems with a global warming potential (GWP) of less than 5.	A marked up design plan highlighting the cold food storage areas/plant in the building A copy of the specification clause confirming either: Types of refrigerant to be used AND Manufacturers information confirming the GWP of each refrigerant	
Pol4	EDCM TES	3	0	0	NOx Emissions from Heating Source One credit where evidence provided demonstrates that the maximum dry NOx emissions from delivered space heating energy are ≤100 mg/kWh (at 0% excess O ₂). Two credits where evidence provided demonstrates that the maximum dry NOx emissions from delivered space heating energy are ≤70 mg/kWh (at 0% excess O ₂). Three credits where evidence provided demonstrates that the maximum dry NOx emissions from delivered space heating energy are ≤40 mg/kWh (at 0% excess O ₂) and emissions from delivered water heating energy are 100 mg/kWh or less (at 0% excess O ₂).	Specification clause confirming the type of heating system to be installed Confirmation confirming the dry NOx emissions rate in mg/kWh at 0% excess oxygen.	

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
Po15	ST BSP	3	2	0	Flood Risk Two credits where evidence provided demonstrates that the assessed development is located in a zone defined as having a low annual probability of flooding. One credit where evidence provided demonstrates that the assessed development is located in a zone defined as having a medium or high 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. One further credit where evidence provided demonstrates that surface water run-off attenuation measures are specified to minimise the risk of localised flooding, resulting from a loss of flood storage on site due to development.	<u>First and Second Credits</u> The client will need to ensure that a Flood Risk Assessment is carried out and that this confirms that the site is located in flood zone 1 and that the risk of flooding from all sources is low. <u>Third Credit</u> - Site plan and a copy of the specification or consultants report confirming: - Type and storage volume of the water run-off attenuation measures - Total area of hard surfaces (m²) - Peak flow rate (l/s) for the design storm event - Additional allowance for climate change designed into the system	
Po16	BSP	1	1	0	Minimising Watercourse Pollution One credit here evidence provided demonstrates that effective on site treatment such as Sustainable Drainage Systems (SUDs) or oil separators have been specified in areas that are or could be a source of watercourse pollution.	Marked up site plan highlighting: - Low and high risk areas of the site A copy of the specification or design plan confirming: - Oil/petrol separators in surface water drainage systems to the car park, access roads and delivery areas.	
Po17	EDCM	1	1	0	Reduction of Night Time Light Pollution One credit 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.	Marked up site plan showing areas of the building and site that will be externally lit and any nearby properties Copy of the specification clause or external lighting design confirming:	

Credit Ref	Action by	Credits Available	Credits Sought	Credits Awarded	Credit Requirements	Evidence Required	Comments
						- The external lighting design is compliant with Table 1 of the ILE Guidance Notes for the Reduction of Obtrusive light 2005 - Controls for all external lighting – automatically switched off between 2300 and 0700 - Safety and security lighting complies with lower levels of lighting recommended in the ILE guide between 2300 and 0700 Illuminated advertisements must be designed in compliance with ILE Technical Report 5 – The Brightness of Illuminated Advertisements.	
Pol8	ADT	1	1	0	Noise Attenuation One credit where evidence provided demonstrates that new sources of noise from the development do not give rise to the likelihood of complaints from existing noise-sensitive premises and amenity or wildlife areas that are within the locality of the site.	A suitably qualified acoustician (UKAS Accredited) will need to be appointed to produce a noise impact assessment. This should be carried out before construction has commenced. A site plan highlighting all existing and proposed noise sensitive buildings local to and within the site boundary. Proposed sources of noise from the new development Distance from these buildings to the development A copy of an acousticians report with recommendations for noise attenuation measures.	