



Hyperion Park Greggs

BREEAM Report for Planning

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BREEAM Review for Planning

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1. INTRODUCTION

BACKGROUND

SCS have been engaged at a very early stage in the design, before planning consent, to provide advice on achieving BREEAM Very Good. The role of Sustainable Construction Services has been as BREEAM assessor and BREEAM Accredited Professional.

This BREEAM Pre-Assessment (Building Research Establishment Environmental Assessment Method) report has been commissioned on behalf of JLL.

DESCRIPTION OF THE PROJECT

The new development is located North of Rose Kiln Lane, Hyperion Trade Park, Reading. The site is previously developed, and this site selection helps the project to perform well. The proposed development comprises of a small freestanding pod unit (which is intended to be occupied by Greggs) and is proposed to be developed to a 'shell only' level of detail prior to a final fit-out.

A plan view of the site showing the 'red line site boundary' is shown below.



Figure 1: Plan view site location.

The pre-assessment tracker contained in this BREEAM review is the result of discussions held on the 10th of August 2022 with the project delivery team including SCS, JLL and The Harris Partnership.

The development is entirely new-build and the following BREEAM methodology is the most appropriate for this type of building.

BREEAM New Construction 2018, Shell Only, Retail.

BREEAM ASSESSMENT SCOPING

The proposed BREEAM assessment covers the proposed new-build Greggs retail shell building at Hyperion Park, Reading.

The BREEAM assessment must be adjusted to suit the construction project to ensure the correct combination of credits will be assessed. Scoping is controlled using the answers to the questions listed below:

- Level of fit-out: **Shell Only**
- Building Type (BREEAM Definition): **Retail**
- Building Services hot water system: **N/A**
- Water heating likely to be 10%+ of building energy demand: **N/A**
- Lifts: **Yes**
- Laboratories: **N/A**
- Fume cupboards: **N/A**
- Potential for Irrigation systems: **No**

BREEAM SCORING

Within each of the BREEAM categories, there are a number of credit requirements that reflect the options available.

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 BREEAM rating bands are as follows:

Table 1: BREEAM List of Rating Levels

BREEAM Rating	% Score
Unclassified	<30%
Pass	>30 + minimum standards
Good	>45 + minimum standards
Very Good	>55 + minimum standards
Excellent	>70 + minimum standards
Outstanding	>85 + minimum standards

IMPORTANCE OF EARLY BREEAM CREDITS

Timing of the engagement with and use of the BREEAM UK New Construction scheme is essential for ensuring seamless integration of the methodology in the new build procurement process. Without this, the ability to optimise cost effectively the building's environmental performance and achieve the desired BREEAM rating will be compromised.

A number of BREEAM credits need to be addressed at early design stages i.e. RIBA Stage 1 and 2, of the project to ensure that the project sustainability performance can be fully optimised. Where certain credits are not reviewed at the correct stages then it may become very difficult or impossible to achieve these credits from a BREEAM certification perspective.

The completion of the early BREEAM actions is critical because without this a certain BREEAM scores can be significantly more difficult. On projects where the BREEAM actions are not addressed in the right RIBA Stage the score could be decreased by around 20%.

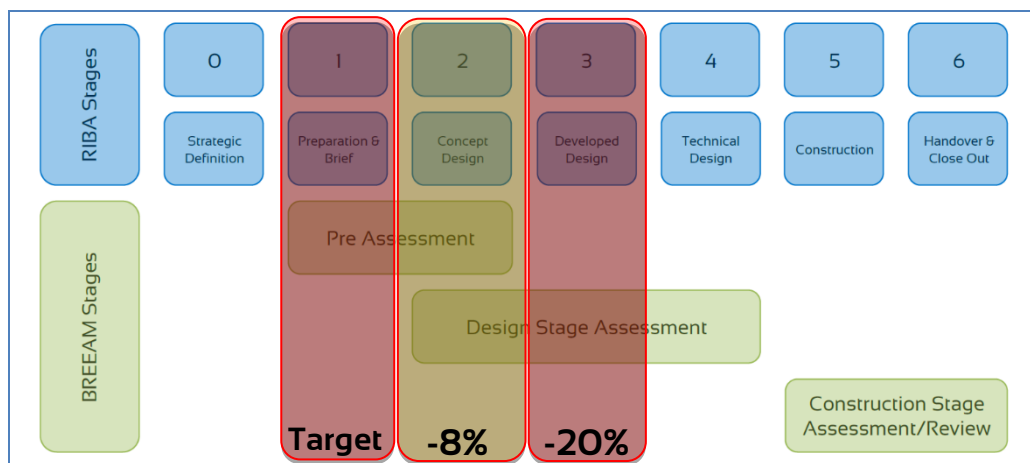


Figure 2: BREEAM Critical Timing Example

CURRENT POSITION OF EARLY BREEAM CREDITS

Below is a summarises the current position of each of the BREEAM credits that have early actions associated with them and their current position.

Table 2: List of Early Actions and Status

Credit	Timescale	Status
1. LE02 to 03 - Ecology credits, early advice	RIBA Stage 1	In progress
2. Mat06 - Materials Efficiency	RIBA Stage 1	Complete
3. Man01 - Project Delivery Planning	RIBA Stage 2	In progress
4. Mat03 - Sustainable Procurement Plan	RIBA Stage 1	Complete
5. Mat01 - Lifecycle Assessment (LCA)	Prior to planning submission	Complete
6. Man01 - BREEAM AP	RIBA Stage 2	Complete
7. Tra01 - Travel Assessment	RIBA Stage 2	In progress
8. Wst05 – Climate Change Adaptation	RIBA Stage 2	Complete
9. Mat06 - Materials Efficiency stage 2	RIBA Stage 2	Complete
10. Wst06 – Adaptability and Disassembly	RIBA Stage 2	Complete

BREEAM SCORE OVERVIEW

A pre-assessment of the likely levels of performance that could be achieved has been undertaken.

Based on this review and design undertaken to date, a BREEAM Very Good rating is seen as achievable.

The site attributes are the first thing to discuss and this site is well suited for achieving a BREEAM Very Good rating in some ways, but also faces some challenges.

The site is in flood zone 1 which means that two Pol03 credits are likely to be achievable; rewarding the selection of a site with low risk of flooding.

The built-up nature of the site means the impact on ecology is negligible. This is very positive because credits are awarded under LEO1 and LEO2 for having low impact on ecology. There are also credits under LEO4 for the percentage change in ecological value of the site which should perform reasonably well.

In addition, the location means there are some local amenities which should result in credits under Tra02.

At this stage, a plan for obtaining a score in excess of 55% as required for Very Good has been identified, although the combination of credits in this plan is very likely to be fine-tuned and amended as the design progresses and this combination of credits should not be seen as a firm commitment to target any particular measure.

The credit tracker is provided subsequently to show a credit by credit break down.

2. COMMENTARY ON PERFORMANCE

BREEAM SECTIONS

This section will highlight further, the key sustainability measures identified in this early BREEAM review.

BREEAM performance is a holistic environmental assessment method; broken down into nine sections each tackling specific sustainability issues. The sections each have weighted importance which is defined by the BRE to ensure the most important issues are rewarded highly enough. The nine sections are as follows:

- Management
- Health and Wellbeing
- Energy
- Transport
- Water
- Materials
- Waste
- Ecology
- Pollution

MANAGEMENT

"This category encourages the adoption of sustainable management practices in connection with design, construction, commissioning, handover and aftercare activities to ensure that robust sustainability objectives are set and followed through into the operation of the building. Issues in this section focus on embedding sustainability actions through the key stages of design, procurement and initial occupation from the initial project brief stage to the appropriate provision of aftercare."

Key measures being implemented include:

- The project team have focused on sustainability from the outset.
- Project delivery is influenced by relevant key stakeholders from an early stage.
- The Principal Contractor will be required to operate best practice procedures on site in terms of monitoring of energy and water usage.
- Best practice performance to be achieved under the Considerate Constructors Scheme.

- The management of commissioning of building services will aim to ensure all systems are operating satisfactorily prior to handover and that the building users know how to operate them efficiently.

HEALTH AND WELLBEING

"This category encourages the increased comfort, health and safety of building occupants, visitors and others within the vicinity. Issues in this section aim to enhance the quality of life in buildings by recognising those that encourage a healthy and safe internal and external environment for occupants."

Key measures being implemented include:

- External lighting levels will ensure safe access and convenience around the building
- Acoustic performance credit may be achievable based on the specification of the shell, but this would be subject to an acoustician's report if needed to secure Very Good. Currently flagged as a potential extra credit.
- Being a shell only assessment, there are few opportunities in the health and wellbeing section to improve on, as things like VOC emissions of paints are not relevant here.

ENERGY

"This category encourages the specification and design of energy efficient building solutions, systems and equipment that support the sustainable use of energy in the building and sustainable management in the building's operation. Issues in this section assess measures to improve the inherent energy efficiency of the building, encourage the reduction of carbon emissions and support efficient management throughout the operational phase of the building's life."

Key measures being implemented include:

- The building shell aims to perform in excess of the Part L energy requirements for the conservation of fuel and power. This will be done through low U values, and workmanship to ensure an airtight envelope.
- External lighting will be energy efficient with energy efficient controls such as daylight sensors and time-switches which prevent unnecessary daylight operation.
- Being a shell only assessment, there are few opportunities in the energy fit-out to improve on, as fit out is not covered in the shell only BREEAM assessment.

WATER

"This category encourages sustainable water use in the operation of the building and its site. Issues in this section focus on identifying means of reducing potable water consumption (internal and external) over the lifetime of the building and minimising losses through leakage."

Key measures being implemented include:

- Being a shell only assessment, the specification of water fittings cannot be influenced, but there are some other measures that can be explored.
- An easy-to-read water metering system will be installed to assist the building users to measure how much water they are using so that effective management procedures can be adopted.
- Any installed planting will rely solely on precipitation and no mains fed irrigation systems will be installed.

TRANSPORT

"This category encourages better access to sustainable means of transport for building users. Issues in this section focus on the accessibility of public transport and other alternative transport solutions (cyclist facilities, provision of amenities local to a building) that support reductions in car journeys and, therefore, congestion and CO₂ emissions over the life of the building."

Key measures that will be reviewed are as follows:

- Cycle spaces are a possible consideration but whether they will be compliant with BREEAM is yet to be confirmed. BREEAM requires covered cycle shelters which can be detrimental for anti social behaviour.
- The site is in a good location for local amenities so car travel to other locations to carry out errands is minimised.
- The development provides a local amenity itself as it sells food and helps local people to travel less for lunch / breakfast etc.

MATERIALS

"This category encourages steps taken to reduce the impact of construction materials through design, construction, maintenance and repair. Issues in this section focus on the procurement of materials that are sourced in a responsible way and have a low embodied impact over their life including extraction, processing and manufacture and recycling."

Key measures being reviewed include:

- The Principal Contractor will be required to operate a sustainable procurement policy for purchasing materials, including materials manufactured under a third party verified Environmental Management System, prioritising recycled materials, and locally sourced materials.
- The building will be designed to be robust to wear and tear, such that the replacement of materials is minimised.
- The impacts of environmental degradation will also be considered when specifying major building elements so that rotting, corrosion, swelling, shrinkage, melting and abrasion risks are mitigated.
- The design team will identify any opportunities to reduce waste at each key stage of the project.
- A materials lifecycle assessment (LCA) has been produced to help the design to minimise lifecycle carbon emissions.

WASTE

"This category encourages the sustainable management (and reuse where feasible) of construction, operational waste and waste through future maintenance and repairs associated with the building structure.

By encouraging good design and construction practices, issues in this section aim to reduce the waste arising from the construction and operation of the building, encouraging its diversion from landfill. It includes recognition of measures to reduce future waste as a result of the need to alter the building in the light of future changes to climate."

Key measures being implemented include:

- Requiring the Principal Contractor to limit the generation of waste through best practice site procedures.
- Requiring the Principal Contractor to divert waste to landfill beyond best practice levels.
- Waste reduction targets will be set for the project.
- Measures to material optimisation and waste reduction, both now and during the future operation of the building have been considered.

ECOLOGY

"This category encourages sustainable land use, habitat protection and creation, and improvement of long-term biodiversity for the building's site and surrounding land. Issues in this section relate to the reuse of Brownfield sites or those of low ecological value, mitigation and enhancement of ecology and long-term biodiversity management."

Key measures being implemented include:

- A suitably qualified ecologist has been appointed to provide design guidance and to take opportunities for enhancing the site ecology where feasible.
- The Principal Contractor will be required to protect the existing species on site and monitor the effectiveness of their management procedures.
- Ecological value is not expected to decrease and there may be opportunities to improve.
- A BREEAM compliant five-year landscape and habitat management plan will be produced to help the site users to effectively manage any ecological features which are installed as part of the development.

POLLUTION

"This category addresses the prevention and control of pollution and surface water run-off associated with the building's location and use. Issues in this section aim to reduce the buildings impact on surrounding communities and environments arising from light-pollution, noise, flooding and emissions to air, land and water."

Key measures being implemented include:

- Heating and hot water systems may contribute to a reduction in local air pollution without the use of emission combustion in the building. However this will be controlled by the fit-out which is outside of the scope of this study.
- Night-time light pollution will be minimised through the external lighting design.

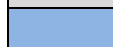
3. BREEAM ASSESSMENT TRACKER

Notes:

55% = Very Good

[M] Minimum standard for Outstanding

 Credit not available/ not targeted

 RIBA Stage 1 or 2 deadline

Shell Only
Target
55.3%
V. Good

Credit Ref	Credit Name	Max	Target
Management Each Credit is worth 0.8%			
Man 01	Project Delivery Planning	1	1
	Stakeholder consultation [interested parties]	1	
	BREEAM AP - Design Stage	2	2
Man 02	Life Cycle Costing	2	
	Element Level Life Cycle Costing	1	
	Capital Cost Reporting	1	1

Notes / Comments
RIBA Stage 2. Setting out roles and responsibilities for project delivery, and demonstration of how the design was influenced is required to award the credit.
RIBA Stage 2. Consultation with relevant stakeholders to a BREEAM compliant level.
RIBA Stage 1 and 2. Appointment of a BREEAM AP to help set and achieve BREEAM targets during design stage.
RIBA Stage 2. Elemental lifecycle costing study in accordance with PD 156865:2008
At RIBA Stage 4. Component level LCC study building on the elemental study.
Reporting the estimated capital cost of the building to the BRE.

Credit Ref	Credit Name	Max	Target	Notes / Comments
Man 03	Environmental Management	1	1	Contractor that have an environmental management system (i.e. ISO14001)
	BREEAM AP - Construction Stage	1	1	Appointing a sustainability champion to coordinate BREEAM for the contractor through construction and handover stages.
	Responsible Construction Management	2	2	At least a score of 33 must be achieved under CCS scheme.
	Energy and Water Monitoring	1	1	Monitoring of energy and water consumption during construction will be required by the main contractor.
	Transportation of Materials & Waste	1	1	Monitoring of material and waste transport impacts during construction will be required by the main contractor.
Man 04	Building Fabric Commissioning	1		A Thermographic survey of the finished building envelope, and resulting remediation of air leakage or thermal bridging would be required.
Health & Well-being Each Credit is worth 0.88%				
Hea 01	Daylighting	2		Potential credit but would require a set of daylight calculations.
	View Out	1		Identify relevant areas.
	Internal & External Lighting	1	1	Best practice internal and external lighting levels and zoning to be provided.
Hea 05	Acoustic Performance Standards	1		An acoustician needs to assess the scope of works against best practice criteria to determine impact on ambient noise levels.
Hea 06	Security of Site and Building	1		A qualified security specialist must review the design and produce a security needs assessment which may necessitate additional security measures and must be followed. RIBA Stage 2
Hea 07	Safe Access	1		Further work on the hard landscaping and signage scheme is required to provide compliant walking and cycle routes and delivery routes. Design would need to be driven by BREEAM requirements. Landscape design must ensure safe cycle and pedestrian routes.
	Outside Space	1		Credit requires an outside space providing building users with an external amenity area.

Credit Ref	Credit Name	Max	Target	Notes / Comments
Energy Each Credit is worth 0.73%				
Ene 01	Reduction of Emissions - BRUKL	9	2	A significant improvement over Building Regulations Part L would be required. This must be achieved via the energy hierarchy i.e. not just additional solar PV. Fabric only on Shell Only jobs.
Ene 03	External Lighting	1	1	Average initial luminous efficacy of not less 70 lm/W and automatic controls.
Ene 04	Passive Design Inc. Free Cooling	2		Passive design shall be undertaken during RIBA Stage 2 to identify and implementation of passive design measures.
	LZC Technology Specification	1		Renewable energy would need to be included in the design and a report produced.
Transport Each Credit is worth 1.21%				
Tra 01	Transport Assessment and Travel Plan	2	2	A travel plan will be required, with enhanced content to meet the new BREEAM 2018 required topics. RIBA Stage 2 .
Tra 02	Sustainable Transport Measures	10	3	
	O1: Accessibility Index (AI)	-		AI has been calculated at around 2.0. Would need another 2 or 3 frequent busses to improve this to 8.0. Not feasible.
	O2: Increased Accessibility Index (AI)	-		More frequent services / dedicated staff bus. Possibility of reducing walking distance to bus stop being investigated.
	O3: Public transport information	-		Usually a tablet in the building reception. Unlikely
	O4: Car charging: 10% of parking spaces	-		
	O5: Car sharing: 5% of parking spaces	-		
	O6: Work with Local Authority	-		
	O7: Cyclist Storage	-		Cycle storage would need to be covered.
	O8: Cyclist Facilities	-		
	O9: Existing Amenities	-	1	
	O10: Enhanced Amenities	-	2	

Credit Ref	Credit Name	Max	Target
Water Each Credit is worth 1%			
Wat 02	Water Monitoring [M]	1	1
Wat 03	Water Leak Detection & Prevention	1	1
Materials Each Credit is worth 1.57%			
Mat 01	Life Cycle Impacts	7	5
Mat 02	Construction Products EPDs	1	
Mat 03	Sustainable Procurement Plan [M]	1	1
	Responsible Sourcing of Materials	3	2
Mat 05	Designing for Durability and Resilience	1	1
Mat 06	Material Efficiency	1	1
Waste Each Credit is worth 0.89%			
Wst 01	Construction Resource Efficiency	3	1
	Diversion of Resources from Landfill	1	1

Notes / Comments
Water meters need to be pulsed output.
An adjustable water leak detection system will be provided based on differential meter flow rates, and solenoid shut-off valves controlled with PIR sensors to each toilet area.
A comprehensive lifecycle analysis of the proposed materials at concept stage, and then again in more detail at detailed before Planning application . Instructed.
EPDs are Environmental Performance Declarations products and not many construction products have them.
A sustainable procurement plan is to be put in place at RIBA Stage 1 .
One credit is typically achievable although it will require close control of the materials supply chain.
The architect must undertake an appraisal of the durability measures required to protect the building, and the resilience of products to environmental factors such as solar radiation and moisture.
The design team must collaborate at each RIBA Stage 1, 2, 3, 4, 5 to collate opportunities to reduce waste at each key stage of the project. There must also be a waste reduction requirement in the project brief.
Credit based on levels of waste generated by the project. Outline estimate currently made based on the performance of similar buildings.
Larger contractors typically will always meet the diversion from landfill requirements.

Credit Ref	Credit Name	Max	Target
Wst 02	Recycled Aggregates	1	
Wst 03	Operational Waste	1	1
Wst 05	Adaptation to Climate Change	1	1
Wst 06	Disassembly and Adaptability	2	2
Land Use & Ecology Each Credit is worth 1.46%			
LE 01	Previously Developed Land	1	1
	Contaminated Land	1	
LE 02	Understanding Risks and Opportunities	2	2
LE 03	Managing Negative Impacts	3	2
LE 04	Change and Enhancement of Ecology	4	2
LE 05	Long Term Impact on Biodiversity	2	2

Notes / Comments
Not targeted.
The waste storage area shall be appropriately sized for the envisaged types and volumes of waste generation.
A building specific adaptation to climate change study would be required, setting out the expected climate change risks and how they will be avoided. RIBA Stage 2
Design team to review opportunities for maximising adaptability of the building's design for future different uses at RIBA Stage 2 . A future guide to building managers about designing for future adaptation must be produced and handed over to the building operator.
At least 75% of the proposed development footprint is on an area of land which has previously been occupied.
Credit can be awarded if contamination that is a risk to health is found and remediated.
A suitably qualified ecologist must be appointed to provide BREEAM advice at RIBA Stage 1 .
GN40 / BREEAM Ecology report required.

Credit Ref	Credit Name	Max	Target
Pollution Each Credit is worth 1%			
Pol 03	Flood Risk	2	
	Surface Water Run-Off	2	
	Minimising Water Course Pollution	1	
Pol 04	Reduction of Night-time Light Pollution	1	1
Exemplary Credits Each Credit is worth 1%			
Man 03	Responsible Construction Practices	1	
Hea 01	Visual Comfort	2	
Hea 02	Indoor Air Quality	1	
Hea06	Security	1	

Notes / Comments
Historic report?
Peak rate of run-off with a 30% improvement Post-development run-off volume no greater than prior site development. Typically this is a difficult credit. Credit to be confirmed by drainage consultant.
The M&E design to ensure minimal external light spillage from the proposed lighting.
Compliance with three extra considerate construction measures
Lighting in each zone needs to be manually dimmed by occupants down to 20% of the maximum light output using dimmer switches positioned in accessible locations.
Credit not targeted.
RIBA Stage 2. Requires SABRE assessment.

Credit Ref	Credit Name	Max	Target	Notes / Comments
Ene 01	Reduction of CO ₂ Emissions	3		Very difficult. Firstly 9/9 ENE01 credits, then 2 credits = offset 50% of unregulated energy use using on site renewables.
Ene 01	Post Occupancy	2		Credit not targeted.
Wat 01	Water Consumption	1		Credit not targeted.
Mat 01	Life Cycle Impacts	3	1	Additional lifecycle impacts assessment relating to building services, lifecycle costing integration, and third party verification at additional cost.
Mat 03	Responsible Sourcing of Materials	1		Credit not targeted.
Wst 01	Construction Site Waste Management	2		Credits not targeted.
Wst 02	Recycled Aggregates	1		Credit not targeted.
Wst 05	Adaption to Climate Change	1		Credit not targeted.
LE 02	Ecological Risks and Opportunities	1		Credit not targeted.

Disclaimer:

This document should be read in conjunction with the BREEAM 2018 New Construction technical guidance. The available credits and the target score is subject to change once the project is registered with the BRE. Their status can and will change should a discrepancy arise when all supporting evidence is supplied. The responsibility for awarding of credits ultimate lies with the BRE through their quality assurance process following their audit of information submitted for review by SCS.

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