



BREEAM New Construction 2018 Pre-Assessment Report

Site 3,
Image Business Park
Knowsley

5th November 2021

Quality Management



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EXECUTIVE SUMMARY

This pre-assessment report has been prepared to assess the maximum potential BREEAM score and rating for the proposed site at Site 3, Image Business Park, Knowsley.

A BREEAM pre-assessment was carried out for the development on the 19th of July 2021, to establish the feasibility of achieving the following BREEAM performance objectives:

- A minimum overall BREEAM score of 55.00%.
- A minimum overall BREEAM Rating of Very Good.

The pre-assessment is based upon the BREEAM New Construction 2018 non-domestic scheme (SD5078:3.0-2018), with the appropriate measures applied under the BREEAM 'Shell and Core' Industrial methodology. This represents the most appropriate methodology for the development.

On completion of the BREEAM review exercise, the proposed development could provisionally achieve a maximum BREEAM 'Very Good' rating of **60.49%** (all reasonable measures targeted). This ensures an adequate sustainability rating and maximum improvement in energy efficiency is achieved, which reflects the proposed building type and function.

Signed:

A handwritten signature in black ink, appearing to read "Rhyann Sutton".

Rhyann Sutton

RedSix BREEAM Assessor & Accredited Professional

Date:

5th November 2021

INTRODUCTION

This report has been prepared to outline the BREEAM strategy for the proposed development of one unit (Site 3) at Image Business Park, Knowsley. Based upon our understanding, the proposed development comprises the construction of a new industrial unit with associated first floor offices, constructed to shell and core standard with associated external car parking and hard and soft landscaping (total site area 22,227m²).

BREEAM (Building Research Establishment Environmental Assessment Method) is administered by the Building Research Establishment (BRE) which is an internationally recognised procedure for reviewing and improving the environmental design and performance of non-residential buildings. Points are awarded in nine categories according to achieving specific criteria, resulting in single overall BREEAM score/rating, as follows:

- Unclassified (less than 30%)
- Pass (30 – 44%)
- Good (45 – 54%)
- Very Good (55 – 69%)
- Excellent (70– 84%)
- Outstanding (> 85%)

The aspirational BREEAM performance targets for this project are confirmed to be:

- An overall BREEAM score of 55.00%.
- An overall BREEAM Rating of Very Good.

This pre-assessment is based upon the BREEAM New Construction 2018 non-domestic methodology (SD5078:3.1-2018) with the appropriate measures applied under the BREEAM 'Industrial: Shell and Core' methodology. This represents the most appropriate and most recent methodology for the development.

The table below summarises the number of credits targeted for the development in each of the BREEAM categories, using the BREEAM Pre-Assessment scoring sheet:

Table 1: Targeted BREEAM Score & Rating:

Section	Environment al Weighting (%)	Credits Available	Credits Targeted	Targeted Score (%)
Management	11.00	18	16	9.78
Health & Wellbeing	8.00	10	5	4.00
Energy	14.00	21	8	5.33
Transport	11.50	12	5	4.79
Water	7.00	8	6	5.25
Materials	17.5	14	11	13.75
Waste	7.00	9	6	4.67
Land Use & Ecology	15.00	13	6	6.92
Pollution	9.00	12	8	6.00
Total				60.49%
Innovation Credits				0%
TOTAL BREEAM SCORE				60.49%

BREEAM PRE-ASSESSMENT

The following sections include each 2018 BREEAM measure applicable to the project, a detailed narrative confirming if each measure can or cannot be achieved, along with the number of credits available for each targeted or potentially achievable measure. Those shaded in **amber** indicate potential credits, whilst those shaded in **grey** are not targeted.

Management

Man01: Project Brief & Design		Targeted or Potential / Total Credits
Man01: Project Delivery Planning	Prior to completion of the Concept Design (RIBA Stage 2 or equivalent), the project delivery stakeholders will meet to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery, including consideration of the following: • End user requirements • Aims of the design and design strategy • Particular installation and construction requirements/limitations • Occupiers' budget and technical expertise in maintaining any proposed systems • Maintainability and adaptability of the proposals • Requirements for the production of project and end user documentation • Requirements for commissioning, training and aftercare support. The project team will also demonstrate how the project delivery stakeholder contributions and the outcomes of the process have influenced or changed the Initial Project Brief.	1 / 1
Man01: Stakeholder Consultation (Interested Parties)	Documentation / Meeting Minutes / Consultation Reports confirming that prior to completion of the Concept Design, the design team consult with all interested parties on matters that cover the minimum consultation content. Documentation / RIBA Stage Reports / Design Drawings demonstrating how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design. Stakeholder Consultation Schedule / Documentation confirming that prior to completion of the detailed design (RIBA Stage 4, Technical Design or equivalent), all interested parties give and receive consultation feedback.	0 / 1
Man01: BREEAM Advisory Professional (Concept Design)	A BREEAM AP will be involved in the project at an appropriate time and level to work with the project team, including the client, to consider the links between BREEAM issues and assist them in maximising the project's overall performance against BREEAM, from their appointment and throughout Concept Design. The BREEAM AP will also undertake the following responsibilities: • Monitor progress against the performance targets agreed throughout all stages after their appointment where decisions critically impact BREEAM performance. • Proactively identify risks and opportunities related to the achievement of the targets agreed. • Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. • Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	1 / 1

Man01: BREEAM Advisory Professional (Developed Design)	The BREEAM AP will be involved in the project at an appropriate time and level to: • Work with the project team, including the client, to consider the links between BREEAM issues and to assist them in maximising the project's overall performance against BREEAM throughout Developed Design. • Monitor progress against the performance targets agreed throughout all stages where decisions critically impact the specification and tendering process and the BREEAM performance. • Proactively identify risks and opportunities related to the achievement of the targets agreed. • Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. • Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	1 / 1
Man02: Life Cycle Cost & Service Life Planning		Targeted or Potential / Total Credits
Man02: Elemental Life Cycle Cost Analysis	A competent person will carry out an outline, entire asset LCC plan at Process Stage 2 (equivalent to Concept Design - RIBA Stage 2) together with any design options appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865: 2008. The elemental LCC plan will provide an indication of future replacement costs over a period of analysis as required by the client (e.g. 20, 30, 50 or 60 years), and will include service life, maintenance and operation cost estimates.	2 / 2
Man02: Component Level Life Cycle Cost Analysis	A competent person will develop a component level LCC options appraisal by the end of Process Stage 4 (equivalent to Technical Design – RIBA Stage 4) in line with PD 156865: 2008. The component level LCC will include: • Envelope, e.g. cladding, windows, or roofing • Services, e.g. heat source, cooling source, or controls • Finishes, e.g. walls, floors or ceilings • External spaces, e.g. alternative hard landscaping, boundary protection	1 / 1
Man02: Capital Cost Reporting	The predicted capital cost for the development, in pounds per square metre (£k/m ²), will be reported to the BREEAM assessor.	1 / 1
Man03: Responsible Construction Practices		
Man03: Timber Procurement	All site timber used during the construction process will be responsibly and legally sourced in accordance with UK Government's Timber Procurement Policy and have FSC or PEFC certification.	Pre-requisite
Man03: Main Contractor EMS	It is assumed that the appointed main contractor will operate a third party certified environmental management system such as ISO14001.	1 / 1
Man03: BREEAM AP (Site)	A BREEAM AP will be involved in the project at an appropriate time and level to: • Work with the project team, including the client, to consider the links between BREEAM issues and assist them in achieving and if possible going beyond the design intent, to maximise the project's performance against the agreed performance targets throughout the Construction, Handover and Close Out stages. • Monitor construction progress against the performance targets agreed throughout all stages where decisions critically impact BREEAM performance. • Proactively identify risks and opportunities related to the procurement and construction process and the achievement of the	1 / 1

	targets agreed. • Provide feedback to the constructors and the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. • Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team and the provision to the assessor.	
Man03: Responsible Construction Management	The main contractor will ensure the minimum number of actions are undertaken from the BREEAM Table 4.1 (Appendix C) in order to achieve one credit, PLUS an additional six items from the table.	2 / 2
Man03: Responsible Construction Management Potential Innovation Credit	Achieve all items in Table 4.1 – Please Refer to Appendix C.	1 / 1
Man03: Monitoring of Energy & Water Consumption	The Main Contractor will monitor and record data on energy consumption (kWh) from the use of construction plant, equipment (mobile and fixed) and site accommodation necessary for completion of all construction processes. They will also monitor and record data on water consumption (m3) from the use of construction plant, equipment (mobile and fixed) and site accommodation necessary for completion of all construction processes.	1 / 1
Man03: Monitoring Transport or Construction Materials & Waste	The Main Contractor will monitor and record data on transport resulting from delivery of the majority of construction materials to site and construction waste from site.	1 / 1
Man04: Commissioning & Handover		
Man04: Commissioning - Testing Schedule & Responsibilities	A schedule of commissioning and testing will be produced that identifies and includes a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems and testing and inspecting building fabric. The schedule will identify the appropriate standards that all commissioning activities will be conducted in accordance with, such as current Building Regulations, BSRIA and CIBSE guidelines and/or other appropriate standards, where applicable. An appropriate project team member will be appointed to monitor and programme pre- commissioning, commissioning, testing and, where necessary, re-commissioning activities on behalf of the client. The principal contractor will account for the commissioning and testing programme, responsibilities and criteria within their budget and main programme of works, allowing for the required time to complete all commissioning and testing activities prior to handover.	1 / 1
Man04: Commissioning – Design and preparation	Where there are simple building services, an appropriate project team member, will carry out the role of commissioning manager and will: • Undertake design reviews and give advice on suitability for ease of commissioning. • Provide commissioning management input to construction programming and during installation stages. • Manage commissioning, performance testing and handover/post-handover stages. This approach is acceptable provided the person is not involved in the general installation works for the building services systems.	1 / 1
Man04: Testing and Inspecting Building Fabric Potential Credit	Written Confirmation that post-construction testing and inspection will be undertaken to quality-assure the integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air	1 / 1

	leakage paths (this is through airtightness testing and a thermographic survey). Written Confirmation that a suitably qualified professional undertakes the survey and testing described above in accordance with the appropriate standard. Written Confirmation that any defects identified during post-construction testing and inspection prior to building handover and close out will be rectified. Any remedial work must meet the required performance characteristics for the building or element as defined at the design stage.	
Man04: Handover	Prior to handover, two building user guides will be developed for the following users: • A non-technical user guide for distribution to the building occupiers. • A technical user guide for the premises facilities managers. A draft copy will be developed and discussed with users first to ensure the guide is most appropriate and useful to potential users. Two training schedules will be prepared and timed appropriately around handover and proposed occupation plans for the following users: • A non-technical training schedule for the building occupiers. • A technical training schedule for the premises facilities managers	1 / 1

Health & Wellbeing

Hea01: Visual Comfort		Targeted or Potential / Total Credits
Hea01: Daylighting	The required daylight factor levels of 2%, for each applicable space will not be achieved, due to the depths of the occupied operational areas, therefore this credit cannot be achieved.	0 / 1
Hea01: View Out	It is expected the requirements of this credit can be achieved where 95% of the floor area in 95% of spaces for each relevant building area is within 8 m of an external wall that has a window or permanent opening that provides an adequate view out.	1 / 1
Hea01: External Lighting Levels, Zones & Controls	Illuminance levels for lighting in all external areas within the construction zone will be specified in accordance with BS5489-1:2013 Lighting of roads and public amenity areas; and BS EN 12464-2:2014 Light and lighting - Lighting of workplaces - Part 2: Outdoor work places.	1 / 1
Hea 02: Indoor Air Quality		
Hea 02: Ventilation	It is a functional requirement of this type of development that access roads, service yards, car parking and delivery areas are within close proximity to the building fabric. In order to achieve this measure, all vehicular areas would need to be >10m from all external windows and doors, therefore this credit cannot technically be achieved.	0 / 1
Hea04: Thermal Comfort		
Hea04: Thermal Modelling	A dynamic thermal model will be carried out using software in accordance with CIBSE AM11 to demonstrate the building design and potential services strategy can deliver thermal comfort levels in occupied spaces in accordance with the criteria set out in BREEAM Measure Hea04.	1 / 1

Hea04: Design for Future Thermal Comfort	It is assumed that thermal modelling will not be undertaken to demonstrate that the relevant requirements set out above are achieved for a projected climate change environment. Therefore, this credit is not targeted.	0 / 1
Hea05: Acoustic Performance		
Hea05: Acoustic Performance Potential Credit	An acoustician is yet to be appointed and therefore it is not confirmed whether the building meets the appropriate acoustic performance standards and testing requirements for: a. Sound insulation b. Indoor ambient noise level c. Reverberation times The credit is currently highlighted as a potential.	1 / 1
Hea06: Security		
Hea06: Security	A BREEAM compliant a Suitably Qualified Security Specialist (SQSS) has not been employed to conduct an evidence-based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent).	0 / 1
Hea07: Safe & Healthy Surroundings		
Hea07: Safe Access	Due to the layout of this development, the full requirements of this credit are assumed to be achievable, namely: • Dedicated and safe cycle paths are provided from the site entrance to any cycle storage and connect to off-site cycle paths where applicable. • Dedicated and safe footpaths are provided on and around the site providing suitable links for the following: - a: The site entrance to the building entrance, - b: Car parks (where present) to the building entrance - c: The building to outdoor space - d: Connecting to off-site paths where applicable." • Pedestrian drop-off areas are designed off, or adjoining to, the access road and should provide direct access to other footpaths. • Delivery areas are not accessed through general parking areas and do not cross or share the following: - a: Pedestrian and cyclist paths - b: Outside amenity areas accessible to building users and general public. • Dedicated parking or waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff and visitor car parking. • parking and turning areas are designed for simple manoeuvring according to the type of delivery vehicle likely to access the site, thus avoiding the need for repeated shunting.	1 / 1
Hea07: Outside Space	An outside space providing building users with an external non-smoking area, comprising an outdoor landscaped area and appropriate seating area is likely to be provided, therefore this credit is targeted.	1 / 1

Energy

Ene01: Reduction of Energy Use & Carbon Emissions		Targeted or Potential / Total Credits
Ene01: Energy Performance	Up to nine credits are available depending on the calculated Energy Performance Ratio for the proposed building. Based upon the proposed design, it is currently assumed that a minimum of three credits will be achieved in relation to the building's energy performance ratio. This will be re-confirmed on review of the SBEM calculations.	3 / 9
Ene02: Energy Monitoring		
Ene02: Energy Monitoring	Energy metering systems will be installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems. In addition, an energy monitoring and management system or separate accessible energy sub-meters with pulsed or other open protocol communication will be provided.	1 / 1
Ene02: Sub-Metering of High Energy Areas	An energy monitoring and management system or separate accessible energy sub-meters with pulsed or other open protocol communication outputs for future connection to an energy monitoring and management system will be provided for relevant function areas (office and warehouse areas)	1 / 1
Ene03: External Lighting		
Ene03: External Lighting	The average initial luminous efficacy of the external light fittings within the construction zone will be not less than 70 luminaire lumens per circuit Watt. External light fittings will be automatically controlled through a time switch, or daylight sensor, to prevent operation during daylight hours. Presence detection will also be provided in areas of intermittent pedestrian traffic.	1 / 1
Ene04: Low Carbon Design		
Ene04: Passive Design Measures	A passive design analysis has not been undertaken for the project.	0 / 2
Ene04: LZC Feasibility Report Potential	A feasibility study may be carried out to establish the most appropriate local (on-site or near-site) low or zero carbon (LZC) energy source for the building. In order to determine the most appropriate system, the activity use of each unit should be known in order to make a valid judgement. Without this information, there is a high risk of installing a system which could be unsuitable for any potential occupier. This credit is not yet confirmed and will be highlighted as a potential.	1 / 1
Ene06: Energy Efficient Transportation Systems		
Ene06: Energy Consumption	Professional Report / Study of transportation analysis AND Calculations confirming: For specified lifts, escalators or moving walks (transportation types): a: Analyse the transportation demand and usage patterns for the building to determine the optimum number and size of lifts, escalators or moving walks b: Calculate the energy consumption in accordance with BS EN ISO 25745 Part 21 or Part 32 for one of the following:	1 / 1

	b.i. At least two types of system for each transportation type required OR b.ii. An arrangement of systems, for example for lift systems, hydraulic, traction, machine room-less lift (MRL) OR b.iii. A system strategy that is 'fit for purpose' c: Consider the use of regenerative drives*. <i>*A regenerative drive should only be considered where it produces an energy saving greater than the additional standby energy used to support the drives. Regenerative drives will typically be appropriate for lifts with high travel and high intensity use.</i> d: Specify the transportation system with the lowest energy consumption.	
Ene06: Energy Efficient Features	Credits are awarded where the manufacturer/supplier can confirm that the specified lifts will include the following three energy-efficient features: a. A standby condition for off-peak periods b. The lift car lighting and display lighting provides an average luminous efficacy across all fittings in the car of > 70 luminaire lumens per circuit Watt c. Use of a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor. Specification AND EITHER manufacturers products details OR formal letter of commitment from the system(s) manufacturer/supplier that regenerative drives are specified used where they are demonstrated to save energy.	1 / 1

Transport

Tra01: Transport Assessment & Travel Plan		Targeted or Potential / Total Credits
Tra01: Transport Assessment & Travel Plan	During the feasibility and design stages, a travel plan will be developed based on a site-specific travel assessment or statement. The site-specific travel assessment or statement will cover as a minimum (where applicable): - Existing travel patterns and opinions of existing building or site users towards cycling and walking, identifying constraints and opportunities, if relevant. - Travel patterns and transport impact of future building users - Current local environment for walkers and cyclists (accounting for visitors who may be accompanied by young children) - Reporting of the number and type of existing accessible amenities, within 500m of the site - Disabled access (accounting for varying levels of disability and visual impairment) - Calculation of the existing public transport Accessibility Index (AI). - Current facilities for cyclists The travel plan will include proposals to increase or improve sustainable modes of transport and movement of people and goods during the building's operation and use. A copy of the completed travel plan will also be provided to future building occupants.	2 / 2
Tra02: Sustainable Transport Measures		
Tra02: Sustainable Transport Measures	Credits are awarded according to the projects Accessibility Index, and the total number of points achieved for the implementation of specific measures. This needs to be formally confirmed in the completed BREEAM travel plan, however three credits are currently assumed.	3 / 10

	Option 4 - Provide electric recharging stations of a minimum of 3kW for at least 10% of the total car parking capacity for the development. Option 5 - Provide priority spaces for car sharers for at least 5% of the total car parking capacity for the development. AND Locate priority parking spaces nearest the development entrance used by the sharing scheme participants. Option 7 - Install compliant cycle storage spaces to meet the minimum levels set out in Table 7.5 (see guidance folder - measures and points guidance).	
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Water

Wat01: Water Consumption		Targeted or Potential / Total Credits
Wat01: Water Consumption	It is currently expected that a 40% improvement beyond baseline consumption figures will be achieved through the specification of the following fittings: • WCs with an effective flush volume of 4 litres. • Toilet wash hand basin taps with a flow rate of 3.5l/min. • Urinal cistern (2 or more) volume of 0.75 l/bowl/hr. • Urinal cistern (1 only) volume of 1 l/bowl/hr. • Showers with max flow rate of 8l/min. • Kitchen Taps with max flow rate of 6.5l/min.	3 / 5
Wat02: Water Monitoring		
Wat02: Water Meter	A water meter will be specified and installed on the mains water supply to <u>each unit</u> , and each meter (main and sub) will have a pulsed output to enable connection to a Building Management System (BMS) for the monitoring of water consumption.	1 / 1
Wat03: Water Leak Detection & Prevention		
Wat03: Water Leak Detection System	As this project is being assessed under the BREEAM Shell Only methodology, to achieve the credit an indicative schematic drawing will be provided, showing how a BREEAM compliant leak detection system could be installed to each unit	1 / 1
Wat03: Flow Control Devices	One of the following types of flow control devices will be specified and installed to each WC area: • A time controller i.e. an automatic time switch device to switch off the water supply after a predetermined interval. • A programmed time controller i.e. an automatic time switch device to switch water on and/ or off at predetermined times. • A volume controller i.e. an automatic control device to turn off the water supply once the maximum preset volume is reached. • A presence detector and controller i.e. an automatic device detecting occupancy or movement in an area to switch water on and turn it off when the presence is removed.	1 / 1

Materials

Mat01: Environmental Impacts from Construction Products - LCA		Targeted or Potential / Total Credits
Mat01: Building Life Cycle Assessment (LCA)	Up to seven credits are available where a building LCA of the superstructure is undertaken at concept and technical design stages using the BREEAM IMPACT compliant LCA tool and the results are submitted to BRE for comparison with the BREEAM benchmark. It is currently expected that LCA IMPACT Calculations will be carried out and seven credits can be targeted.	7 / 7
Mat02: Environmental Impacts from Construction Products - EPD		
Mat02: Environmental Product Declaration	Every effort will be made to ensure construction products with an Environmental Product Declaration (EPD) are specified for the project, however all materials have yet to be determined and so the achievement of this requirement cannot be guaranteed at this stage.	0 / 1
Mat03: Responsible Sourcing of Construction Products		
Mat03: Sustainable Timber	All timber and timber-based products used on the project are legally harvested and traded timber as per the UK Government's Timber Procurement Policy (TPP)	Pre-requisite
Mat03: Enabling Sustainable Procurement	A sustainable procurement plan will be used by the design team to guide specification towards sustainable construction products. The plan will be: • In place before Concept Design. • Include sustainability aims, objectives and strategic targets to guide procurement activities. Note: targets do not need to be achieved for the credit to be awarded but justification must be provided for targets that are not achieved. • Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. • Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan.	1 / 1
Mat03: Responsible Sourcing of Materials	Every effort will be made to ensure all materials will be responsibly sourced, with a view to achieving one credit (of a possible three). Copies of ISO14001, BES6001 or FSC/PEFC certificates for all major building materials will need to be provided.	2 / 3
Mat05: Designing for Durability & Resilience		
Mat05: Designing for Durability & Resilience	The design will incorporate suitable durability and protection measures or features/solutions to prevent damage to the vulnerable parts of each building. This will include, but not necessarily limited to: Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc). Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building façade for all car parking areas and within 2m for all delivery areas. Potential malicious damage to building materials and finishes, in public and common areas where appropriate. In addition, key exposed building elements will be designed and specified to limit long and short-term degradation due to environmental factors. A detailed assessment of the element's resilience when exposed to the	1 / 1

	applicable material degradation and environmental factor will be undertaken. A convenient access to the roof and façade for cost-effective cleaning, replacement and repair will also be provided; and the roof and façade will be designed to prevent water damage, ingress and detrimental ponding.	
Mat06: Material Efficiency		
Mat06: Material Efficiency	A BREEAM compliant material efficiency review will not be undertaken. In order to comply this will need to include the setting of targets, and the reporting of opportunities and methods to optimise the use of materials during the following stages: • Preparation & Brief • Concept Design & Developed Design • Technical Design & Construction. This credit has not been targeted.	0 / 1

Waste

Wst01: Construction Waste Management		Targeted or Potential / Total Credits
Wst01: Pre-demolition Audit	The project does not require any demolition; therefore, this credit is not targeted.	0 / 1
Wst01: Construction Waste Management	A Resource Management Plan (RMP) will be developed covering the non-hazardous waste related to on-site construction and dedicated off-site manufacture or fabrication (including demolition and excavation waste) generated by the building's design and construction. In addition, construction waste related to on-site construction (excluding demolition and excavation waste) will meet or exceed the necessary waste benchmark to achieve two credits: • 1 Credit - 13m³ per 100m² (gross internal floor area) • 2 Credits - 7.5m³ per 100m² (gross internal floor area) • 3 Credits - 3.4m³ per 100m² (gross internal floor area)	2 / 3
Wst01: Diversion of Waste from Landfill	At least 70% by volume (or 80% by tonnage) of non-demolition waste and 80% by volume (or 90% by tonnage) of demolition waste will be diverted from landfill to be reused or recycled.	1 / 1
Wst02: Use of Recycled & Sustainably Sourced Aggregates		
Wst02: Recycled and Sustainably Sourced Aggregates	This credit is currently not thought to be achievable, therefore is not targeted.	0 / 1
Wst03: Operational Waste		
Wst03: Operational Waste	A dedicated external space to cater for the segregation and storage of operational recyclable waste volumes generated by the assessed building's occupant(s) and activities will be provided. The dedicated space(s) will be: • Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams • Accessible to building occupants / facilities operators for the deposit of materials and collections by waste management contractors	1 / 1

	Of a capacity appropriate to the building's type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily or weekly operational activities and occupancy rates (2m²/1000m², up to a maximum of 20m² for buildings over 10,000m²).	
Wst05: Adaptation to Climate Change		
Wst05: Climate Change Adaptation Strategy	A climate change adaptation strategy for structural and fabric resilience will be undertaken, to evaluate the impact on the building over its projected life cycle from expected extreme weather conditions.	1 / 1
Wst06: Design for Disassembly & Adaptability		
Wst06: Design for Disassembly & Functional Adaptability	A building-specific study to explore the ease of disassembly and the functional adaptation potential of different design scenarios will be undertaken. Recommendations or solutions will be developed based on the study, during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation	1 / 1
Wst06: Disassembly & Functional Adaptability – Implementation	In addition to the above, an update during Technical Design will be provided on: - How the recommendations or solutions proposed by Concept Design have been implemented (where practical and cost effective). - Changes to the recommendations and solutions during the development of the Technical Design. A building adaptability and disassembly guide will also be produced to communicate the characteristics allowing functional adaptability and disassembly to the building owner.	0 / 1

Land Use & Ecology

Le01: Site Selection		Targeted or Potential / Total Credits
Le01: Site Selection (Previously Occupied Land)	It is assumed that greater than 75% of the proposed project will be situated on previously developed land, therefore this credit may be achievable.	1 / 1
Le01: Site Selection (Contaminated Land) Potential Credit	It is expected the site is not deemed to be significantly contaminated, however this is yet to be determined.	1 / 1
Le02: Identifying & Understanding Risks and Opportunities for the Site		
Le02: Identifying & Understanding Risks & Opportunities – Statutory Obligations	Written Confirmation confirming that the client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.	Pre-requisite
Le02: Ecological Outcomes for the Site (Route 1) - Survey and Evaluation	The BREEAM Ecological Risk Evaluation checklist (Guidance Note 34) will be completed for the proposed project.	1 / 1
Le02: Ecological Outcomes for the Site (Route 1) - Determining ecological outcomes	In addition to the above, during Concept Design, the project team will liaise and collaborate with representative stakeholders to identify and consider ecological outcomes for the site, appropriate to the scale and type of development.	1 / 1

	When determining the ecological outcome for the site, this will involve the identification, appraisal and selection of specific solutions and measures sufficiently early to influence key project planning decisions. This will be done in accordance with the following hierarchy of action: • Avoidance • Protection Following this, the optimal ecological outcome for the site will be selected after liaising with representative stakeholders and the project team.	
Le03: Managing Negative Impacts on Ecology		
Le03: Planning and measures on-site (Route 1)	Roles and responsibilities will be clearly defined, allocated and implemented to support successful delivery of project outcomes at an early enough stage to influence the concept design or design brief. Site preparation and construction works will be planned for and implemented at an early project stage to optimise benefits and outputs. The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented solutions, and measures have been selected, during site preparation and construction works.	1 / 1
Le03: Managing Negative Impacts (Route 1)	Negative impacts from site preparation and construction works will be managed according to the BREEAM 'hierarchy for managing negative loss', and the loss of ecological value will be limited as far as possible.	1 / 1
Le04: Ecological Change and Enhancement		
Le04: Managing negative impacts on ecology	The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site.	Pre-requisite
Le04: Change and enhancement of ecology	Locally relevant ecological measures have been implemented that enhance the site's ecological value: 3.a Recommendations from recognised 'local' ecological expertise and specialist input and guidance. 3.b Input from the project team in collaboration with representative stakeholders and data collated as part of 'Determining ecological outcomes' in LE 02.	1 / 1
Le05: Long Term Ecology Management & Maintenance		
Le05: Long Term Ecology Management & Maintenance	It is expected that arrangements for the ongoing management of habitat connected to the project, and the maintenance of the ecological value of the site and its relationship to its zone of influence will be not be accounted for, largely due to the limited opportunity to substantially increase the ecological value of the site, therefore this measure is not achieved.	0 / 1
Le05: Landscape & Ecology Management Plan	It is expected that a landscape and ecology management plan, covering the first five years after project completion will not be developed, given the limited scope of soft landscaping works available.	0 / 1

Pollution

Pol01: Impact of Refrigerants		Targeted or Potential / Total Credits
Pol01: Impact of Refrigerants	It has not yet been confirmed whether there will be refrigerant used within installed plant or systems and therefore two credits have been provisionally targeted.	2 / 3
Pol01: Leak Detection	To achieve this credit the following criteria must be met: All systems are hermetically sealed or only use environmentally benign refrigerants OR, where the systems are not hermetically sealed, systems have: - A permanent automated refrigerant leak detection system, that is robust and tested, and capable of continuously monitoring for leaks. OR - An inbuilt automated diagnostic procedure for detecting leakage is enabled. And, - In the event of a leak, the system must be capable of automatically responding and managing the remaining refrigerant charge to limit loss of refrigerant It has not yet been confirmed that the system will meet these requirements, therefore the credit has been marked as a potential.	0 / 1
Pol02: Local Air Quality		
Pol02: Local Air Quality	It is expected that emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed 27mg/kWh.	1 / 1
Pol03: Flood & Surface Water Management		
Pol03: Flood Resilience	It is expected a site-specific flood risk statement will confirm the development is situated in a flood zone that is defined as having a low annual probability of flooding, in accordance with current best practice national planning guidance.	2 / 2
Pol03: Surface Water Run Off Rate	Drainage measures will be specified so that the peak rate of run-off from the site to the watercourses (natural or municipal) shows a 30% improvement for the developed site compared with the pre-developed site. This will comply with the 1-year and 100-year return period events. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified Sustainable Drainage Systems (SuDS) will be in place. In addition, calculations will include an allowance for climate change, in accordance with current best practice planning guidance.	1 / 1
Pol03: Surface Water Run Off Rate	Flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance). Drainage design measures will be specified so that the post-development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development. This will be for the 100-year 6-hour event, including an allowance for climate change (in accordance with current best practice planning guidance).	1 / 1

	Any additional predicted volume of run-off for this event will be prevented from leaving the site by using infiltration or other SuDS techniques.	
Pol03: Minimising Watercourse Pollution	Where there is a high risk of contamination or spillage of substances such as petrol and oil, separators (or an equivalent system) will be specified. All water pollution prevention systems will be designed and installed in accordance with the recommendations of documents such as the SuDS manual and other relevant industry best practice. A comprehensive and up to date drainage plan of the site will also be made available for the building/site occupiers and relevant maintenance agreements for the ownership, long term operation and maintenance of all specified Sustainable Drainage Systems (SuDS) will be in place.	1 / 1
Pol04: Reduction of Night-Time Light Pollution		
Pol04: Reduction of Night-Time Light Pollution	The external lighting strategy will be designed in compliance with Table 2 (and its accompanying notes) of the ILP Guidance notes for the reduction of obtrusive light, 2011. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system will comply with the lower levels of lighting recommended during these hours in Table 2 of the ILP's Guidance notes. Illuminated advertisements, where specified, will be designed in compliance with ILP PLG 05 The Brightness of Illuminated Advertisements.	1 / 1
Pol 05: Reduction of Noise Pollution		
Pol05: Noise Attenuation Potential Credit	Further review is required to confirm if noise sensitive premises (houses) are located within an 800m radius of the site, if not then the credit can be achieved by default. If noise sensitive premises are within 800m then to achieve the credit a suitably qualified acoustic consultant must be employed to undertake a noise impact assessment in compliance with B142:2014, and any remediation measures recommended by the report will need to be specified and installed. The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise sensitive development, will need to be at least 5dB lower than the background noise throughout the day and night.	1 / 1

RESULTS

Based upon the inclusion of the BREEAM measures detailed within this report in the design and construction phases, the proposed development is targeted to achieve a BREEAM **'Very Good'** rating of **60.49%**.

A summary of the targeted score is detailed below:

Targeted BREEAM Score & Rating

Section	Environmental Weighting (%)	Credits Available	Credits Targeted	Targeted Score (%)
Management	11.00	18	16	9.78
Health & Wellbeing	8.00	10	5	4.00
Energy	14.00	21	8	5.33
Transport	11.50	12	5	4.79
Water	7.00	8	6	5.25
Materials	17.5	14	11	13.75
Waste	7.00	9	6	4.67
Land Use & Ecology	15.00	13	6	6.92
Pollution	9.00	12	8	6.00
Total				60.49%
Innovation Credits				0
TOTAL BREEAM SCORE				60.49%

APPENDIX A – BREEAM Scoring Summary

BREEAM New Construction 2018 Pre-assessment Stage Summary



BRE Assessment Ref no.	BREEAM-0089-3966						
Project Name	Site 3, Image Business Park, Knowsley						
Project Type/Scope	BREEAM 2018 Industrial S&C						
Targeted Rating/Score	Very Good	60.49				Key	N/A or Not Targeted
Potential Rating/Score	Very Good	66.89					
Achieved Rating/Score	Unclassified	0.00		Potential Credit/s			

Credit Reference	Credit Name	Available Credits	Targeted credits	Potential Credits	Achieved credits
Management					
Each Credit is worth 0.61%					
Man 01	Project Brief and Design				
	Part A: Project Delivery Planning	1	1	1	0
	Part B: Stakeholder Consultation	1	0	0	0
	Part C: BREEAM Advisory Professional (AP)	2	2	2	0
Man 02	Life Cycle Cost & Service Life Planning				
	Part A: Elemental Life Cycle Cost (LCC)	2	2	2	0
	Part B: Component Level LCC Options Appraisal	1	1	1	0
	Part C: Capital Cost Reporting	1	1	1	0
Man 03	Responsible Construction Practices				
	Prerequisite - Legally Harvested and Traded Timber	-	-	-	-
	Part A: Environmental Management	1	1	1	0
	Prerequisite - BREEAM AP	-	-	-	-
	Part B: BREEAM Advisory Professional (AP) (Site)	1	1	1	0
	Part C: Responsible Construction Management	2	2	2	0
	Part D: Monitoring of Construction Site Impacts Utility	1	1	1	0
Man 04	Commissioning and Handover				
	Part A: Commissioning - Testing Schedule & Responsibilities (M)	1	1	1	0
	Part B: Commissioning - Design and Preparation	1	1	1	0
	Part C: Testing and Inspecting Building Fabric	1	0	1	0
	Part D: Handover	1	1	1	0
Man 05	Aftercare				
	Part A: Aftercare Support	0	0	0	0
	Part B: Commissioning - Implementation	0	0	0	0
	Part C: Post Occupancy Evaluation (POE)	0	0	0	0
	Number of Credits	18	16	17	0
	Percentage	11.0	9.78	10.39	0.00

Health & Wellbeing					
Each Credit is worth 0.8%					
Hea 01	Visual Comfort				
	Part A: Control of Glare from Sunlight	0	0	0	0
	Part B: Daylighting	1	0	0	0
	Part C: View Out	1	1	1	0
	Part D: External Lighting (S&C Assessments)	1	1	1	0
Hea 02	Indoor Air Quality				
	Prerequisite - Indoor Air Quality (IAQ) Plan	-	-	-	-
	Part A: Ventilation	1	0	0	0
	Part B: Emissions from Construction Products	0	0	0	0
	Part C: Post-construction Indoor Air Quality Measurement	0	0	0	0
Hea 04	Thermal Comfort				
	Part A: Thermal Modelling	1	1	1	0
	Part B: Design for Future Thermal Comfort	1	0	0	0
	Part C: Thermal Zoning and Controls	0	0	0	0
Hea 05	Acoustic Performance				
	Acoustic Performance	1	0	1	0
Hea 06	Security				
	Security of Site and Building	1	0	0	0
Hea 07	Safe and Healthy Surroundings				
	Part A: Safe Access	1	1	1	0
	Part B: Outside Space	1	1	1	0
	Number of Credits	10	5	6	0
	Percentage	8.0	4.00	4.80	0.00

Credit Reference	Credit Name	Available Credits	Targeted credits	Potential Credits	Achieved credits
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Energy					
Each Credit is worth 0.67%					
Ene 01	Reduction of Energy Use and Carbon Emissions				
	Part A: Energy Performance	9	3	4	0
	Part B: Prediction of Operational Energy Consumption	4	0	0	0
Ene 02	Energy Monitoring				
	Part A: Sub-metering of End-use Categories (M)	1	1	1	0
	Part B: Sub-metering High Energy Load & Tenancy Areas	1	1	1	0
Ene 03	External Lighting				
	External Lighting	1	1	1	0
Ene 04	Low Carbon Designs				
	Part A: Passive Design	2	0	0	0
	Part B: Low or Zero Carbon Technologies	1	0	1	0
Ene 05	Energy Efficient Cold Storage				
	Part A: Refrigeration Energy Consumption	0	0	0	0
	Part B: Indirect Greenhouse Gas Emissions	0	0	0	0
Ene 06	Energy Efficient Transportation Systems				
	Part A: Energy Consumption	1	1	1	0
	Part B: Energy Efficient Features	1	1	1	0
Ene 07	Energy Efficient Laboratory Systems				
	Part A: Design Specification	0	0	0	0
	Part B: Best Practice Energy Efficient Measures	0	0	0	0
Ene 08	Energy Efficient Equipment				
	Energy Efficient Equipment	0	0	0	0
	Number of Credits	21	8	10	0
	Percentage	14.0	5.33	6.67	0.00

Transport					
Each Credit is worth 0.96%					
Tra 01	Transport Assessment and Travel Plan				
	Travel Plan	2	2	2	0
Tra 02	Sustainable Transport Measures				
	Transport Options Implementation	10	3	3	0
	Number of Credits	12	5	5	0
	Percentage	11.5	4.79	4.79	0.00

Water					
Each Credit is worth 0.88%					
Wat 01	Water Consumption				
	Water Consumption (M)	5	3	3	0
Wat 02	Water Monitoring				
	Water Monitoring	1	1	1	0
Wat 03	Water Leak Detection				
	Part A: Leak Detection System	1	1	1	0
	Part B: Flow Control Devices	1	1	1	0
Wat 04	Water Efficient Equipment				
	Water Efficient Equipment	0	0	0	0
	Number of Credits	8	6	6	0
	Percentage	7.0	5.25	5.25	0.00

Materials					
Each Credit is worth 1.25%					
Mat 01	Environmental Impacts from Construction Products - Building Life Cycle Assessment (LCA)				
	Part A: Superstructure	6	6	6	0
	Part B: Substructure and Hard Landscaping Options Appraisal During Concept Design	1	1	1	0
Mat 02	Environmental Impacts from Construction Products - Environmental Product Declarations (EPD)				
	Specification of Products with a Recognised Environmental Product Declaration (EPD)	1	0	0	0
Mat 03	Responsible Sourcing of Construction Products				
	Prerequisite	-	-	-	-
	Part A: Enabling Sustainable Procurement	1	1	1	0
	Part B: Measuring Responsible Sourcing	3	2	2	0
Mat 05	Designing for Durability and Resilience				
	Designing for Durability and Resilience	1	1	1	0
Mat 06	Material Efficiency				
	Material Efficiency	1	0	0	0
	Number of Credits	14	11	11	0
	Percentage	17.5	13.75	13.75	0.00

Credit Reference	Credit Name	Available Credits	Targeted credits	Potential Credits	Achieved credits
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Waste					
Each Credit is worth 0.78%					
Wst 01	Construction Waste Management				
	Part A: Pre-demolition Audit	0	0	0	0
	Part B: Construction Resource Efficiency	3	2	2	0
	Part C: Diversion of Resources from Landfill	1	1	1	0
Wst 02	Use of Recycled and Sustainably Sourced Aggregates				
	Prerequisite	-	-	-	-
	Project Sustainable Aggregate Points	1	0	0	0
Wst 03	Operational Waste				
	Operational Waste	1	1	1	0
Wst 04	Speculative Finishes (Offices only)				
	Speculative Floor and Ceiling Finishes	0	0	0	0
Wst 05	Adaptation to Climate Change				
	Resilience of Structure, Fabric, Building Services & Renewables Installation	1	1	1	0
Wst 06	Design for Disassembly and Adaptability				
	Part A: Design for Disassembly and Adaptability -	1	1	1	0
	Part B: Disassembly and Functional Adaptability -	1	0	0	0
	Number of Credits	9	6	6	0
	Percentage	7.0	4.67	4.67	0.00

Land Use & Ecology					
Each Credit is worth 1.15%					
LE 01	Site Selection				
	Part A: Previously Occupied Land	1	1	1	0
	Part B: Contaminated Land	1	0	1	0
LE 02	Ecological Risks and Opportunities				
	Prerequisite - Statutory Obligations	-	-	-	-
	Survey and Evaluation	1	1	1	0
	Determining the Ecological Outcomes for the Site (Routes 1 and	1	1	1	0
LE 03	Managing Impacts on Ecology				
	Prerequisite	-	-	-	-
	Part A: Planning and Measures On-Site	1	1	1	0
	Part B: Managing Negative Impacts	2	1	1	0
LE 04	Ecological Change and Enhancement				
	Prerequisite - Managing Negative Impacts on Ecology	-	-	-	-
	Part A: Ecological Enhancement (Route 2 only)	1	0	0	0
	Part B: Change and Enhancement of Ecology	3	1	1	0
LE 05	Long Term Ecological Management and Maintenance				
	Prerequisite	-	-	-	-
	Part A: Management and Maintenance Throughout the Project – Foundation and Comprehensive Routes (Route 1 and Route 2)	1	0	0	0
	Part B: Landscape and Ecology Management Plan	1	0	0	0
	Number of Credits	13	6	7	0
	Percentage	15.0	6.92	8.08	0.00

Pollution					
Each Credit is worth 0.75%					
Pol 01	Impact of Refrigerants				
	Prerequisite	-	-	-	-
	Impact of Refrigerants	3	2	2	0
	Leak Detection	0	0	0	0
Pol 02	Local Air Quality				
	Local Air Quality	2	0	1	0
Pol 03	Flood and Surface Water Management				
	Prerequisite	-	-	-	-
	Part A: Flood Resilience	2	2	2	0
	Prerequisite for Surface Water Run-off Credits	-	-	-	-
	Part B: Surface Water Run-off	1	1	1	0
		1	1	1	0
	Part C: Minimising Watercourse Pollution	1	1	1	0
Pol 04	Reduction of Night Time Light Pollution				
	Reduction of Night Time Light Pollution	1	1	1	0
Pol 05	Reduction of Noise Pollution				
	Reduction of Noise Pollution	1	0	1	0
	Number of Credits	12	8	10	0
	Percentage	9.0	6.00	7.50	0.00

Credit Reference	Credit Name	Available Credits	Targeted credits	Potential Credits	Achieved credits
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Innovation Credits					
Each Credit is worth 1%					
Man 03	Responsible Construction Practices	1	0	1	0
Hea 01	Visual Comfort	2	0	0	0
Hea 02	Indoor Air Quality	1	0	0	0
Hea 06	Security	1	0	0	0
Ene 01	Reduction of Energy Use and Carbon Emissions	5	0	0	0
Wat 01	Water Consumption	1	0	0	0
Mat 01	Core Building Services Options Appraisal during Concept Design	1	0	0	0
	LCA and LCC Alignment	1	0	0	0
	Third Party Verification	1	0	0	0
Mat 03	Responsible Sourcing of Construction Products	1	0	0	0
Wst 01	Construction Site Waste Management	1	0	0	0
Wst 02	Use of Recycled and Sustainably Sourced Aggregates	1	0	0	0
Wst 05	Responding to Climate Change	1	0	0	0
LE 02	Determine the Ecological Outcomes for the Site (Sustainability-related Activities)	1	0	0	0
Number of Credits		10	0	1	0
Percentage		10.0	0.00	1.00	0.00

APPENDIX B: BREEAM NC (Shell & Core) 2018 – Early-Stage Credits

BREEAM NC (Shell & Core) 2018 - Early Stage Credits

	N/A
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RIBA Stage	Credit	Credit Issue	Credits Available	Requirement/s
1	Man 01 (Project Brief & Design)	Pre-requisite for BREEAM AP Credits (Concept & Developed Design)	-	Project team, including client, formally agree strategic performance targets (including BREEAM target).
1	Tra 02 (Sustainable Transport Measures)	Option 6: Consultation with Local Authority	2	Design team consults with the local authority (LA) on the state of the local cycle network and public accessible pedestrian routes and agree to implement one proposition chosen by the LA.
1	Mat 03 (Responsible Sourcing of Materials)	Sustainable Procurement Plan	1	Produce and have in place a compliant sustainable procurement plan to guide specification towards sustainable construction products.
1-5	Mat 06 (Material Efficiency)	Material Efficiency	1	Set targets and report on opportunities and methods to optimise the use of materials.
1	LE 02 (Identifying and Understanding the Risks and Opportunities for the Project)	Route 2: Survey and Evaluation	2	Appoint an ecologist and undertake an appropriate level of survey and evaluation to determine the ecological baseline of the site.
2	Man 01 (Project Brief & Design)	Project Delivery Planning	1	Project delivery stakeholders meet to identify and define roles, responsibilities and contributions for each key phase of project delivery.
2	Man 01 (Project Brief & Design)	Stakeholder Consultation (Interested Parties)	1	Design team consult with all interested parties on matters that cover the minimum consultation content.

RIBA Stage	Credit	Credit Issue	Credits Available	Requirement/s
2	Man 01 (Project Brief & Design)	BREEAM AP (Concept Design)	1	Involve a BREEAM AP to work with the project team, monitor progress against the performance targets and provide feedback to the project team as appropriate.
2	Man 02 (Life Cycle Cost and Service Life Planning)	Elemental LCC	2	Competent person carries out an outline, entire asset LCC plan.
Early Stage	Hea 01 (Visual Comfort)	View Out	1	Develop a glare control assessment and strategy.
Early Stage	Hea 02 (Indoor Air Quality)	Ventilation	1	Design building to minimise the indoor concentration and recirculation of pollutants (i.e. location of ventilation intakes and airflow pathways).
2	Hea 06 (Security)	Security of Site and Building	1	Suitably qualified security specialist conducts an evidence-based security needs assessment.
2	Ene 04 (Low Carbon Design)	Passive Design Analysis	1	Design team analyses proposed building design and development to identify opportunities for the implementation of passive design measures.
2	Ene 04 (Low Carbon Design)	Free Cooling	1	Include a free cooling analysis in the passive design analysis.
2	Ene 04 (Low Carbon Design)	Low Zero Carbon Feasibility Study	1	Energy specialist completes a low and zero carbon feasibility study.
Feasibility & Design (2)	Tra 01 (Travel Plan)	Travel Plan	1	Develop a travel plan based on a site-specific travel assessment or statement.
2 & 4	Mat 01 (Environmental Impacts from Construction Products – Building Life Cycle Assessment)	Building LCA Comparison with BREEAM Benchmark	Up to 7	Carry out a building LCA on the superstructure design, building LCA options appraisal of 2-4 significantly different superstructure design options and LCA options appraisal of a combined total of at least 6 significantly different

RIBA Stage	Credit	Credit Issue	Credits Available	Requirement/s
				substructure or hard landscaping design options (at least 2 shall be substructure and at least two hard landscaping).
2	Wst 01 (Construction Waste Management)	Pre-demolition Audit	1	Complete a pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition prior to strip-out or demolition works.
2 & 4	Wst 05 (Adaptation to Climate Change)	Resilience of Structure, Fabric, Building Services & Renewables Installations	1	Conduct a climate change adaptation strategy appraisal and develop recommendations or solutions that aim to mitigate the identified impact.
2 & 4	Wst 06 (Design for Disassembly & Adaptability)	Design for Disassembly & Functional Adaptability	1	Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios.
2	LE 03 (Managing Negative Impacts on Ecology)	Planning, Liaison, Implementation and Data	1	Assign roles and responsibilities for minimising negative ecological impacts and plan site preparation and construction works to optimise ecological benefits.

APPENDIX C: Man03 Responsible Construction Management - Table 4.1 Checklist

BREEAM Man03: Responsible Construction Management Checklist

PROJECT NAME: _____

Ref	Criteria	Required for 1 Credit	Achievable?
Risk Evaluation and Implementation			
The principal contractor evaluates the risks (on site and off site), plans and implements actions to minimise the identified risks, covering the following, where appropriate:			
Vehicle Movement			
A	Manage the construction site entrance to minimise the impacts (e.g. safety, disruption) arising from vehicles approaching and leaving the development footprint.	✓	
B	Ensure the development footprint is accessible for delivery vehicles fitted with safety features (e.g. side under run protection) to remove or limit the need for on-street loading or unloading. Where on-street loading is unavoidable, this should be appropriately managed.		
C	Identify access routes to the development footprint, including for heavy vehicles to minimise traffic disruption and safety risks to others.		
Pollution Management			
D	Minimise the risks of air, land and water pollution	✓	
E	Minimise the risks of nuisance from vibration, light and noise pollution.		
Tiredness			
F	Practices ensure the development footprint is safe, clean and organised at all times. This includes, but is not limited to, facilities, materials and waste storage.	✓	
G	Ensure clear and safe access in and around the buildings at the point of handover.	✓	
Health & Wellbeing			
H	Provide processes and equipment required to respond to medical emergencies.	✓	
I	The principal contractor identifies and implements initiatives to promote and maintain the health and wellbeing of all site operatives within the development footprint. This can be via site facilities, site management arrangements, staff policies etc.		
J	Establish management practices and facilities encouraging equality, fair treatment and respect of all site operatives.	✓	
K	Provide secure, clean and organised facilities (e.g. changing and storage facilities) for site operatives within the development footprint.		
Security Processes			
L	Minimise risks of the site becoming a focus for antisocial behaviour in the local community (e.g. robust perimeter fencing, CCTV, avoid creating dark corners etc.).		

BREEAM Man03: Responsible Construction Management Checklist

Training, Awareness & Feedback			
The principal contractor is responsible for ensuring:			
M	Aspects of the construction process that might impact the community are communicated regularly, ensuring that nuisance and intrusion are minimised		
N	Ensure ongoing training (see definition below) is provided, and up to date, for personnel and visitors (covering items A to L, as appropriate.)	✓	
O	The principal contractor ensures that site operatives are trained for the tasks they are undertaking (including any site-specific considerations).	✓	
P	The fleet operators (see definitions below), undertakes driver training and awareness to promote safety within the development footprint and off site.		
Monitoring & Reporting			
The principal contractor ensures:			
Q	The fleet operators, captures and investigates any road accidents, incidents and near misses and reports them back to the principal contractor. The principal contractor analyses these items.		
R	All visitor, workforce and community accidents, incidents and near misses are recorded and action is taken to reduce the likelihood of them reoccurring.	✓	
S	Processes are in place to facilitate collecting and recording feedback from the community and to address any concerns related to the development footprint.		

Relevant BREEAM Definitions:

Fleet operator: A fleet operator is responsible for groups of motor vehicles owned or leased by a business, government agency or other organisation rather than by an individual or family.

Training: Training can be teaching, or developing in oneself or others, any skills and knowledge (e.g. manual handling, safe working practices, regulations, project management, vocational skills, site supervision) that relate to specific useful competencies. Training includes, but is not limited to:

1. Formal external training
2. On site learning from trained or experienced people
3. Provision of training material or instructions for carrying out tasks

Completed by: _____

Signature: _____

Position & Company: _____

Date: _____