

Assessment Report
Jones Lang LaSalle Incorporated

Preliminary BREEAM Assessment Report

35 Wilson Road, Huyton

BREEAM New Construction v6.1



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1. Project Brief

Linden Hill – Capital Assets – ALX Limited is an asset management firm, focused on the delivery of high quality and sustainable logistics projects.

35 Wilson Road, Huyton falls under Knowsley Council in Merseyside and forms part of the company's portfolio. Linden Hill – Capital Assets – ALX Limited have gathered a team of experts to design the redevelopment of the site and thus to consider the potential sustainability credentials of a new logistics warehouse space.

The project had completed outline planning stage in early 2022. The GIA of the site comes up to 21,110sqm. The lettable space includes a logistics hub and a E(g) ancillary space.

Linden Hill – Capital Assets – ALX Limited have appointed JLL's Sustainability Consultancy to undertake an assessment against the potential for 35 Wilson Road, Huyton project to achieve an "Excellent" rating against the BREEAM New Construction v.6 standard. BREEAM certification to an "Excellent" rating is not a planning condition, but a client aspiration.

This report outlines the results from the preliminary assessment and the relevant actions the design team would be expected to undertake should certification be pursued.

A BREEAM Pre-assessment meeting was held with the project team on the 03.11.2025 with the presence of a BREEAM AP (Margarita Shivarova). This report outlines the results from the preliminary assessment and the relevant actions the design team would be expected to undertake if certification is pursued.



Source: Getty Images

2. Executive Summary

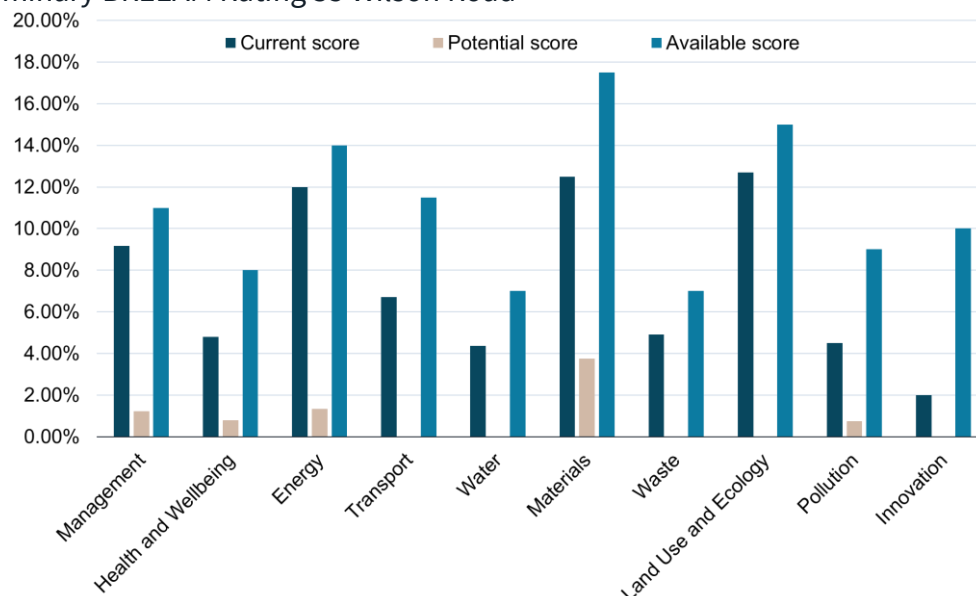
A preliminary assessment against BREEAM New Construction v6.1 Shell and Core scope has been undertaken for 35 Wilson Road. Based on the current design details, the project is able to achieve a score of 73.64% which equates to an “Excellent” rating (minimum 70%). JLL Sustainability Services would recommend a buffer of 3-5% is pursued on projects and therefore this report includes a section which outlines the path to achieving a score of 81.50%.

Please note, this report has been prepared prior to planning submission, however, the project has not been registered with BRE. Should the BREEAM NC v6.1 scheme be superseded by a new version, the following preliminary assessment and projected rating will need to be reviewed.

Table 1: Preliminary BREEAM Rating for 35 Wilson Road

Category	Credits targeted	Potential credits	Credits available	Category weighting	Category Scoring Targeted
Management	15	2	18	11.00%	9.17%
Health and Wellbeing	6	1	10	8.00%	4.80%
Energy	18	2	21	14.00%	12.00%
Transport	7	0	12	11.50%	6.71%
Water	5	0	8	7.00%	4.38%
Materials	10	3	14	17.50%	12.50%
Waste	7	0	10	7.00%	4.90%
Land Use and Ecology	11	0	13	15.00%	12.69%
Pollution	6	1	12	9.00%	4.50%
Innovation	2	0	10	10.00%	2.00%
TOTAL	87	9	128	110.10%	73.64%

Figure 1: Preliminary BREEAM Rating 35 Wilson Road



3. BREEAM New Construction v6.1 Introduction

BREEAM New Construction v6.1 is an Environmental Assessment Method administered by the Building Research Establishment. The scheme looks at nine sustainability categories across Management, Health & Wellbeing, Energy, Transport, Water, Materials, Waste, Land Use & Ecology and Pollution. Certification is achieved in the following benchmark rating bands:

Table 2: BREEAM Ratings

BREEAM Rating	% score
Outstanding	≥ 85
Excellent	≥ 70
Very good	≥ 55
Good	≥ 45
Pass	≥ 30
Unclassified	< 30

There are several mandatory credits that must be completed in order to achieve each benchmark in addition to achieving the % score through selection of targeted credits. The following table lists out all mandatory credits applicable to each BREEAM Rating.

Table 3: Table 2.5 Minimum BREEAM standards by rating level

BREEAM issue	Pass	Good	Very Good	Excellent	Outstanding
Man 03 Responsible construction practices	None	None	None	One credit (responsible construction management)	Two credits (responsible construction management)
Man 04 Commissioning and handover	None	None	One credit (commissioning-test schedule and responsibilities)	One credit (commissioning-test schedule and responsibilities)	One credit (commissioning-test schedule and responsibilities)
Man 04 Commissioning and handover	None	None	Criterion 11 (Building User Guide)	Criterion 11 (Building User Guide)	Criterion 11 (Building User Guide)
Man 05 Aftercare	None	None	None	One credit (commissioning-implementation)	One credit (commissioning-implementation)
Ene 01 Reduction of energy use and carbon emissions	None	None	None	Four credits (Energy performance or Prediction of operational energy consumption*)	Six credits (Energy performance) and Four credits (Prediction of operational energy consumption*)

Ene 02 Energy monitoring	None	None	One credit (First sub-metering credit)	One credit (First sub-metering credit)	One credit (First sub-metering credit)
Wat 01 Water consumption	None	One credit	One credit	One credit	Two credits
Wat 02 Water monitoring	None	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only
Mat 03 Responsible sourcing of construction products	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only
Wst 01 Construction waste management	None	None	None	None	One credit
Wst 03 Operational waste	None	None	None	One credit	One credit

Category weightings are applied to determine the overall BREEAM score. It is important to note that certain categories are more heavily weighted than others as in the case of Energy, Materials and Transport. To gain an “Excellent” rating it is expected that the design team would strive towards maximising the credits scored in these categories.

In addition, there are a number of credits that need to be completed between Concept Design Stage and RIBA Stage 2. These have been outlined in the following table.

Table 4: Concept Design/ RIBA Stage 2 credits

Concept Design/ RIBA Stage 2 credits (Reserved Matters)	Appointment responsibility	Third party provider
Man 01 BREEAM AP appointment	Project Manager/ Client	Sustainability Consultant
Man 02 Elemental & Comprehensive Life Cycle Cost study	Project Manager/ Client	Life Cycle Cost specialist
Hea 06 Security consultant appointment	Project Manager/ Client	Security specialist
Ene 04 Low and Zero Carbon technologies	Project Manager/ Client	Energy specialist
Ene 06 Energy efficient transportation system	Project Manager/ Client	Lift consultant/ supplier
Tra 01 Travel Plan (BREEAM addendum)	Transport Consultant	Transport Consultant
Mat 01 Life Cycle Assessment	Project Manager/ Client	Life Cycle Assessment specialist
Mat 03 Sustainable Procurement Plan	Project Manager/ Client	Sustainability consultant

Mat 06 Material efficiency report	Project Manager/ Client	Sustainability consultant
Wst 01 Pre-demolition audit	Project Manager/ Client	Architect/ Sustainability consultant
Wst 06 Disassembly and functional adaptability report	Project Manager/ Client	Sustainability consultant
Le 02 Ecology survey and evaluation (must be completed prior any strip out or demolition on site)	Project Manager/ Client	Suitably Qualified Ecologist
Le 03 Ecology recommendations on mitigation of negative impacts	Project Manager/ Client	Suitably Qualified Ecologist
Le 04 Ecology recommendations on ecological enhancements;	Project Manager/ Client	Suitably Qualified Ecologist
Pol 03 Flood Risk Assessment	Project Manager/ Client	Flood Risk Assessor/ Drainage specialist

Please note, it is advised that the project is registered with BRE as soon as a decision to pursue BREEAM certification has been made in order to lock the assessment to BREEAM New Construction v6.1 scheme.

4. Credits & Actions

4.1 Management

4.1.1 Man 01 Project brief and design

Project delivery planning – one credit

Prior to completion of Concept Design stage, project delivery stakeholders have met to identify key phases of the project, roles, responsibilities and contributions from each party considering a range of fields including end user requirements, aims of the design, installation and construction requirements, budgets and timescales, requirements for commissioning and others.

The above criteria will be met and therefore the available credit has been targeted.

Stakeholder consultation (interested parties) – one credit

The design team must consult with all external interested parties including building users, surrounding business community and users of shared facilities. The project must demonstrate communication between the design team and these parties as well as how their feedback has been taken on board and implemented.

The above criteria will unlikely be met and therefore the available credit has not been targeted.

Pre-requisite

The project design team will formally agree strategic performance targets early in the design process with the support of the BREEAM Accredited Professional where appointed.

A BREEAM AP (Margarita Shivarova) attended a meeting with the project team upon which the performance targets were formally agreed and this is reflected in the BREEAM Concept Design Stage Report. Therefore, the pre-requisite has been achieved.

BREEAM AP (Concept & Developed Design) – two credits

The design team will appoint a BREEAM AP to consult on the sustainability issues related to BREEAM requirements, advice on maximising the overall performance and monitor progress throughout all design stages of the project.

In addition to the initial involvement of the BREEAM AP at concept design stage it is anticipated that a BREEAM AP will be appointed, and the two available credits have been targeted.

Three of four credits are targeted for Man 01.

4.1.2 Man 02 Life Cycle Cost and service life planning

Elemental life cycle cost – two credits

The design team has appointed a JLL Sustainability Engineer (third-party consultant) to undertake an elemental life cycle cost study at RIBA Stage 2 to assess the cost of the project over a default design life of 60 years.

Therefore, the available credit has been targeted.

Component level Life Cycle Cost options appraisal - one credit

The project design team has appointed a JLL Sustainability Engineer (third-party consultant) to undertake a comprehensive life cycle cost study at Technical Design Stage (RIBA Stage 4) to assess in detail the life cycle cost of the envelope, services, finishes and external spaces and provide the project team with design options for reducing life cycle cost.

This available credit has been targeted.

Capital cost reporting – one credit

The design team has confirmed that the cost consultant will provide an overall capital cost report for the building in pounds per square meter of GIA.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Four of four credits are targeted for Man 02.

4.1.3 Man 03 Responsible construction practices

Pre-requisite

The design team must ensure that all timber and timber-based products used during the construction process of the project will be legally and sustainably sourced in line with UK's government definition.

It is expected that the above criteria will be met and therefore compliance with the pre-requisite will be achieved.

Environmental Management – one credit

The principal contractor must have an Environmental Management System in place (third party certified to ISO 14001: 2015 or equivalent). Management of the construction site must also be in line with PPG6: Pollution Prevention Guidelines.

The client is not able to confirm compliance with this credit at this stage and therefore the available credit has not been targeted.

BREEAM AP (site) Pre-requisite

The client and the contractor must formally agree performance targets. .

It is anticipated that the above criteria will be met as a contractor requirement.

BREEAM AP (site) – one credit

The design team must ensure a BREEAM AP is appointed to consult on the sustainability issues related to BREEAM during construction including site visits and communication with the construction management team on compliance with site related credits such as, for example, recording utilities, waste generated and materials used on site.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Responsible construction management – two credits

The design team has confirmed the contractor will be required to achieve all required points in Table 5. Part of the criteria can be achieved through compliance with Considerate Construction Scheme.

Table 5: Responsible construction practices requirements

Ref.	Criteria	Required for one credits
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.	

Tidiness		
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 and 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.).	
Training, awareness and feedback		
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 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), undertakes driver training and awareness to promote safety within the development footprint and off site.	
Monitoring and 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.	

It is anticipated that further 6 requirements from the above table will be met as a contractor requirement and therefore the two available credits have been targeted.

Monitoring of construction site impacts – two credits

The principal contractor must assign responsibility to an individual for monitoring, recording, and reporting energy use, water consumption and transportation data (where measured) resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme and report this to the BREEAM Assessor.

It is anticipated that the above criteria will be met as a contractor requirement and therefore the two available credits have been targeted.

Five of six credits are targeted for Man 03.

4.1.4 Man 04 commissioning and handover

Commissioning – testing schedule and responsibilities – one credit

The design team must prepare a schedule of commissioning and testing which identifies timescales and type of commissioning activities as well as standards to be met. An appropriate project team member must be appointed to monitor and programme pre-commissioning, commissioning and testing. The principal contractor must account for the commissioning and testing programme, responsibilities and criteria within their budget and the main programme of works.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Commissioning – design and preparation – one credit

During the design stage, the client or the principal contractor must appoint an appropriate project team member, provided they are not involved in the general installation works for the building services systems. The project team member must:

- Undertake design reviews and giving advice on suitability for ease of commissioning.
- Provide commissioning management input to construction programming and during installation stages.
- Manage commissioning, performance testing and handover or post-handover stages.

For buildings with complex building services and systems, this role needs to be carried out by a specialist commissioning manager.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Testing and inspecting building fabric – one credit

The design team must ensure complete post-construction testing and inspection to quality-assure the integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths (this is through airtightness testing and a thermographic survey). A suitably qualified professional must undertake the survey and testing in accordance with the appropriate standard. The contractor must rectify any defects identified during post-construction testing and inspection prior to building handover and close out. Any remedial work must meet the required performance characteristics for the building or element as defined at the design stage.

The project is currently in a very early stage to commit to compliance with the above criteria and therefore the available credit has not been targeted.

Handover – one credit

The design team must ensure that a non-technical and technical Building User Guides for the building occupiers and a non-technical and technical training schedules for the premises facilities managers will be prepared.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Three of four credits are targeted for Man 04.

4.1.5 Man 05 Aftercare – criteria not applicable to the Shell and Core assessment.

The credits under Man 05 Aftercare are not applicable to Shell and Core spaces and therefore this criteria does not apply to the project.

4.2 Health and Wellbeing

4.2.1 Hea 01 Visual comfort

Control of glare from sunlight

The credits under this credit are not applicable to Shell and Core spaces and therefore this criteria does not apply to the project.

Daylighting – one credit

The design team must ensure Daylighting requirements are met by achieving either good practice daylight factors and criteria from Table 5.1 and Table 5.2 in the BREEAM manual, or by meeting good practice average and minimum point daylight illuminance criteria from Table 5.3 in the BREEAM manual.

The design team confirmed such study will not be carried and therefore the available credits are not being targeted.

View out – one credit

The design team must ensure 95% of the floor area in 95% of spaces for each relevant building area must provide an adequate view out, with additional building type criteria specified in Table 5.6 also applying to view out requirements.

There will be very minimal fit-out of the ancillary offices and therefore the available credit is not being targeted.

Internal and external lighting levels, zoning and control – one credit

The design team must confirm that all external lighting located within the construction zone is specified in accordance with BS 5489-1:2013 Code for the practice for the design of road lighting. Lighting of roads and public amenity areas³ and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places. External lighting should provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night.

Where no external light fittings are specified (either separate from or mounted on the external building façade or roof), the criteria relating to external lighting do not apply and the credit can be awarded on the basis of compliance with the criteria for internal lighting in the BREEAM New Construction v.6 manual. If no internal lighting is specified, the credit cannot be awarded.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

One of three credits is targeted for Hea01.

4.2.2 Hea 02 Indoor Air Quality

Pre-requisite – Indoor air quality (IAQ plan)

The design team must ensure that an Indoor Air Quality Plan will be developed for the scheme.

Ventilation – one credit

The mechanical designer for the project must ensure that the HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 16798-3:2017. The design team must also ensure occupied spaces have carbon dioxide (CO₂) or air quality sensors specified in accordance with Building Regulations ADF22 and that in mechanically ventilated buildings or spaces, sensors must be linked to the mechanical ventilation system and provide demand-controlled ventilation to the space.

In addition, the design must also ensure positioning the building's air intakes and exhausts at least 10m of horizontal distance apart and also positioning intakes at least 10m horizontal distance from sources of external pollution (including the location of air exhausts from other buildings). Alternatively, the design team must ensure location of the building's air intakes and exhausts is in relation to each other and sources of external pollution, in accordance with the following best practice as appropriate:

- PD CEN/TR 16798-4:2017
- BRE FB 30 Ventilation for healthy buildings: Reducing the impact of urban air pollution (2011)
- BRE IP 9/14 Locating ventilation inlets to reduce ingress of external pollutants into buildings, as appropriate
- CIBSE TM21

It is not expected that the project will comply with the criteria and therefore the available credit has not been targeted.

Emissions from construction products – criteria not applicable to Shell and Core assessments.

Post-construction indoor air quality measurement – criteria not applicable to Shell and Core assessments.

No credits have been targeted for Hea02.

4.2.3 Hea 04 Thermal Comfort

Thermal modelling – one credit

The design team must appoint a competent person to undertake thermal modelling using software in accordance with CIBSE AM11 Building Energy and Performance Modelling. The modelling must demonstrate that:

For air-conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5; or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type); or the thermal environment in occupied spaces meet the Category B requirements for PPD, PMV and local discomfort set out in Table A.1 of Annex A of ISO 7730:2005.

For naturally ventilated buildings:

- Winter operative temperature ranges in occupied space must be in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5. Or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type).
- The building must be designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in either of the following standards as appropriate; CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings³ or CIBSE TM59: Design methodology for the assessment of overheating risk in homes

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Design for future thermal comfort – one credit

The design team must also demonstrate that the relevant requirements set out in the Thermal modelling credit are achieved for a projected climate change environment. For air-conditioned buildings, the PMV and PPD indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.

It is anticipated that should an “Excellent” rating be pursued, the above criteria for one credit will be met and therefore the available credit would be targeted.

Thermal zoning and control – criteria not applicable to Shell and Core assessments.

Two of two credits are targeted for Hea 04.

4.2.4 Hea 05 Acoustic performance

One credit

The design team must appoint a suitably qualified acoustician to confirm the building meets the appropriate acoustic performance standards and testing requirements for:

- Indoor ambient noise levels

It is anticipated that the above criteria will be partially met (Sound insulation only) and therefore some of the available credits have been targeted.

One of three credits is targeted for Hea 05.

4.2.5 Hea 06 Security

Security of site and building – one credit

The design team must appoint a Suitably Qualified Security Specialist to undertake a Security Needs Assessment and provide recommendations for incorporation into the proposals. The controls and recommendations shall be incorporated into proposals and implemented in the as-built development. Any deviation from those controls and recommendations shall be justified and agreed with the SQSS.

The client is not able to confirm compliance with criteria at this stage and therefore available credits have not been targeted.

No credits have been targeted for Hea 06.

4.2.6 Hea 07 Safe and healthy surroundings

Safe access – one credit

The design team must ensure the site has safe external access through:

- Dedicated and safe cycle paths must be provided from the site entrance to any cycle storage, and connect to off-site cycle paths where applicable.
- Dedicated and safe footpaths must be provided on and around the site providing suitable links for the following:
 - The site entrance to the building entrance
 - Car parks (where present) to the building entrance
 - The building to outdoor space
 - Connecting to off-site paths where applicable.
- Pedestrian drop-off areas must be designed off, or adjoining to, the access road and should provide direct access to other footpaths.

Where vehicle delivery access and drop-off areas form part of the assessed development, the following apply:

- Delivery areas must not be accessed through general parking areas and do not cross or share the following:
 - pedestrian and cyclist paths
- outside amenity areas accessible to building users and general public.
- There must be 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 must be designed for simple manoeuvring according to the type of delivery vehicle likely to access the site, thus avoiding the need for repeated shunting.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Outside space – one credit

The design team has confirmed that outside space will be provided for building users with an external amenity area.

Two of two credits are targeted for Hea 07.

4.3 Energy

4.3.1 Ene 01 Reduction of energy use and carbon emissions

Energy Performance – nine credits

The design team must appoint a suitably qualified professional to undertake energy efficiency calculations for the proposed development.

Since the site is being redeveloped it is expected that the achieved Energy Performance Ratio for New Construction targets seven available credits.

Prediction of operational energy consumption – four credits

The design team must appoint an energy consultant (advisable to do so by RIBA Stage 2) to undertake energy design workshop focusing on operational energy performance during the design and post-construction stages and generate predicted operational energy consumption figures and report those. A risk assessment must be carried out to highlight any significant design, technical and process risks that should be monitored and managed throughout the construction and commissioning process.

It is anticipated that the above criteria will be met and therefore the four available credits have been targeted.

Eleven of thirteen credits are targeted for Ene 01.

4.3.2 Ene 02 Energy monitoring

Sub-metering of end-use categories – one credit

The design team must ensure that at least 90% of the estimated annual energy consumption of each fuel is assigned to the end-use category with an appropriate energy monitoring and management system. Building users should be able to identify the energy consuming end uses, for example through labelling or data outputs.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Sub-metering of high energy load and tenancy areas – one credit

The design team must ensure that an accessible energy monitoring and management system for tenanted areas or relevant function areas/ departments in single occupancy buildings OR separate sub-meters with pulsed or other open protocol communication outputs for future connection to an energy monitoring and management system for tenanted areas or relevant function areas/departments in single occupancy buildings.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Two of two credits are targeted for Ene02.

4.3.3 Ene 03 External lighting

One credit

The design team must ensure that external light fittings within the construction zone have:

- Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt
- Automatic control to prevent operation during daylight hours
- Presence detection in areas of intermittent pedestrian traffic.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

One of one credit is targeted for Ene 03.

4.3.4 Ene 04 Low carbon design

Passive design & Free cooling – two credits

The design has appointed JLL Sustainability Engineer to conduct a passive design analysis during Concept Design Stage to confirm energy and carbon reductions from a fabric first approach, However, this excludes a free cooling analysis for a second credit.

It is anticipated that the one credit from the above criteria will be met and therefore the available credit has been targeted.

Low and Zero Carbon technologies – one credit

The design has appointed JLL Sustainability Engineer to conduct a Low and Zero Carbon feasibility study at Concept Design Stage establishing the most appropriate LZC technologies for the development will be carried out. The report must quantify the reduced regulated carbon dioxide (CO₂-eq) emissions resulting from the feasibility study.

It is anticipated that the one credit from the above criteria will be met and therefore the available credit has been targeted.

Two of three credits are targeted for Ene 04.

4.3.5 Ene 06 Energy efficient transportation system

Energy consumption (Lifts) – one credit

The design team must ensure that a lift consultant is appointed to analyse the transportation demand and usage patterns of the building to determine the optimum number of lifts, and calculate the energy consumption in accordance with BS EN ISO 25745 Part 2 (132) or Part 3 (133) for one of the following:

- At least two options for each transportation type (e.g. for lifts, hydraulic, traction or machine room-less (MRL)) OR
- At least two options considering different system arrangements and control strategies.

The lift consultant must consider the use of regenerative drives and specify the transportation system with the lowest energy consumption.

It is anticipated that the credit from the above criteria will be met and therefore the available credit has been targeted.

Energy efficient features – one credit

The design team must ensure that the specified lift will include:

- A standby condition for off-peak periods
- 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
- Use of a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVF) control of the drive motor.
- Specify regenerative drives where their use is demonstrated to save energy.

It is anticipated that the two credits from the above criteria will be met and therefore the available credits have been targeted.

Three of three credits are targeted for Ene 06.

4.3.6 Ene 08 Energy efficient equipment - criteria not applicable to Shell and Core assessments.

4.4 Transport

4.4.1 Tra 01 Transport assessment and travel plan

Transport statement and Travel Plan

The design team must ensure that a BREEAM compliant addendum to the Transport assessment and Travel Plan is completed out before the close of concept design stage.

Two of two credits are targeted for Tra 01.

4.4.2 Tra 02 Sustainable transport measures

Transport Options Implementation – ten credits

The design team must ensure that the following sustainable transport options will be implemented.

- Provide a public transport information system in a publicly accessible area, to allow building users access to up-to-date information on the available public transport and transport infrastructure. This may include signposting to public transport, cycling, walking infrastructure or local amenities.
- Provide electric recharging stations of a minimum of 3kW for at least 10% of the total car parking capacity for the development. For shell only and shell & core assessments it is permissible to demonstrate compliance through provision of all necessary infrastructure required for future installation of compliant electric recharging stations.
- Set up a car sharing group or facility to facilitate and encourage building users to car share.
 - Raise awareness of the sharing scheme with marketing and communication materials.
 - Provide priority spaces for car sharers for at least 5% of the total car parking capacity for the development.
 - Locate priority parking spaces nearest the development entrance used by the sharing scheme participants.
- Install compliant cycle storage spaces (1 per 10 members of staff)
- Provide compliant cyclists' facilities for the building users
 - Showers – 1 for every 10 cycle spaces
- Changing facilities that account for privacy to allow cyclists of either gender to change in private. These must also have adequate space and facilities to hang or store clothing e.g. bench seat or hooks.

Five of ten credits are targeted for Tra 02.

4.5 Water

4.5.1 Wat 01 Water consumption

Water consumption – five credits

The design team must ensure that water efficiency measures will be applied to ensure the following specification can be met where sanitary areas are installed:

Table 6: Sanitary ware specification requirements

Component	Performance level	Unit
WC	3.75	Effective flush volume (litres)
Wash-hand basin taps	5	Litres/ min
Showers	6	Litres/ min
Urinals	1.50	Litres/ bowl/ hour
Greywater and rainwater system	25%	% of WC or urinal flushing demand met using recycled non-potable water
Kitchenette tap	6	Litres/ min
Domestic sized dishwashers	12	Litres. Cycle
Domestic sized washing machine	40	Litres/ use

It is anticipated that some of the above criteria will be met and therefore three out of five credits have been targeted.

Three of five credits are targeted for Wat 01.

4.5.2 Wat 02 Water monitoring

Water monitoring – one credit

The design team must ensure a water meter on the mains water supply will be provided to each building. The meter should have a pulsed or other open protocol communication output and the ability to connect it to a BMS system. Any water-consuming plant or building areas consuming more than 10% of the building's total water demand must be sub-metered or have a water monitoring equipment integral to the plant or area.

One of one credit is targeted for Wat 02.

4.5.3 Wat 03 Water leak detection

Leak detection system – one credit

The design team must ensure that a leak detection system on the utilities water supply within the buildings will be provided, to detect any major leaks within the buildings. The leak detection system must be:

- A permanent automated water leak detection system that alerts the building occupants to the leak OR an inbuilt automated diagnostic procedure for detecting leaks
- Activated when the flow of water passing through the water meter or data logger is at a flow rate above a pre-set maximum for a pre-set period of time. This usually involves installing a system which detects higher than normal flow rates at meters or sub-meters. It does not necessarily require a system that directly detects water leakage along part or the whole length of the water supply system
- Able to identify different flow and therefore leakage rates, e.g. continuous, high or low level, over set time periods. Although high and low level leakage rates are not specified, the leak detection equipment installed must have the flexibility to distinguish between different flow rates to enable it to be programmed to suit the building type and owner's or occupier's usage patterns.
- Programmable to suit the owner's or occupier's water consumption criteria
- Where applicable, designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Flow control devices – one credit

The design team must ensure that flow control devices will be provided to regulate the water supply to each WC area or sanitary facility according to demand, to minimise undetected wastage and leaks from sanitary fittings and supply pipework.

The design team cannot confirm compliance with the criteria at this stage and therefore the available credit has not been targeted.

One of two credits are targeted for Wat 03.

4.5.4 Wat 04 Water efficient equipment

Water efficient equipment – one credit

The development is assumed to not have water demand from uses other than domestic-scale, sanitary use components in the building and therefore this issue has been considered not applicable and no credits have been targeted.

4.6 Materials

4.6.1 Mat 01 Environmental Impacts from Construction Products - Building Life Cycle Assessment (LCA)

Superstructure – six credits

The client has appointed a JLL Sustainability Engineer to conduct a LCA benchmarking study against BREEAM standards using approved tools and conduct options appraisals comparing 2-4 different superstructure designs, with results submitted to BRE before planning permission. During Technical Design, the process must be repeated with updated LCA benchmarking and options appraisal of 2-3 refined design alternatives based on the selected concept design. All assessments must ensure functional equivalency between options, integrate findings into design decision-making, document rationale for selections, and submit comprehensive results through the Mat 01/02 Results Submission Tool at each stage completion.

It is anticipated that the above criteria will be met and therefore five out of the available six credits have been targeted.

Substructure and Hard Landscaping Options Appraisal During Concept Design – one credit

After completing criteria 3 and 4, the appointed JLL Sustainability Engineer must conduct LCA options appraisal during Concept Design of at least six design options (minimum two substructure, two hard landscaping) using BREEAM-recognized tools. They must ensure functional equivalency between options, integrate findings into design decisions, and document selection rationale. Submit results via Mat 01/02 Results Submission Tool to BRE before planning permission application.

The client cannot confirm compliance with the criteria at this stage and therefore the available credits have not been targeted.

Six of seven credits are targeted for Mat 01.

4.6.2 Mat 02 Environmental impacts from construction products - Environmental Product Declarations

Specification of products with a recognised environmental product declaration (EPD) – one credit

The contractor must ensure that 20 products used on-site have environmental Product Declarations. The following material classifications must be used.

Table 7: Material classification

Material Category	Uniclass equivalent code (for information)
Timber or timber-based	P5
Concrete or cementitious	P2*
Metal	P4

Stone or aggregate	P1, P3*
Clay-based	P33
Gypsum	P232
Glass	P314
Plastic, polymer, resin, paint, chemicals and bituminous	P7, P34
Animal fibre or skin, cellulose fibre	P6
Other	P8
*Except subsets listed separately. For example, P2 generally relates to '2. Concrete or cementitious' except for the subset P232 which relates to '6. Gypsum'.	

One of one credit is targeted for Mat 02.

4.6.3 Mat 03 Responsible sourcing of construction products

Legal and sustainable timber – Pre-requisite

The design team and contractor must ensure that all timber and timber-based products used during the construction process of the project will be legally and sustainably sourced in line with UK's government Timber Procurement Policy (TPP).

Enabling sustainable procurement – one credit

The contractor must establish a sustainable procurement plan before Concept Design to guide specification towards sustainable construction products. Include sustainability aims, objectives and strategic targets for procurement activities, with justification required for any unmet targets. Incorporate requirements for assessing local procurement potential and implement a policy to procure locally where possible. Define procedures for checking and verifying effective plan implementation. For multi-site or organizational-level plans, identify procurement risks and opportunities across social, environmental and economic issues following BS ISO 20400:2017 processes.

It is anticipated that the above criteria will be met and therefore the available credits have been targeted.

Measuring responsible sourcing – three credits

The design team must use the Mat 03 calculator tool and methodology to determine credits achieved for specified or procured construction products. Credits are awarded proportionally based on the assessment scope and points achieved as outlined in Table 9.10.

It is anticipated that some of the above criteria will be met and therefore two of the available credits have been targeted.

Three of four credits are targeted for Mat 03.

4.6.4 Mat 05 Designing for durability and resilience

Designing for durability and resilience – one credit

The design team must ensure they will identify parts of the building vulnerable to damage and material degradation and implement measures for protection of these areas and materials. These measures must provide protection against:

- Negative impacts of high user numbers in relevant areas of the building (e.g. corridors, lifts, stairs, doors etc.).
- Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas.
- External building fabric damage by a vehicle. Protection where parking or manoeuvring areas are within 1 metre of the building façade and where delivery areas or routes are within 2 metres of the façade, i.e. specifying bollards or protection rails.
- Potential malicious damage to building materials and finishes, in public and common areas where appropriate.

Key exposed building elements must be designed and specified to limit long and short term degradation due to environmental factors. This can be demonstrated through one of the following:

- The element or product achieving an appropriate quality or durability standard or design guide, see Table 9.14. If none are available, use BS 7543:20151 as the default appropriate standard

OR

- A detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors.
- Include convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design.
- Design the roof and façade to prevent water damage, ingress and detrimental ponding.

One of one credit is targeted for Mat 05.

4.6.5 Mat 06 Material efficiency

Material efficiency – one credit

The design team must ensure they will carry out a material efficiency workshop and produce a report considering reducing the building's embodied impact by reducing the quantity of materials required to do so. This includes using fewer materials, reusing existing demolition and strip-out materials and, where appropriate, procuring materials with higher levels of recycled content. It may also include the adoption of

alternative means of design and construction that result in lower materials usage and lower wastage levels including off-site manufacturers or use of pre-assembled service pods.

The assessment must be carried and reviewed at each design stage (from Preparation and Brief through to Construction) and a record of implementation of measures. Actual vs. targeted material efficiencies must be recorded at construction stage and presented as evidence to the BREEAM Assessor.

One of one credit is targeted for Mat 05.

4.7 Waste

4.7.1 Wst 01 Construction waste management

Pre-demolition audit – one credit

The design team must ensure that a pre-demolition audit is carried out for any building structures on-site to be demolished to identify likely waste streams and reuse options.

The design team cannot confirm compliance with the criteria at this stage and therefore this credit is not being targeted.

Construction resource efficiency and diversion of recourses from landfill – four credits

The design team must ensure that the contractor will commit to achieving the following demolition and construction waste management targets and produce a Resource Management Plan to reflect this:

- Generate no more than 7.5m³ or 6.5 tonnes of non-hazardous construction waste per 100m²
- At least 70% volume or 80% tonnage of non-demolition waste must be diverted from landfill.
- At least 80% volume or 90% tonnage of demolition waste must be diverted from landfill.

It is anticipated that the above criteria will be met and therefore three out of the available five credits have been targeted.

Three of four credits are targeted for Wst 01.

4.7.2 Wst 02 Use of recycled and sustainable sourced aggregates

Pre-requisite

A pre-demolition audit must be carried as per Wst 01 Pre-requisite.

Project sustainable aggregate points – one credit

The design team must identify all aggregate uses and types on the project, determine their quantity, identify the region they are sourced from, calculate distance in km travelled by transport type and use the BREEAM Wst 02 calculator to calculate the achievable sustainable aggregate points. This criteria encourages sourcing of local materials as well as re-use of any materials from the development being demolished.

The design team are not sure if his credit is achievable at this point and therefore the available credit has not being targeted.

None of the credits are targeted for Wst 02.

4.7.3 Wst 03 Operational waste

Operational waste – one credit

The design team must ensure that an adequate waste area will be provided to the future tenant(s). This must comply with the following criteria:

- Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams
- Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors
- Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily or weekly operational activities and occupancy rates.

If consistent and large amounts of operational waste are expected to be generated, the development must provide:

- Static waste compactors or balers; situated in a service area or dedicated waste management space
- Vessels for composting suitable organic waste OR adequate spaces for storing segregated food waste and compostable organic material for collection and delivery to an alternative composting facility
- A water outlet provided adjacent to or within the facility for cleaning and hygiene purposes where organic waste is to be stored or composted on site.

The size of each waste area must comply with the below:

- At least 2m² per 1000m² of net floor area for buildings < 5000m²
- A minimum of 10m² for buildings ≥ 5000m²
- An additional 2m² per 1000m² of net floor area where catering is provided (with an additional minimum of 10m² for buildings ≥ 5000m²).

The net floor area should be rounded up to the nearest 1000m².

One of one credit is targeted for Wst 03.

4.7.4 Wst 04 Speculative finishes

The design team must ensure that any fit-out elements in the office areas are in line with tenant requirements. Alternatively, if only floor and ceiling finishes are installed that these are selected by the known occupant of a development. Alternatively, where only ceiling finishes and no carpets are installed, the building owner must ensure that the first tenants will not be permitted to make substantial alterations to the ceiling finishes.

It is anticipated that the available credit would not be targeted.

None of the credits are targeted for Wst 03.

4.7.5 Wst 05 Adaptation to climate change

Resilience of structure, fabric, building services and renewables installation – one credit

The design team must carry out a climate change adaptation strategy appraisal through a risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects and includes (see Methodology):

- Hazard identification
- Hazard assessment
- Risk estimation
- Risk evaluation
- Risk management.

The design team must develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design, that aim to mitigate the identified impact.

The design team must provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective. Omissions must be justified in writing by the assessor.

One of one credit is targeted for Wst 05.

4.7.6 Wst 06 Design for disassembly and adaptability

Design for disassembly and functional adaptability – recommendations – one credit

The design team must conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design.

The study must consider the following as a minimum:

- Feasibility: The likelihood to contain multiple or alternative building uses, area functions and different tenancies over the expected life cycle, e.g. related to the structural design of the building.
- Accessibility: Design aspects that facilitate the replacement of all major plant within the life of the building, e.g. panels in floors and walls that can be removed without affecting the structure, providing lifting beams and hoists. Accessibility also involves access to local services, such as local power, data infrastructure etc.
- Versatility: The degree of adaptability of the internal environment to accommodate changes in working practices.
- Adaptability: The potential of the building ventilation strategy to adapt to future building occupant needs and climatic scenarios.

- **Convertibility:** The degree of adaptability of the internal physical space and external shell to accommodate changes of in-use.
- **Expandability:** The potential for the building to be extended, horizontally or vertically.
- **'Refurbishment potential':** The potential for major refurbishment, including replacing the façade.

The design team must develop recommendations or solutions based on the study, during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation.

This credit is being targeted.

Design for disassembly and functional adaptability – implementation – one credit

The design team must provide an update of the disassembly and functional adaptability study at Technical Design on:

- How the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing to the assessor.
- Changes to the recommendations and solutions during the development of the Technical Design.

The design team must produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.

The implementation will be specific to the building and scope of the project, but information should be made available to the assessor covering:

- Options for multiple building uses and area functions based on design details, e.g. modularity.
- Routes and methods for major plant replacement, e.g. networks and connections have flexibility and capacity for expansion.
- Accessibility for local plant and service distribution routes, e.g. detailed information on building conduits and connections infrastructure.
- The potential for the building to be extended, horizontally or vertically.

Ease of disassembly must be facilitated by principles allowing the building or parts of the building to be disassembled at the end of its life, or to be renovated rather than demolished, with individual components being used for other purposes. The study should consider the following as a minimum:

- **Accessibility.**
- **Durability:** use materials which require less frequent maintenance, repair or replacement, considering them within the context of the life span of the building.
- **Exposed and reversible connections:** making the connections more visible provides opportunities to optimise material and product reuse. Welded connections prohibit disassembly and it is preferable to use screws and bolts to allow for disassembly and material reuse.

- Layer independence: designing building systems and components in layers so that removal, adjustment or replacement of some elements is feasible, especially when different components have different life spans and maintenance needs.
- Avoidance of unnecessary toxic treatments and finishes. Some finishes can contaminate the substrate in a way that they are no longer reusable or recyclable. This should be avoided unless finishes serve a specific purpose.
- Standardisation can accommodate reuse and upgrading. It involves aspects such as dimensions, components, connections and modularity.

This credit is being targeted.

Two of two credits are targeted for Wst 06.

4.8 Land use and Ecology

4.8.1 LE01 Site selection

Previously occupied land – one credit

The design team can confirm that at least 75% of the proposed development is on previously occupied land. This credit is being targeted.

Contaminated Land – one credit

The site does not contain any contaminated land and therefore the relevant credits including survey and remediation have not been targeted.

One of two credits is targeted for Le 01.

4.8.2 LE02 Ecological Risks and Opportunities

Pre-requisite

The client has appointed an ecologist and must ensure compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.

It is anticipated that the above criteria will be met and therefore the pre-requisite will be achieved.

Survey and evaluation – one credit

The design team must appoint a Suitably Qualified Ecologist at Concept Design stage (prior any strip out and demolition) to complete a site survey and evaluation in line with Comprehensive Route 2

The SQE's survey and evaluation determines the site's ecological baseline (see Definitions), including:

- Current and potential ecological value and condition of the site and related areas within the Zone of Influence.
- Direct and indirect risks to current ecological value from the project.
- Capacity and feasibility for enhancement of the site's ecological value and, where relevant, areas within the Zone of Influence.

Recommendations and data collected from the survey and evaluation must be shared with appropriate project team members to influence decisions made for activities during site preparation, design and construction works, which can support ecological features.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Determining ecological outcomes – one credit

The project team must liaise and collaborate with representative stakeholders early enough to influence key planning decisions (typically Concept Design stage), to:

- Identify the optimal ecological outcomes for the site.

- Identify, appraise and select measures to meet the optimal ecological outcomes for the site (criterion 7.a), in line with the mitigation hierarchy of action, according to the route being used (see Definitions):

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Two of two credits are targeted for Le 02.

4.8.3 LE03 Managing impacts on ecology

Pre-requisite

LE02 must be achieved

It is anticipated that the above criteria will be met and therefore the pre-requisite will be achieved.

Planning and measures on site – one credit

- Further planning to avoid and manage negative ecological impacts on-site must be carried out early enough to influence the concept design and design brief as well as site preparation planning (typically Concept Design stage).
- On-site measures for managing negative ecological impacts during site preparation and construction must be implemented in-practice (e.g. mitigation measures to protect existing ecological features).
- The criteria above must be based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE 02 Ecological risks and opportunities.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Managing negative impacts – two credits

Negative impacts from site preparation and construction works must be managed according to the mitigation hierarchy, in line with the SQE's recommendations and, either:

- No overall loss of (see Definitions) ecological value has occurred (two credits).

OR where criterion is not possible:

- The loss of ecological value has been minimised (Minimising Loss) (one credit)

It is anticipated that the above criteria will be met and therefore the available credits have been targeted.

Three of three credits are targeted for Le 03.

4.8.4 LE04 Ecological change and enhancement

Pre-requisites

LE03 must be achieved

The client or contractor must ensure compliance will be monitored against all relevant UK, EU or international legislation relating to the ecology of the site.

It is anticipated that the above criteria will be met and therefore the pre-requisite will be achieved.

Ecological enhancement – one credit

Comprehensive route (Route 2) only

Measures must be implemented that enhance ecological value, which are based on input from the project team and SQE in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE 02 (see Methodology). Measures are implemented in the following order:

- On site, and where this is not feasible,
- Off site within the Zone of Influence.

Data collated must be analysed and where potentially valuable, provided to the local environmental records centres nearest to, or relevant for, the site.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Change and enhancement of ecology – three credits

Comprehensive route (Route 2) only

The Suitably Qualified Ecologist must calculate change in ecological value occurring as a result of the project. This must be calculated in accordance with the process set out in GN36 - BREEAM, CEEQUAL and HQM Ecology Calculation Methodology – Route 2. Credits must awarded in line with the Reward Scale table in GN36 where there are no residual impacts on protected sites or irreplaceable habitats.

It is anticipated that some of the above criteria will be met and therefore two of the three available credits has been targeted.

Three of four credits are targeted for Le 04.

4.8.5 LE05 Long term ecology management and maintenance

Prerequisite - Statutory obligations, planning and site implementation

The client or contractor must ensure that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site.

Comprehensive route (Route 2) - Criterion 8 in LE 03 must be achieved, and at least one credit under LE 04 for 'Change and Enhancement of Ecology' must be awarded.

It is anticipated that the above criteria will be met and therefore the pre-requisite will be achieved.

Management and maintenance throughout the project – one credit

Measures must be implemented to manage and maintain ecology throughout the project. These measures must be based on input from the project team in collaboration with representative stakeholders and data collated as part of the ‘Determining ecological outcomes’ in LE 02. To ensure the optimal ecological outcomes agreed in LE 02 are met in-practice, these measures must monitor and review the effectiveness of the mitigation and enhancement measures in place for LE 03 & LE 04 to ensure they are implemented.

A section on Ecology and Biodiversity must be included as part of the tenant or building owner information supplied, to inform the owner or occupant of local ecological features, value and biodiversity on or near the site. This should include detailed management and maintenance plans as required by landscape and asset managers as well as relevant parts of the handover information for occupiers written in a format that encourages understanding and supportive behaviours.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Landscape and ecology management plan – one credit

The Suitably Qualified Ecologist must produce a Landscape and Ecology Management Plan, or equivalent in accordance with BS 42020:2013 Section 11.11 covering at least the first five years after project completion as a minimum and including:

- Actions and responsibilities of relevant individuals prior to handover
- The ecological value and condition of the site at handover and how this is expected to develop and change over time
- Identification of opportunities for ongoing alignment with activities beyond the development project, which support the aims of BREEAM's Strategic Ecology Framework
- Identification and guidance to trigger appropriate remedial actions to address previously unforeseen impacts
- Clearly defined and allocated roles and responsibilities for delivering the plan

The landscape and management plan or similar must be updated to support maintenance of the ecological value of the site (see sections relating to Maintenance and Monitoring in CIEEM, CIRIA, IEMA, for helpful guidance²).

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

Two of two credits are targeted for Le 05.

4.9 Pollution

4.9.1 Pol 01 Impacts of refrigerants

Pre-requisite

The mechanical design must ensure that only systems with electric compressors compliant with the requirements of BS EN 378:20161 (parts 2 and 3) are specified. Refrigeration systems containing ammonia must comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice.

It is anticipated that the above criteria will be met and therefore the pre-requisite will be achieved.

Impact of refrigerant – one credit

The mechanical design must ensure that the electric systems specified have a DELC of $\leq 1000 \text{ kgCO}_2\text{-eq/kW}$ cooling and heating capacity.

It is anticipated that the above criteria will be met and therefore one of the two available credits has been targeted.

Leak detection – one credit

All electric systems using a refrigerant must be hermetically sealed or have a permanent automated refrigerant leak detection system with a pump down feature.

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. The design team cannot confirm compliance with the criteria at this stage and therefore the available credit has not been targeted.

One of three credits are targeted for Pol 01.

4.9.2 Pol 02 Local Air quality

Local air quality – two credits

The design team must ensure all heating and hot water is supplied by non-combustion systems. For example, only powered by electricity.

It is anticipated that the above criteria will be met and therefore the available credits have been targeted.

Two of two credits are targeted for Pol 02.

4.9.3 Pol 03 Flood and surface water management

Pre-requisite

An appropriate consultant must be appointed to carry out and demonstrate the development's compliance with all criteria.

It is anticipated that the above criteria will be met and therefore the pre-requisite will be achieved.

Flood resilience (low flood risk) – two credits

The design team must appoint an appropriate consultant to produce a Flood Risk Assessment and confirm the site has a low flood risk.

It is anticipated that the above criteria will be met and therefore the available credits have been targeted.

Surface water run-off – two credits

Pre-requisite

Surface water run-off design solutions must be bespoke, i.e. they must take account of the specific site requirements and natural or man-made environment of and surrounding the site. The priority levels detailed in the Methodology must be followed, with justification given by the appropriate consultant where water is allowed to leave the site.

It is anticipated that the above criteria will be met and therefore the pre-requisite will be achieved.

Surface water run-off – rate – one credit

For brownfield sites, drainage measures must be specified by a specialist consultant 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 should comply at 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) must be put in place. Calculations include an allowance for climate change. This should be made in accordance with current best practice planning guidance (see Definitions).

The design team are not able to confirm if this is achievable and therefore the available credit is not being targeted.

Surface water run-off – volume – one credit

The design team must appoint a drainage specialist to establish and confirm flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance) AND

- Drainage design measures must 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 must be for the 100-year 6-hour event, including an allowance for climate change.
- Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other SuDS techniques.

OR

A drainage consultant must provide justification indicating why the above criteria cannot be achieved, i.e. where infiltration or other SuDS techniques are not technically viable options.

Drainage design measures must be specified so that the post-development peak rate of run-off is reduced to the limiting discharge. The limiting discharge is defined as the highest flow rate from the following options:

- The pre-development one-year peak flow rate

- The mean annual flow rate (Qbar)
- 2L/s/ha.

For the one-year peak flow rate, the one-year return period event criterion applies.

Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be put in place.

For either option, above calculations must include an allowance for climate change; this should be made in accordance with current best practice planning guidance.

The design team are not able to confirm if this is achievable and therefore the available credit is not being targeted.

Minimising watercourse pollution – two credits

The design team must ensure the design can accommodate for no discharge from the developed site for rainfall up to 5 mm (confirmed by the appropriate consultant). This is normally achieved through including features like an external pond and since this is not currently within the design the available credit has not been targeted.

Two of five credits are targeted for Pol 03.

4.9.4 Pol 04 Reduction of night time light pollution

Reduction of night time light pollution – one credit

The design team must ensure external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the Institution of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light, 2011.

All external lighting (except for safety and security lighting) must 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 must comply with the lower levels of lighting recommended during these hours in Table 2 of the ILP guidance notes.

Illuminated advertisements must be designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements.

The credit is not being targeted.

None of the credits are targeted for Pol 04.

4.9.5 Pol 05 Reduction of noise pollution

One credit

The design team must appoint a Suitably Qualified Acoustician to confirm there are no noise-sensitive areas within the assessed building or within 800 m radius of the assessed site.

OR

Where there are noise-sensitive areas within the assessed building or noise-sensitive areas within 800 m radius of the assessed site, a noise impact assessment compliant with BS 4142:20141 must be commissioned. Noise levels must be measured or determined for:

- Existing background noise levels:
 - at the nearest or most exposed noise-sensitive development to the proposed assessed site
 - including existing plant on a building, where the assessed development is an extension to the building
- Noise rating level from the assessed building.
- The noise impact assessment must be carried out by a suitably qualified acoustic consultant.
- The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise-sensitive development, must be at least 5dB lower than the background noise throughout the day and night.
- If the noise sources from the assessed building are greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with the criterion.

It is anticipated that the above criteria will be met and therefore the available credit has been targeted.

One of one credit are targeted for Pol 05.

4.10 Innovation

Man 03 Responsible construction management – exemplary credit

The design team must ensure the contractor will be asked to achieve all required points in Table 5 on the Responsible construction management credit (see p.10 of this report). Part of the criteria can be achieved through compliance with Considerate Construction Scheme.

The exemplary credit has been targeted.

Wst 01: Construction waste management - exemplary credit

The contractor must ensure that non-hazardous construction waste is diverted from landfill at or above exemplary percentages outlined below, covering all key waste groups from Table 10.3 in the Resource Management Plan, and ensuring waste data reliability through EA/SEPA/EA Wales/NIEA Waste Return Forms or PAS 402:2013 compliant companies.

- At least 85% volume or 90% tonnage of non-demolition waste must be diverted from landfill.
- At least 85% volume or 95% tonnage of demolition waste must be diverted from landfill.

5. Additional credits for higher % Excellent rating

The following table outlines potential uplifts of the Excellent rating to 81.50%.

Credit	Description	Category weighting
Man 01: Stakeholder consultation (interested parties)	This credit may be achieved by conducting formal stakeholder consultations at two key design stages - before Concept Design completion and before detailed design completion - and demonstrating how feedback from all interested parties influences the project brief and design decisions.	1.22%
Man 03: Environmental management	This credit may be achieved by ensuring all construction site management parties operate a third-party certified Environmental Management System (ISO 14001:2015, EMAS, or equivalent) or comply with BS 8555:2016 through phase four implementation, and implement best practice pollution prevention policies according to PPG6 guidelines.	
Hea 02: Security of site and building	This credit may be achieved by engaging a Suitably Qualified Security Specialist to conduct an evidence-based Security Needs Assessment during or before Concept Design, develop security controls and recommendations based on identified threats and assets, and incorporate these into the final development with SQSS agreement on any deviations.	0.80%
Ene 01: Energy performance	Additional two credits may be achieved by calculating an Energy Performance Ratio for New Construction (EPR NC) and comparing it against the benchmarks in Table 6.1 to determine the corresponding number of BREEAM credits awarded.	1.33%
Mat 01: Superstructure	This additional credit may be achieved by conducting building LCA assessments of the superstructure at both Concept Design and Technical Design stages (comparing against BREEAM benchmarks for office, industrial and retail buildings), performing options appraisals of 2-4 design alternatives at Concept Design and 2-3 at Technical Design using BREEAM-recognised LCA tools, and submitting Mat 01/02 Results Submission Tools to BRE at the end of each design stage.	1.25%
Mat 03: Responsible Sourcing	This additional credit may be achieved if a Sustainable Procurement Plan is developed by Concept Design Stage. The plan must: Include sustainability aims, objectives and strategic targets to guide procurement activities. Note: targets do not need to be	1.25%

	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. In addition, if the plan is applied to several sites or adopted at an organisational level it must identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO 20400:20171.	
Mat 03: Responsible Sourcing	This additional credit may be achieved if a total of 20% of the responsible sourcing points are achieved for products with responsible sourcing certification.	1.25%
Pol 01: Leak detection	This additional credit may be achieved if: All systems are hermetically sealed or only use environmentally benign refrigerants or 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. 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	0.75%

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6. Appendix A

Table 5.11 – Emission criteria by product type

Emissions Limit*			Testing requirement	Additional requirement
Formaldehyde	Total volatile organic compounds (TVOC)	Category 1A and 1B carcinogens		
Interior paints and coatings				
$\leq 0.06 \text{ mg/m}^3$	$\leq 1.0 \text{ mg/m}^3$	$\leq 0.001 \text{ mg/m}^3$	EN 16402 ⁵ or ISO 16000-9 ⁶ or EN 16516 ⁷ or CDPH Standard Method v1.1 ⁸	Meet TVOC content limits (See Table 5.13) Paints used in wet areas (e.g. bathrooms, kitchens, utility rooms) should protect against mould growth (See Methodology).
Wood-based products (including wood flooring)				
$\leq 0.06 \text{ mg/m}^3$ (Non-MDF) $\leq 0.08 \text{ mg/m}^3$ (MDF)	$\leq 1.0 \text{ mg/m}^3$	$\leq 0.001 \text{ mg/m}^3$	ISO 16000-9 or EN 16516 or CDPH Standard Method v1.1 or EN 717-1 (formaldehyde emissions only) ⁹	N/A
Flooring materials (including floor levelling compounds and resin flooring)				
$\leq 0.06 \text{ mg/m}^3$	$\leq 1.0 \text{ mg/m}^3$	$\leq 0.001 \text{ mg/m}^3$	ISO 10580 ¹⁰	N/A

			or ISO 16000-9 or EN 16516 or CDPH Standard Method v1.1	
Ceiling, wall, and acoustic and thermal insulation materials				
$\leq 0.06 \text{ mg/m}^3$	$\leq 1.0 \text{ mg/m}^3$	$\leq 0.001 \text{ mg/m}^3$	ISO 16000-9 or EN 16516 or CDPH Standard Method v1.1	N/A
Interior adhesives and sealants (including flooring adhesives)				
$\leq 0.06 \text{ mg/m}^3$	$\leq 1.0 \text{ mg/m}^3$	$\leq 0.001 \text{ mg/m}^3$	EN 13999 (Parts 1-4) ¹¹¹²¹³¹⁴ or ISO 16000-9 or EN 16516 or CDPH Standard Method v1.1	N/A
^ The emission limits in this table apply to the finished product, i.e. after any coating or other treatment process has been applied. * Compliance with emission limits shall be demonstrated after 28 days in an emission test chamber or earlier as stipulated by the relevant testing requirements standard. The emission rate obtained from the chamber test method must be extrapolated to predict what the concentration would be in the air of the theoretical model or reference room (as detailed in the respective testing standard) and this extrapolated concentration compared with the emission limit in this table. # Where test results for a product exceed the TVOC emission limit, compliance with the above requirements can still be achieved where the test results demonstrate an R-value ≤ 1 after 28 days				