Camden Mixed Development Ltd

GRAND UNION HOUSE

BREEAM Pre-Assessment Report

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BREEAM Pre-Assessment Report

PUBLIC

PROJECT NO. 70009120

OUR REF. NO. BREEAM-BRE-PA

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QUALITY CONTROL

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Date	January 2021	February 2021		
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1 EXECUTIVE SUMMARY

1.1 CONTEXT

WSP has been appointed in its capacity as Licensed BREEAM Assessors and APs to provide consultancy advice and undertake a Pre-Assessment of for Grand Union House - Commercial Areas 16-20 Kentish Town Road.

This BREEAM Pre-assessment report has been produced to demonstrate how the design of the Proposed Development aims to achieve BREEAM Excellent rating as a minimum, with aspirations of achieving Outstanding. This is the BREEAM target set by the local authority and requires a score of 70% to be achieved. This report summarises the indicative performance of the Proposed Development against BREEAM New Construction 2018 for Offices Shell & Core scheme.

The project under assessment comprises:

Project Name	Grand Union House
Location	Camden Town
Main Use Function	Office
BREEAM Assessment Scheme	BREEAM Non-Domestic New Construction 2018
Assessment type	Office - Shell and Core
Approximate NIA (m^2)	4,070m2
Current Stage	RIBA Stage 2
Target Rating/ Reason	Excellent (Planning), Outstanding (aspiration)
Stage of Assessment	Pre-Assessment (Strategy)

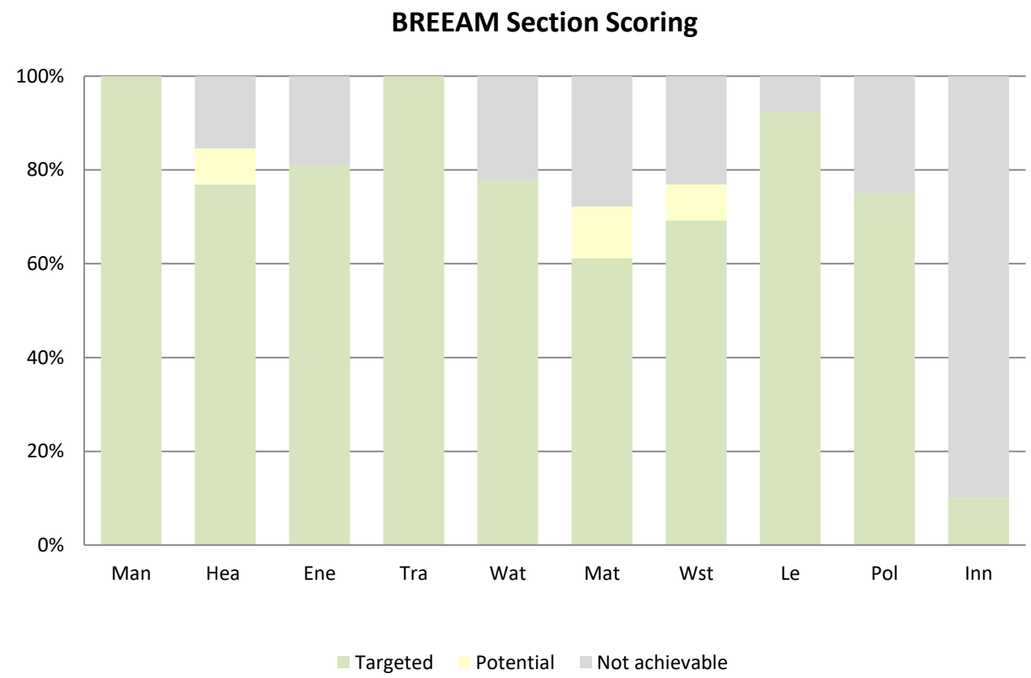
The purpose of this report is to provide an initial strategy set for the achievement of a formal BREEAM 'Outstanding' certification at the Pre-Assessment stage (Strategy). It is based upon the original pre-assessment that was undertaken in 2018 and liaison with the project team during feasibility and concept stages.

1.2 SCORING

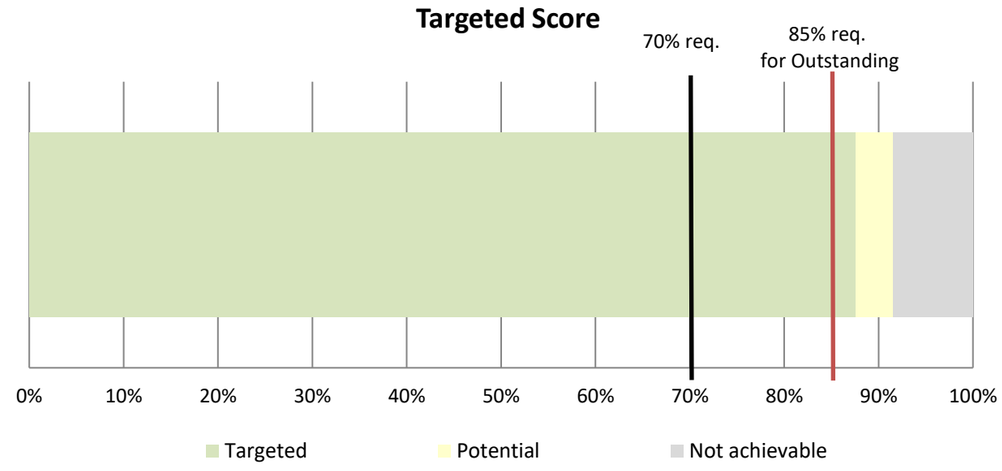
Based on discussions and agreements with the Design Team and client, the following scoring scenarios are predicted:

Scoring Scenario		BREEAM Score (Cumulative)*	Indicative BREEAM Rating**
BREEAM NEW CONSTRUCTION 2018	**Targeted**	87.62%	Outstanding
	Potential	91.49%	Outstanding

*Score as produced by BRE's BREEAM scoring and reporting tool
**Subject to all mandatory requirements being achieved



Graphical representation of the credits associated with each environmental section



Graphical representation of progress to a targeted score of 85% (e.g. BREEAM Outstanding)

Targeted Scoring Scenario

This is based on the items agreed as being targeted by the design team. Upon the presentation of suitable documentary evidence to the Assessor, the corresponding achievement will be confirmed.

We recommend that at least 5% is targeted above the required rating, i.e. 75% for 'Excellent' or 90% for 'Outstanding'. This is to safeguard for missed credits during completion of the design and construction of the asset.

Potential Scoring Scenario

Further to those items noted as targeted, potential credits were identified, which upon further investigation from the design team or updates to the design could result in an additional (higher) score and rating. Some of these credits are those where further appointment will need to be commissioned to achieve the credits.

Item	Potential % score	Brief action/Summary	Production Team Owner
Hea 02- Ventilation	0.73%	MEP noted that it was difficult to achieve this credit due to the location of the air intake/exhausts. This will be confirmed later in the design process. **One potential credit.**	MEP
Mat 01- Building life cycle assessment (LCA)	2.48%	The LCA will have to be updated during technical design, which will identify whether any additional credits can be achieved. **Two potential credits.**	LCA Practitioner
Wst 02- Project Sustainable Aggregate Points	0.64%	Design team to advise when the quantities of aggregate are available whether this credit will be achievable. **One potential credit.**	Structural Engineer

For full details please refer to the main assessment tracker in Appendix A

2 PROJECT BACKGROUND

The development is located on Kentish Town Road in the London Borough of Camden. The property is adjacent to the existing Sainsbury's supermarket and St. Michaels Church and diagonally opposite Camden Town London Underground station.

The development is in total 4,070m^2 (initial estimate) with the predominant use being an office with retail areas on the ground floor.

We understand the aspiration is to achieve a BREEAM 'Outstanding' rating with a minimum of achieving BREEAM 'Excellent', as stipulated by local planning requirements.

3 INTRODUCTION

3.1 DESIGN STAGE REPORT PURPOSE

The report constitutes the BREEAM Pre-Assessment report for the proposed office development of Grand Union House. The content is based on information provided by the design team during the workshops on the 5th July 2018 and 10th December 2020 and subsequent information collated from the individual project team members.

The purpose of this report is to:

- confirm the BREEAM Strategy for the project and progress against documenting compliance against the early stage requirements of the Design Stage (interim) assessment.
- outline the actions required by the design team, in accordance with the strategy set for the achievement of a formal BREEAM 'Outstanding' certification.

To summarise these outcomes, this report includes the following:

- an appraisal of the development proposals against the BREEAM criteria;
- identification of the mandatory credits which are essential to be included within the development to achieve the desired rating;
- consideration of additional credits which could be targeted, subject to additional consideration, investigation and possibly additional costs;
- actions required by the design team and responsible party.

This report has been prepared by qualified BREEAM Assessors at WSP who are licensed by the BRE to undertake assessments using the BREEAM Non-Domestic New Construction 2018 Scheme.

In order to demonstrate compliance with the targeted credits as part of the formal design stage and construction stage BREEAM assessments documentary evidence demonstrating performance is required to be presented by the project team. It is therefore important for all project team members to ensure that commitments made at this early stage are carried through the design process and are implemented through to construction. Cost implications of the assumptions made in this report have not been evaluated as part of this study.

The assessment requirements for achieving a BREEAM certificate can be challenging if overlooked during the design evolution process. The team can access the full scheme document (technical manual), which is freely available, at: https://www.breeam.com/NC2018

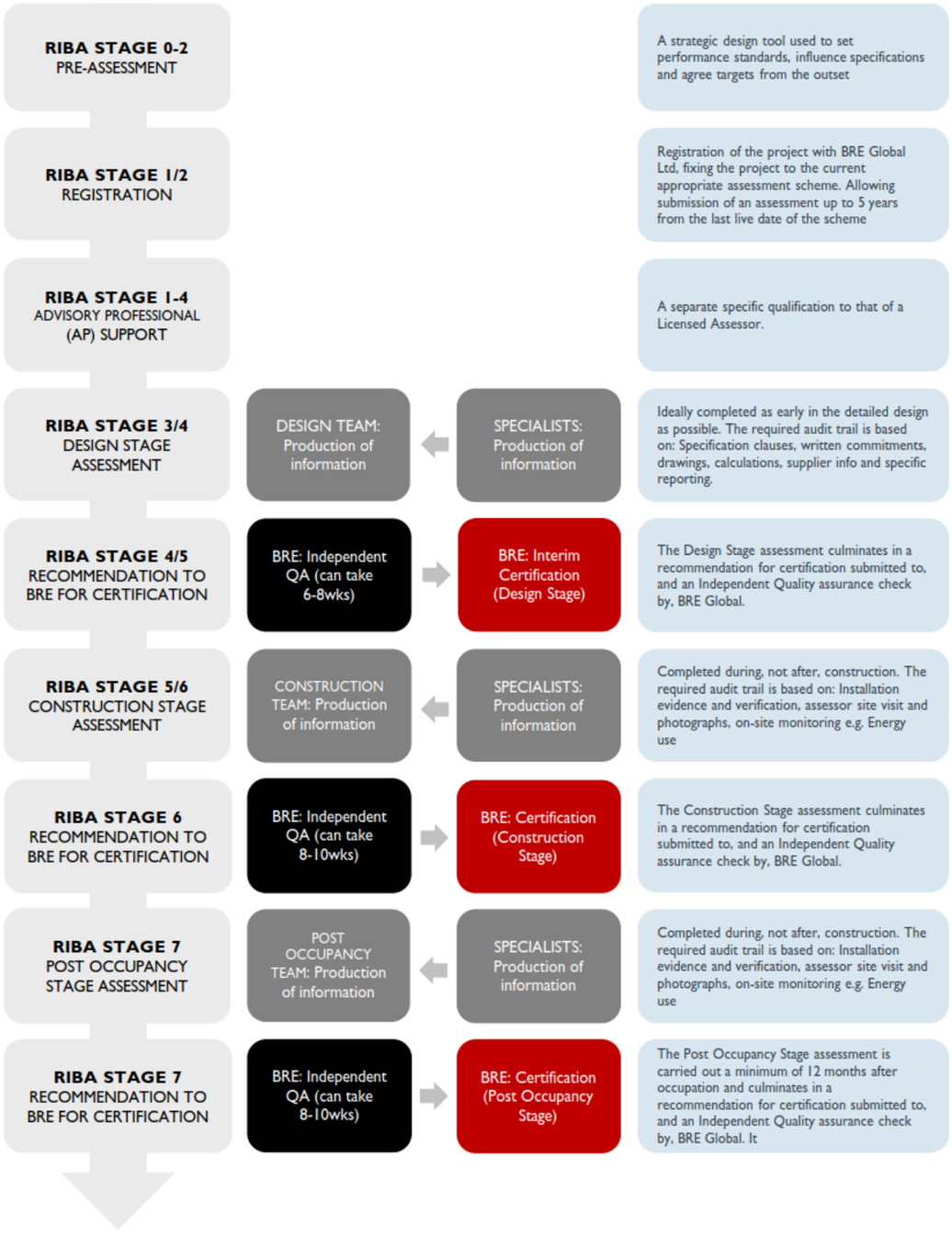
4 ASSESSMENT STRATEGY

The stages of a BREEAM assessment require as a minimum a Construction Stage assessment to receive a final BREEAM certificate. It is strongly recommended that a four-stage assessment process is undertaken to maximise the efficiency of achieving the required rating.

- Pre-Assessment (optional but good practice)
- Design Stage Assessment
- Construction Stage Assessment
- Post-occupancy Stage Assessment (optional)

This report represents the initial stages of the BREEAM Assessment (a Pre-Assessment) whereby the team have identified and agreed a set of BREEAM performance measures to ensure the overall achievement of the required BREEAM rating is met.

4.1 BREEAM: PROJECT LIFE CYCLE



5 ROLES AND RESPONSIBILITIES

The BREEAM Assessor must act in accordance with their “BREEAM License Agreement” with BRE Global Ltd; the owner, managing body and certification authority for all BREEAM schemes.

The design/ construction team will be required to demonstrate “achievement” of the various BREEAM performance requirements through the presentation of documentary evidence as listed by BRE and conveyed by the Licensed Assessor. This audit material often requires specific responses/ reporting to demonstrate compliance.

During the early stages of assessment, ownership for the various actions and dates for submission will be agreed, which if not met may require a variation to our agreed scope of works.

In accordance with the BREEAM License the Assessor must maintain a position of non-conflict of interest. This means that whilst they can provide guidance to the various design/ construction team members, they cannot be responsible for the delivery of any part of the required audit trail.

Note: It is acceptable that the Assessor/ AP are part of the same organisation as a member or members of the design team who are responsible for information production).

6 BACKGROUND TO BREEAM

BREEAM is a market-focused tool aimed at encouraging significant improvements in the performance of buildings through quantification of a building’s full life environmental impacts.

The BREEAM score provides a means of recognising a projects sustainability benefits and so benchmarking it against other buildings. Key benefits of using the methodology include:

- Maximising opportunities to enhance the building’s performance during the planning, design and construction phases of new build, refurbishment and fit out projects.
- Specifying environmental requirements during procurement and management of all types of developments.
- Use of an independently verifiable measurement tool for forming part of Environmental Management Systems.
- Providing an independently verifiable sustainability label for marketing and promotional purposes.

6.1 BREEAM SCORING AND RATING

BREEAM ratings are divided into six levels as shown in Table 1. The associated percentage score is achieved based on meeting the requirements of a number of credits that correspond to meet or exceed the rating benchmarks.

Table 1 – BREEAM rating benchmarks

BREEAM Rating	Percentage Required
UNCLASSIFIED	<30%
PASS	≥30%
GOOD	≥45%
VERY GOOD	≥55%
EXCELLENT	≥70%
OUTSTANDING	≥85%

6.2 BREEAM CATEGORY WEIGHTINGS

The categories within BREEAM are weighted according to relative importance within the country of assessment through a weighting system derived by BRE Global as shown in Table 2. Within each category there are a different number of credits, therefore, individual credits carry specific percentage weightings, as a percentage of the overall total.

The number of credits available is based on the scoping of appropriate assessment criteria for the project type, location and functions. WSP's assessment tracker (refer to section 10) shows the percentage contribution of each targeted credit to highlight that a credit in one section may not carry the same contribution to the score as a credit in another, due to the category weightings.

BREEAM incorporates a mechanism whereby schemes achieving exemplar performance in a particular area or demonstrating innovation can achieve an additional 1% for each credit up to a maximum of 10. The innovation section is shown at the end of the main assessment table.

Table 2 - Section Weightings

BREEAM Rating	Percentage Required
Management	11.0%
Health & Wellbeing	8.0%
Energy	14.0%
Transport	11.50%
Water	7.0%
Materials	17.50%
Waste	7.0%
Land Use & Ecology	15.0%
Pollution	9.0%
Innovation	N/A

6.3 MANDATORY REQUIREMENTS

To achieve a BREEAM rating, the minimum percentage score (associated with credits achieved) must be met plus mandatory standards for specific requirements applicable to that rating level must be complied with. These are shown in Table 3.

Table 3 - Mandatory Credits

Credit Ref	Credit	BREEAM Rating/ Minimum Number of Credits				
		Pass	Good	Very Good	Excellent	Outstanding
MAN 03	Responsible Construction	-	-	-	One Credit (CCS)	Two Credits (CCS)
MAN 04	Commissioning and handover	-	-	One credit (commissioning schedule and responsibilities)	One credit (commissioning schedule and responsibilities)	One credit (commissioning schedule and responsibilities)
MAN 04	Commissioning and Handover	-	-	Criterion 11 (Building User Guide)	Criterion 11 (Building user guide)	Criterion 11 (Building user guide)
MAN 05	Aftercare	-	-	-	One credit (Seasonal commissioning – Implementation)	One credit (Seasonal commissioning - Implementation)
ENE 01	Reduction of Energy use and carbon emissions	-	-	-	Four credits (Energy performance)	Six credits (Energy performance) and Four credits (Energy modelling &reporting)
ENE 02	Energy Monitoring (first credit)	-	-	One Credit (First credit)	One Credit (First credit)	One Credit (First credit)
WAT 01	Water Consumption	-	One Credit	One Credit	One Credit	Two Credits
WAT 02	Water Monitoring	-	Criterion 1 only (mains water meter)	Criterion 1 only (mains water meter)	Criterion 1 only (mains water meter)	Criterion 1 only (mains water meter)
MAT 03	Responsible Sourcing of materials	Criterion 1 only (Legal Timber)	Criterion 1 only (Legal Timber)	Criterion 1 only (Legal Timber)	Criterion 1 only (Legal Timber)	Criterion 1 only (Legal Timber)
WST 01	Construction Waste Management	-	-	-	-	One Credit
WST 03	Operational Waste	-	-	-	One Credit	One Credit

6.4 REQUIREMENTS WITH SPECIFIC ACTION TIMINGS

Some of the assessment credits include requirements which require delivery of work ahead of completion of a specific RIBA stage to ensure opportunities for positive sustainability outcomes are not missed by the project team. These are shown in Table 4.

Table 4 – Timing of assessment (key credits)

Credit ref	Credit	RIBA Stage 1 Preparation and Brief	RIBA Stage 2 Concept Design	RIBA Stage 3 Developed Design	RIBA Stage 4 Technical Design	RIBA Stage 5/6 Construction and Handover
MAN 01	Project delivery planning		Identify & define project delivery stakeholders			
MAN 01	Stakeholder consultation (interested parties)		Consultation		Provide Feedback	
MAN 01	Sustainability champion (design)		Appointment (BREEAM AP) Maximise performance			
MAN 02	Life cycle cost and service life planning		Elemental life cycle cost (LCC)		Component level LCC appraisal	
MAN 03	BREEAM AP (site)					Appointment and monitoring
MAN 04	Commissioning – design and preparation				Appointment of Specialist Commissioning manager	
HEA 06	Security of site & Building		Security Needs Assessment			
ENE 04	Passive design analysis		Passive design analysis and thermal model			
ENE 04	Low or zero carbon technologies		LZC appraisal			
ENE 05	Energy Efficient Cold Storage		Cold Storage Strategy			
TRA 01	Travel assessment and travel plan	Travel Plan				
TRA 02	Sustainable transport measures	Consultation with local authority				
MAT 01	Environmental impacts from construction products		Building LCA submission to BRE		Building LCA submission to BRE	
MAT 03	Responsible sourcing of materials	Sustainable Procurement Plan	Review of plan	Review of plan	Review of plan	Implementation of plan
MAT 06	Materials efficiency	Whole team engagement	Whole team engagement	Whole team engagement	Whole team engagement	Whole team engagement
WST 01	Construction waste management		Pre-demolition Audit			
WST 05	Structural and fabric resilience		Climate change adaptation strategy		Update on Climate change adaptation strategy	
WST 06	Functional adaptability		Adaptability study		Adaptation measures adopted Adaptability and disassembly guide	
LE 02	Identifying and understanding risks and opportunities	Survey and Evaluation	Determining the ecological outcome			
LE 03	Managing negative impacts on ecology	Planning, liaison, implementation and data				

7 REPORT FORMAT

The table in Appendix A shows the BREEAM Non-Domestic New Construction 2018 criteria against which the building is being assessed. The credits available for each issue are shown along with a calculated overall percentage score and rating. The scoring has also been undertaken on the BREEAM Non-Domestic New Construction 2018 assessment scheme tool.

This allows for simple analysis of the effect of achieving more or removing any given credit. A summary of the actions has been shown, however the full requirements for the BREEAM assessment can be viewed within the assessment manual or can be provided upon request.

The table provides explicit ownership, actions and timing for production based on agreement with the team.

8 DISCLAIMER

WSP has undertaken the following BREEAM Non-Domestic New Construction 2018 report, with input and agreement from the Design Team. All information provided has been accepted in good faith as being accurate and representative of the proposed scheme at the time of review.

The credits and credit requirements are based on the BREEAM Non-Domestic New Construction 2018 methodology.

The assessor (for him/herself and as an agent for his/her staff) shall not be held liable whether in Contract or in Tort or otherwise for any loss or damage sustained as a result of using or relying on the information contained in this report or the final certificate from BRE that it is based on.

9 COPYRIGHT

Appendix A

BREEAM CREDIT TRACKER

Grand Union House - Pre-Assessment Office Shell and Core

70009120 BREEAM New Construction 2018 Offices

It is understood that the client aspiration is for the development to achieve an 'Excellent' BREEAM rating. This pre-assessment identifies a strategy of credits required to achieve an 'Excellent' BREEAM rating. The credits have been targeted based on the information gathered in the pre-assessment meeting with the design team on the 10th December 2020 and subsequent liaison. The credits and credit requirements are based on the BREEAM Non-Domestic New Construction 2018 - Offices (Shell and Core) methodology.

									Cumulative scores						
									87.62%	91.49%					
Ref	Title	Sub-Title	Crit	BREEAM Criteria	Max Available	% Worth	Excellent	Outstanding	Design Stage Scoring		Commentary	Actions, to be provided:	Timeframe for Consideration	Responsibility
									Targeted	Potential				
Management														
Man 01	Project brief and design	**Project delivery planning**	**1-3**	1. Prior to completion of the Concept Design, the project delivery stakeholders meet to identify and define for each key phase of project delivery: Roles, Responsibilities and Contributions. 2. Consider each one of the following items when defining roles, responsibilities and contributions: a. End user requirements b. Aims of the design and design strategy c. Particular installation and construction requirements or limitations d. Occupiers' budget and technical expertise in maintaining any proposed systems e. Maintainability and adaptability of the proposals f. Operational energy g. Requirements for the production of project and end user documentation h. Requirements for commissioning, training and aftercare support. Where the building occupants are not known, the list of considerations above still applies. 3. The project team demonstrates how the project delivery stakeholders' contributions and the consultation process outcomes influence the following: Initial Project Brief, Project Execution Plan, Communication Strategy and Concept Design.	**1**	**0.61%**			**1**		WSP to issue template and guidance for completion. This will facilitate the collation of documentation and information to demonstrate the project team have met, defined roles, assigned responsibilities and considered the minimum stakeholder content requirements. **This credit has RIBA stage 2 timing requirements.** **1 credit targeted.**	1) **Consultation plan/ project execution plan** setting out the process and scope of the consultation. 2) **Meeting minutes** and **agendas** to demonstrate when collaborations began, what was discussed, the defining of roles and responsibilities for each stage, aims, requirements and the outcomes of this process. 3) **Design Brief / Stage 2 reports** to demonstrate items as listed in Man 01 cr. 2 a-h have been covered.	RIBA Stage 2	PM Client
		Stakeholder consultation (interested parties)	**4-7**	4. Prior to completion of the Concept Design, the design team consult with all interested parties on matters that cover the minimum consultation content. 5. Demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design. 6. Prior to completion RIBA Stage 4, all interested parties give and receive consultation feedback.	**1**	**0.61%**			**1**		WSP to issue template and guidance for completion. This will facilitate the collation of documentation and information to demonstrate third party consultation has taken place and covers minimum consultation content. **This credit has RIBA stage 2 timing requirements.** **1 credit targeted.**	1) **Consultation report**(s) setting out the process, scope and outcomes of the consultation, as well as a list parties consulted, the topics covered, and a summary of the views expressed. 2) **Documentation** demonstrating how consultation influenced the design brief. 3) **Documentation** demonstrating that consultation feedback has been given to, and received by, all relevant third party stakeholders parties, prior to RIBA Stage 4.	RIBA Stage 2	Client
		Prerequisite BREEAM AP credits (Concept and Developed Design)	**8**	8. The project team, including the client, formally agree strategic performance targets early in the design process, (with the support of the BREEAM AP where appointed).	**-**				**Yes**		The Project team, along with the Project Manager (PM) acting on behalf of the Client, has formally agreed that the development will need to achieve a BREEAM rating of Excellent as required from the Local Authority (London Borough of Camden) on the 22 September 2017. **Pre-requisite targeted.**	1) **Appointment letter/Fee proposal** for the Sustainability Champion / BREEAM AP defining the scope of their role and responsibilities	RIBA Stage 1/2	Client
		BREEAM AP (Concept Design)	**9**	9. Involve a BREEAM AP in the project at an appropriate time and level to: a. 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. b. Monitor progress against the performance targets agreed under criterion 8 above throughout all stages after their appointment where decisions critically impact BREEAM performance. c. Proactively identify risks and opportunities related to the achievement of the targets agreed under criterion 8 on the previous page. d. Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. e. Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	**1**	**0.61%**			**1**		WSP (Hope Bootle) has acted as the BREEAM AP from Feasibility Stage (RIBA Stage 1) until Concept Design Stage (RIBA Stage 2). WSP have been appointed through to RIBA Stage 4 to act as BREEAM AP.	1) **Meeting minutes** and/or **invites** confirming the Sustainability Champion / BREEAM AP attended or invited to key design team meetings throughout the concept design and the BREEAM requirements and targets discussed. 2) Copies of the **Sustainability Champion / BREEAM AP's Status** documenting including risks and opportunities.	RIBA Stage 2	BREEAM AP
		BREEAM AP (Developed Design)	**10-11**	10. Criteria 8 and 9 are achieved. 11. Involve the BREEAM AP to: a. 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. b. Monitor progress against the performance targets agreed under criterion 8 throughout all stages where decisions critically impact the specification and tendering process and the BREEAM performance. c .Identify risks and opportunities related to the achievement of the targets agreed under criterion 8. d. Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. e. Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	**1**	**0.61%**			**1**		**This credit has RIBA stage 2 timing requirements.** **2 credits targeted.**	1) **Meeting minutes** and/or **invites** confirming the Sustainability Champion / BREEAM AP attended or invited to key design team meetings throughout the development design and the BREEAM requirements and targets discussed. 2) Copies of the Sustainability Champion / BREEAM AP's **Status or monitoring reports.**	RIBA Stage 4	BREEAM AP

Ref	Title	Sub-Title	Crit	BREEAM Criteria	Max Available	% Worth	Excellent	Outstanding	Design Stage Scoring		Commentary	Actions, to be provided:	Timeframe for Consideration	Responsibility
									Targeted	Potential				
Man 02	Life cycle cost and service life planning	**Elemental life cycle cost (LCC)**	**1-3**	1. An elemental life cycle cost (LCC) analysis has been carried out at concept stage, together with any design option appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865:2008. 2. The elemental LCC plan: a. Provides an indication of future replacement costs over a period of analysis as required by the client (e.g. 20, 30, 50 or 60 years); b. Includes service life, maintenance and operation cost estimates. 3. Demonstrate, using appropriate examples, how the elemental LCC plan has been used to influence building and systems design and specification to minimise life cycle costs and maximise critical value.	**2**	**1.22%**			**2**		WSP have been appointed to undertake the Elemental LCC. **This credit has RIBA stage 2 timing requirements.** **2 credits targeted.**	1) A copy of a compliant **Elemental LCC report produced at RIBA Stage 2** with supporting documentation demonstrating analysis of alternative options (e.g. an elemental appraisal) 2) The **fabric and servicing strategy** (where available)	RIBA Stage 2	Cost Consultant PM
		Component level LCC plan	**4-5**	4. A competent person develops a component level LCC options appraisal by the end of Technical Design in line with PD 156865: 2008. The component level LCC includes (where present): a. Envelope, e.g. cladding, windows, or roofing b. Services, e.g. heat source, cooling source, or controls c. Finishes, e.g. walls, floors or ceilings d. External spaces, e.g. alternative hard landscaping, boundary protection. 5. Demonstrate, using appropriate examples provided by the design team, how the component level LCC options appraisal has been used to influence building and systems design and specification to minimise life cycle costs and maximise critical value.	**1**	**0.61%**			**1**		WSP have been appointed to undertake Component level LCC. **1 credit targeted.**	1) A copy of a compliant **Component Level LCC report** produced by the end of **RIBA Stage 4** with supporting documentation demonstrating analysis of alternative options (e.g. an elemental appraisal)	RIBA Stage 4	Cost Consultant PM
		Capital cost reporting	**6**	6. Report the capital cost for the building in pounds per square metre (£k/m2), via the BREEAM Assessment Scoring and Reporting tool, Assessment Issue Scoring tab, Management section.	**1**	**0.61%**			**1**		The capital cost (£k/m2) for the building will be reported to the BRE. **1 credit targeted.**	1) **Statement** containing the capital cost for the building in pounds per square metre	RIBA Stage 4	Cost Consultant PM
Man 03	Responsible construction practices	**Prerequisite Site timber**	**1**	1. All temporary site timber and timber based products used on the project is 'Legally harvested and traded timber', e.g. is FSC or PEFC certified	**-**				**Yes**		The design team have confirmed all timber will be legally sourced, and the requirements communicated to the contractor. **Pre-requisite targeted.**	1) A **formal letter of commitment** or **contractual requirements document** confirming the actions that will be undertaken as part of site works.	RIBA Stage 4	PM
		Environmental management	**3-4**	3. All parties who at any stage manage the construction site operate an EMS covering their main operations. The EMS must be third party certified, to ISO 14001: 2015, EMAS (EU Eco-Management and Audit Scheme) or equivalent standard OR in compliance with BS 8555: 2016 4. All parties who at any point manage the construction site implement best practice pollution prevention policies and procedures on site in accordance with PPG6.	**1**	**0.61%**			**1**		The contractor will be required to comply with requirements, which should be included in tender information. **1 credit targeted.**	1) A **formal letter of commitment** or **contractual requirements document** confirming the actions that will be undertaken as part of site works.	RIBA Stage 4	PM
		Prerequisite for BREEAM AP credit	**5**	5. The client and the contractor formally agree performance targets.	**-**				**Yes**		The contractor will be required to comply with requirements, which should be included in tender information. **Pre-requisite targeted.**	1) A formal **letter of commitment** or **contractual requirements document** confirming the actions that will be undertaken as part of site works.	RIBA Stage 4	PM
		BREEAM AP (site)	**6**	6. Involve a BREEAM AP in the project at an appropriate time and level to: a. Work with the project team, including the client, to consider the links between BREEAM issues and assist them in achieving and if possible maximise the project's performance. b. Monitor construction progress against the performance targets agreed throughout all stages. c. Proactively identify risks and opportunities related to the procurement and construction process and the achievement of the targets. d. Provide feedback to the constructors and the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. e. Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team and the provision to the assessor.	**1**	**0.61%**			**1**		The contractor will be required to comply with requirements, which should be included in tender information. **1 credit targeted.**	1) A formal **letter of commitment** or **contractual requirements document** confirming the actions that will be undertaken as part of site works.	RIBA stage 4	PM
		Responsible construction management	**7-9**	7. Achieve **all** items listed below: a. Manage the construction site entrance to minimise the impacts (e.g. safety, disruption) arising from vehicles approaching and leaving. d. Minimise the risks of air, land and water pollution. f. Practices ensure the development footprint is safe, clean and organised at all times. g. Ensure clear and safe access in and around the buildings at the point of handover. h. Provide processes and equipment required to respond to medical emergencies. j. Establish management practices and facilities encouraging equality, fair treatment and respect of all site operatives. n. Ensure ongoing training is provided, and up to date, for personnel and visitors. o. The principal contractor ensures that site operatives are trained for the tasks they are undertaking. r. All visitor, workforce and community accidents, incidents and near misses are recorded and action taken to reduce reoccurrence	**1**	**0.61%**	**One Credit**	**Two Credits**	**1**		The contractor will be required to comply with requirements, which should be included in tender information. **2 credits targeted.**	1) A formal **letter of commitment** or **contractual requirements document** confirming the actions that will be undertaken as part of site works.	RIBA Stage 4	PM
				8. Achieve criterion 7 9. Achieve **six additional items** listed below: b. Ensure the development is accessible for delivery vehicles fitted with safety features to remove or limit the need for on-street loading or unloading. Where on-street loading is unavoidable, this should be managed. c. Identify access routes to the development footprint, including for heavy vehicles. e. Minimise the risks of nuisance from vibration, light and noise pollution. i. The principal contractor identifies and implements initiatives to promote and maintain the health and wellbeing of all site operatives. k. Provide secure, clean and organised facilities (e.g. changing and storage) for site operatives. l. Minimise risks of the site becoming a focus for antisocial behaviour (e.g. robust perimeter fencing, CCTV) m. Aspects of the construction process that might impact the community are communicated regularly, ensuring that nuisance and intrusion are minimised. p. The fleet operators, undertakes driver training and awareness to promote safety within the development footprint and off site. q. The fleet operators, captures and investigates any road accidents, incidents and near misses and reports them back to the principal contractor who analyses them. s. Processes are in place to facilitate collecting and recording feedback from the community.	**1**	**0.61%**			**1**			1) A formal **letter of commitment** or **contractual requirements document** confirming the actions that will be undertaken as part of site works.		

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Man 04	Commissioning and handover	**Assign responsibility for monitoring**	**10**	10. Assign responsibility to an individual for monitoring, recording and reporting energy use, water consumption and transportation data, resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme. This individual must have the appropriate authority and responsibility to request and access the data required.	**1**	**0.61%**			**Yes**		The contractor will be required to comply with requirements, which should be included in tender information. **2 credits targeted.**	1) A formal **letter of commitment or contractual requirements document** confirming the actions that will be undertaken as part of site works.	RIBA Stage 4	PM
		Monitoring of construction-site impacts **Utility Consumption**	**11-18**	**Energy consumption** 12. Set targets for the site energy consumption in kWh as a result of the use of construction plant, equipment (mobile and fixed) and site accommodation. 13. Monitor and record data for the energy consumption 14. Report the total carbon dioxide emissions (total $kgCO_2$/project value) from construction. **Water consumption** 16. Set targets for the potable water consumption (m^3) arising from the use of construction plant, equipment (mobile and fixed) and site accommodation. 17. Monitor and record data for the potable water consumption described in criterion 16. 18. Report the total net water consumption (m^3), i.e. consumption minus any recycled water use from construction.					**1**				RIBA Stage 4	PM
		Monitoring of construction-site impacts **Transport of Materials and Waste**	**19-22**	20. Set targets for transportation movements and impacts from delivery of construction materials to site and waste from site, covering transportation of materials from the point of supply to the building site, including any transport, intermediate storage and point of supply; monitoring: i. Materials used in major building elements. ii. Ground works and landscaping materials. 21. Monitor and record data for the transportation movements 22. Report separately for materials and waste, the total transport-related carbon dioxide emissions ($kgCO_2$-eq), plus total distance travelled (km).	**1**	**0.61%**			**1**			1) A formal **letter of commitment or contractual requirements document** confirming the actions that will be undertaken as part of site works.	RIBA Stage 4	PM
		Commissioning - testing schedule and responsibilities	**1-5**	1. Prepare a schedule of commissioning and testing. 2. The schedule identifies the appropriate standards for all commissioning activities to be conducted, in accordance with: Current Building Regulations, BSRIA and CIBSE guidelines, and any other appropriate standards. 3. Where a BMS is specified: a. Carry out commissioning of air and water systems when all control devices are installed and functional b. Include physical measurements of room temperatures, off-coil temperatures and other key parameters, as appropriate, in results c. The BMS or controls installation should be running in auto with satisfactory internal conditions prior to handover d. All BMS schematics and graphics are fully installed and functional to user interface prior to handover e. Fully train the occupier or facilities team in the operation of the system. 4. Appoint an appropriate project team member to monitor and programme pre-commissioning, commissioning and testing, and where necessary, re-commissioning. 5. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and the main programme of works.	**1**	**0.61%**	**One Credit**	**One Credit**	**1**		A Commissioning Manager will be appointed before the end of Technical Design Stage (RIBA Stage 4) to manage and programme all commissioning works in accordance with BREEAM criteria. WSP MEP confirm that commissioning specs will be included in their reports. **1 credit targeted.**	1) **Appointment letter** for the independent Specialist Commissioning Manager defining the scope of their role and responsibilities. 2) **Specification** or **written confirmation** confirming commissioning standards, responsibilities and schedule.	RIBA Stage 4	Building Services Engineer
		Commissioning - design and preparation	**6-7**	6. Achieve criteria 1 to 5. 7. During the design stage, the client or the principal contractor appoints an appropriate project team member (see crit 4), provided they are not involved in the general installation works for the building services systems, with responsibility for: a. Undertaking design reviews and giving advice on suitability for ease of commissioning. b. Providing commissioning management input to construction programming and during installation stages. c. Management of 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.**	**1**	**0.61%**			**1**		A Commissioning Manager will be appointed before the end of Technical Design Stage (RIBA Stage 4) to manage and programme all commissioning works in accordance with BREEAM criteria. WSP MEP confirm that commissioning specs will be included in their reports. **1 credit targeted.**	1) **Appointment letter** for the independent Specialist Commissioning Manager defining the scope of their role and responsibilities. 2) A **formal letter of commitment or specification** document confirming the actions that will be undertaken in the commissioning - design and preparation of the building.	RIBA Stage 4	Building Services Engineer
		Testing and inspecting building fabric	**8-10**	9. 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 undertakes the survey and testing in accordance with the appropriate standard. 10. 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.	**1**	**0.61%**			**1**		6A/Sellar confirmed that air tightness testing and thermographic survey would be carried out upon completion and that any defects will be remediated. **1 credit targeted.**	1) A **formal letter of commitment or specification** document confirming the actions that will be undertaken in the performance testing of the building fabric. 2) **Project programme** confirming inclusion of thermographic survey and air leakage testing.	RIBA Stage 4	PM Client
		Handover	**11-12**	11. Prior to handover, develop two building user guides for the following users: a. A non-technical user guide for distribution to the building occupiers. b. A technical user guide for the premises facilities managers. A draft copy is developed and discussed with users first (where the building occupants are known) to ensure the guide is most appropriate and useful to potential users. 12. Prepare two training schedules timed appropriately around handover and proposed occupation plans for the following users: a. A non-technical training schedule for the building occupiers. b. A technical training schedule for the premises facilities managers.	**1**	**0.61%**	**Criterion 11**	**Criterion 11**	**1**		These requirements should be included in the Contractor's Requirements for Tender. The input of the Architect and the MEP will be needed to help develop the BUG. **1 credit targeted.**	1) **Specification** or **written confirmation** confirming that a BREEAM compliant building user guide and two training schedules (technical and non-technical) will be produced and handed over.	RIBA Stage 4	PM Client

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Health & Wellbeing														
Hea 01	**Visual Comfort**	**Daylighting (building type dependent)**	**4**	4. Daylighting criteria have been met using either of the following options: Offices: - All other occupied areas have an ADF of 2% in 80% of occupied spaces with either a OR b and c are achieved a. A uniformity ratio of at least 0.3 or a minimum point daylight factor of at least 0.3 times the relevant average daylight factor value b. At least 80% of the room has a view of sky from desk or table top height c. The room depth criterion d/w +d/HW < 2/(1-RB) is satisfied	**2**	**1.45%**			**2**		The Architect confirmed that majority of the occupied office area will reach and exceed the average daylight factor. Credit targeted pending outcome of modelling. Daylight specialist to be appointed. **2 credits targeted.**	1) **Specialist daylight report** / calculation / modelling results demonstrating that the daylight values can be achieved in all relevant areas. 2) **GA drawings** demonstrating the designs, arrangement and location of windows modelled for daylighting.	RIBA Stage 4	Daylighting specialist
		View out	**5-7**	5. 95% of the floor area in relevant building areas is within 8m of a wall which has a window or permanent opening that provides an adequate view out.	**1**	**0.73%**			**1**		The Architect confirmed that majority of the occupied office floor is within 8m of an external wall. Credit targeted pending outcome of modelling. **1 credit targeted.**	1) **Drawings** demonstrating that the relevant building areas are within the required distances to a compliant view out. 2) **Drawings** demonstrating that the windows/openings account for ≥ 20% of the surrounding wall area.	RIBA Stage 4	Architect
		Internal and external lighting levels, zoning and control	**10-11**	**External lighting** 10. All external lighting 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 areas and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places. 11. Where no external light fittings are specified, the criteria relating to external lighting do not apply and the credit can be awarded on the basis of compliance with criteria 8–9.	**1**	**0.73%**			**1**		WSP MEP confirmed that all external lighting (if any) will be specified in accordance with BS 5489-1:2013 and BS EN 12464-2:2014. **1 credit targeted.**	1) **Specification** confirming compliance with the relevant CIBSE, BS and zoning requirements. 2) **Marked up drawings** confirming the zoning and control of internal and external lighting.	RIBA Stage 4	Building Services Engineer
Hea 02	**Indoor Air Quality**	**Prerequisite - Indoor air quality (IAQ) plan**	**1**	1. An indoor air quality plan has been produced in line with GN06, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building.	**-**					**Yes**	WSP MEP to confirm whether the requirements for ventilation will be met. If they can be met than an IAQP will be produced.	1) Copy of a BREEAM compliant **indoor air quality plan** BREEAM Guidance Note (GN06) to be provided upon request.	RIBA Stage 3	Air quality consultant Building Services Engineer
		Ventilation	**2a only**	2 The building has been designed to minimise the indoor pollutants as follows: a. Provide fresh air into the building in accordance with the relevant standard for ventilation. BS ISO 17772-1:2017 or, for naturally ventilated buildings, CIBSE AM10.	**1**	**0.73%**				**1**	WSP MEP confirmed that it would be difficult to achieve this credit due to the location of the air intakes and exhausts. This will be confirmed later in the design process. **1 credit potential.**	1) **Specification** confirming compliance with the relevant BS codes and ventilation requirements. 2) **Marked up drawings** confirming compliance with ventilation criteria.	RIBA Stage 4	Building Services Engineer
Hea 04	**Thermal Comfort**	**Thermal modelling**	**1-4**	1. Thermal modelling has been carried out using software in accordance with CIBSE AM11. 2. The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. 3. The modelling demonstrates: 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 For naturally ventilated buildings: i. Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5. ii. The building is designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in either CIBSE TM52 or CIBSE TM59. 4. The PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the above modelling are reported.	**1**	**0.73%**			**1**		WSP Energy are producing the thermal comfort reports. Credit targeted pending modelling results. **2 credits targeted.**	1) CIBSE AM 11 full dynamic **thermal comfort study** results confirming that the building complies with CIBSE Guide A Environmental design, Table 1.5 and CIBSE TM52 2) Resultant **PMV (predicted mean vote)** and **PPD (predicted percentage of dissatisfied)** indices.	RIBA Stage 4	Building Services Engineer
		Design for future thermal comfort	**5-8**	5. Criteria 1 to 4 are achieved. 6. The thermal modelling demonstrates that the relevant requirements set out in criterion 3 above are achieved for a projected climate change environment 7. Where criterion 6 above is not met, the project team demonstrates how the building has been adapted or designed to be easily adapted in future using passive design solutions to meet the requirements 8. For air-conditioned buildings, the PMV and PPD indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.	**1**	**0.73%**			**1**			1) CIBSE AM 11 full dynamic **thermal comfort study** results confirming that the building complies with the above credit but also can accommodate the expected effects of climate change. 2) **Design memo** demonstrating how the building can be easily adapted easily adapted in future using passive design solutions in order to subsequently meet the requirements.	RIBA Stage 4	Building Services Engineer

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Hea 05	**Acoustic Performance**	**Acoustic Performance**	**1-2**	1.The building meets the appropriate acoustic performance standards and testing requirements, defining criteria for the acoustic principles of: b: Indoor ambient noise level OR 2. A suitably qualified acoustician (SQA) is appointed to define a bespoke set of performance requirements for all function areas in the building. The bespoke performance requirements use the three acoustic principles defined in criterion Hea 05 Acoustic performance: Criterion 1 , setting out the performance requirements for each and the testing regime required.	**1**	**0.73%**			**1**		A suitably qualified acoustician (SQA) must carry out a quantifiable assessment of the specification of the build form, construction and any external factors that are likely to affect the indoor ambient noise levels. From this assessment, the SQA must confirm that given a typical arrangement and fit-out specification for the building type, the development is likely to meet the levels required to demonstrate compliance with the BREEAM criteria. WSP Acoustician confirmed compliance will be sort. **1 credit targeted.**	1) **Acoustician's report** confirming early design advice to meet the required performance standards, and the design is capable achieving the relevant acoustic performance criteria. 2) A **formal letter of commitment** or **specification** from the design team confirming the recommendations made by the Acoustician will be implemented to achieved the performance standards. 3) A copy of the **Acoustician's CV** to confirm they meet the BRE's definition of a Suitably Qualified Acoustician	RIBA Stage 4	Acoustician
Hea 06	**Safety and Security**	**Security of site & building**	**1-3**	1. A suitably qualified security specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) during or prior to RIBA Stage 2. 2. The SQSS develops a set of recommendations or solutions during or prior to RIBA Stage 2. 3. The recommendations or solutions proposed by the SQSS are implemented. Any deviation from those recommendations or solutions will need to be justified, documented and agreed in advance with a suitably qualified security specialist.	**1**	**0.73%**			**1**		It appears that Consultation with Metropolitan Police DOCO has been undertaken in July 2018. Sellar to provide a copy of the Security Needs assessment when complete. **This credit has RIBA stage 2 timing requirements.** **1 credit targeted.**	1) **Security Needs Assessment**, covering minimum content requirements as per BREEAM criteria 2) A copy of the **Security Specialist's CV** to confirm they meet the BRE's definition of a Suitably Qualified Security Specialist. 3) **Design drawings/ specifications** confirming implementation of the SQSS's recommendations.	RIBA Stage 2	Suitably Qualified Security Consultant (SQSS)
Hea 07	**Safe and healthy surroundings**	**Safe Access**	**1-6**	Where external site areas form part of the assessed development the following apply: 1. Dedicated and safe cycle paths are provided from the site entrance to any cycle storage, and connect to off-site cycle paths where applicable. 2. 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. 3. Pedestrian drop-off areas are 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: 4. 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. 5. There is a dedicated parking or waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff and visitor car parking. 6 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**	**0.73%**			**1**		6a confirmed that is was likely that all the safe access requirements would be met. **1 credit targeted.**	1) Design **drawings** demonstrating that the site meets the safe access requirements. 2) **Specification** / **letter of commitment** confirming that the lighting will be in accordance with the lighting standards detailed in Hea 01 and, where relevant, BS 5489-1:2013 Lighting of roads and public amenity areas. 3) Completed and **signed NCN checklist** for any cycle lanes to be included in the design. -	RIBA Stage 4	Architect PM
		Outside Space	**7**	7. There is an outside space providing building users with an external amenity area.	**1**	**0.73%**			**1**		The 6A confirmed that an outside space has been provided and will comply with BREEAM requirements. Please note that non-smoking designation must be given to the space. **1 credit targeted.**	1) Design **drawings** demonstrating that the outside space	RIBA Stage 4	Architect
Energy														
Ene 01	**Reduction of energy use and carbon emissions**	**Energy performance**	**1**	1. Up to nine credits where evidence provided demonstrates an improvement in the energy efficiency of the building's fabric and services and therefore achieves lower building operational related CO2 emissions. This is based upon the Energy Performance Ratio for New Constructions.	**9**	**6.00%**	**Four Credits**	**Six Credits**	**6**		WSP have been appointed to undertake energy modelling due to the Outstanding 6 credits have been targeted. **6 credits targeted.**	1) As-designed **BRUKL Input (.inp) and Output (pdf) report**. 2) Details of the **Energy Assessor's Accreditations.**	RIBA Stage 4	Accredited Energy Specialist
		Prediction of operational energy consumption	**2-5**	2. Involve relevant members of the design team in an energy design workshop focusing on operational energy performance. 3. Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures 4. Report predicted energy consumption targets by end use, design assumptions and input data (with justifications). 5. Carry out a risk assessment to highlight any significant design, technical, and process risks that should be monitored and managed throughout the construction and commissioning process.	**4**	**2.67%**		**Four Credits**	**4**		WSP Energy Specialist confirm that following the Operational Energy performance workshop, an additional energy modelling for predicted operational energy consumption and reporting will be undertaken in line with BREEAM requirements **4 credits targeted.**	1) **Meeting minutes** / **similar documentation** to demonstrate when collaborations began, what was discussed for the workshop focusing on operational energy performance. 2) **Report** with predicted energy consumption values, design assumptions, input data and risk assessments reported as detailed in the BREEAM manual. 3) Details of the **Energy Assessor's Accreditations**	RIBA Stage 3	Design Team Accredited Energy Specialist

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Ene 02	Energy Monitoring	**Sub-metering of end-use categories**	1-3	1. Energy metering systems are 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. 2. The energy consuming systems in buildings with a total useful floor area greater than 1,000m2. are metered using an appropriate energy monitoring and management system (e.g. BMS) 3. The end energy consuming uses are identifiable to the building users, for example through labelling or data outputs.	1	0.67%	One Credit	One Credit	1		WSP MEP confirmed energy metering systems will be specified for the development. WSP MEP confirmed energy metering systems using a pulsed output meter will be specified for the development. **2 credits targeted.**	1) **Specification / metering schematic / drawings** confirming metering of relevant systems. 2) **Written confirmation** of the systems that have been metered using a pulsed output meter, including: a) Space heating b) Domestic hot water heating c) Humidification* d) Cooling* e) Ventilation, i.e. fans (major)* f) Pumps g) Lighting h) Small power i) Renewable or low carbon systems (separately) j) Controls k) Other major energy consuming systems or plant. e.g. lifts	RIBA Stage 4	Building Services Engineer
		Sub-metering of high energy load and tenancy areas	4-5	4. Monitor a significant majority of the energy supply with: An accessible 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 for: i. tenanted areas or ii. relevant function areas or departments in single occupancy buildings. 5. Sub-meter per floor plate in large single occupancy or single-tenancy buildings with one homogeneous function, for example hotel bedrooms, offices.	1	0.67%			1				RIBA Stage 4	Building Services Engineer
Ene 03	External Lighting	**External Lighting**	1-2	1. The building has been designed to operate without the need for external lighting (including building, signs and at entrances). OR 2. Where the building does have external lighting: - The average initial luminous efficacy of the external light fittings within the construction zone is not less than 70 luminaire lumens per circuit Watt. - All external light fittings are automatically controlled for prevention of operation during daylight hours and presence detection in areas of intermittent pedestrian traffic.	1	0.67%			1		WSP MEP confirmed that compliant external lighting will be specified (if required). **1 credit targeted**.	1) **Specification** confirming compliance with the relevant energy efficient lighting and lighting control criteria. 2) **Drawings** showing the extent of the external lighting and the type of fittings. 3) **Manufacturers literature/datasheets** for the specified external light fittings (if known at this stage).	RIBA Stage 4	Building Services Engineer
Ene 04	Low carbon design	**Passive design**	1-4	1. The first credit within issue Hea 04 Thermal comfort has been achieved. 2. The project team carries out an analysis of the proposed building design/development to influence decisions made during RIBA Stage 2 and identify opportunities for the implementation of passive design solutions that reduce demands for energy consuming building services. 3. The building uses passive design measures to reduce the total heating, cooling, mechanical ventilation and lighting loads and energy consumption in line with the findings of the passive design analysis. 4. Quantify the reduced total energy demand and carbon dioxide (CO_2) emissions resulting from the passive design measures.	1	0.67%			1		Initial passive design analysis indicated that 1 credit could be awarded. WSP Energy Specialist to update the confirmed a Passive Design Analysis. Credit pending the outcome of the analysis. **This credit has RIBA stage 2 timing requirements.** **1 credit targeted.**	1) A copy of the **Passive Design Analysis** report 2) **Drawings / specifications** demonstrating the inclusion of any passive design measures resulting from the findings of the passive design analysis. 3) **Calculations** quantifying the reduction of the total heating, cooling, mechanical ventilation and lighting loads and energy consumption in line with the findings of the passive design analysis as a result of implementing passive design measures.	RIBA Stage 2	Accredited Energy Specialist
		Free cooling	5-8	5. The passive design analysis credit is achieved. 6. The passive design analysis carried out under the second criterion above includes an analysis of free cooling 7. identifies opportunities for the implementation of free cooling solutions. 8. The building uses ANY of the free cooling strategies listed in the BREEAM manual to reduce the cooling energy demand, i.e. it does not use active cooling.	1	0.67%			0	0	Free cooling solutions are not anticipated. **Credit not targeted.**	1) A copy of the **Passive Design Analysis** report 2) **Drawings / specifications** demonstrating the inclusion of any free cooling measures resulting from the findings of the passive design analysis. 3) **Calculations** quantifying the reduction of the total heating, cooling, mechanical ventilation and lighting loads and energy consumption in line with the findings of the passive design analysis as a result of implementing free cooling measures.	RIBA Stage 2	Accredited Energy Specialist
		Low and zero carbon technologies	9-12	9. An energy specialist completes an LZC feasibility study by the end of Concept Design. 10. Establish the most appropriate recognised local (on-site or near-site) low or zero carbon (LZC) energy sources for the building or development (see Scope of LZC systems and how they are assessed), based on the feasibility study. 11. Specify local LZC technologies for the building or development in line with the feasibility study recommendations. 12. Quantify the reduced regulated carbon dioxide (CO_2) emissions resulting from the feasibility study.	1	0.67%			1		An initial LZC study was conducted in December 2018, WSP Energy Specialist confirmed that the LZC study will be updated to reflect current design. A LZC technology/technologies should be specified in line with the recommendations of the feasibility study which will result in energy and carbon savings. **This credit has RIBA stage 2 timing requirements.** **1 credit targeted.**	1) BREEAM compliant **LZC feasibility study**. 2) **BRUKL Output report** for designed and standard case building and associated calculations to demonstrate the reduction in CO2 emissions. 3) **Drawings / specifications** demonstrating the inclusion of the recommended LZC technology.	RIBA Stage 2	Accredited Energy Specialist
Ene 06	Energy Efficient Transportation Systems	**Energy consumption**	1	1. For specified lifts, escalators or moving walks: 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 2 or Part 3 for one of the following: i. At least two options for each transportation type (eg. for lifts, hydraulic, traction or machine room-less (MRL)) OR ii At least two options considering different system arrangements and control strategies. c: Consider the use of regenerative drives, subject to the requirements in Regenerative drives d: Specify the transportation system with the lowest energy consumption.	1	0.67%			1		WSP appointed to carry out VT analysis. **2 credits targeted.**	1) The professional study of **transportation analysis** and energy consumption comparison of systems/ strategies. 2) **Specification** confirming implementation of lowest energy consuming lift system/strategy.	RIBA Stage 4	Building Services Engineer Vertical Transport Engineer
		Energy efficient features	2-5	**2. Achieve criterion 1.** **One credit - Lifts** 3. Specify the following three energy efficient features for each lift: 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. 4. Specify regenerative drives where their use is demonstrated to save energy.	1	0.67%			1			1) **Specification** confirming at least three energy efficient features of the specified lift. 2) **Manufacturer datasheet** for the specified lift demonstrating the energy efficient features.	RIBA Stage 4	Building Services Engineer Vertical Transport Engineer

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									Targeted	Potential				
Transport														
Tra 01	**Transport assessment and travel plan**	**Transport assessment and Travel Plan**	**1-5**	1 . No later than Concept Design stage, undertake a site-specific transport assessment (or develop a travel statement) and draft travel plan, which can demonstrably be used to influence the site layout and built form 2. The site-specific travel assessment (or statement) shall cover as a minimum: a. If relevant, travel patterns and attitudes of existing building or site users towards cycling, walking and public transport, to identify relevant constraints and opportunities. b. Predicted travel patterns and transport impact of future building or site users. c. Current local environment for pedestrians and cyclists, accounting for any age-related requirements of occupants and visitors. d. Reporting of the number and type of existing accessible amenities within 500m of the site. e. Disabled access accounting for varying levels and types of disability, including visual impairment. f. Calculation of the existing public transport Accessibility Index (AI) g. Current facilities for cyclists 3. Following a transport assessment (in accordance with the requirements set out in criteria 2), develop a site-specific travel plan that provides a long term management strategy which encourages more sustainable travel. The travel plan includes measures to increase or improve more sustainable modes of transport and movement of people and goods during the building's operation. 4. If the occupier is known, involve them in the development of the travel plan. 5. Demonstrate that the travel plan will be implemented post construction and be supported by the building's management in operation.	**2**	**1.92%**			**2**		Initial travel plan and assessment were produced in 2018. WSP Transport Engineers confirmed that the Travel Plan will be updated. **This credit has RIBA stage 1 / 2 timing requirements.** **2 credits targeted.**	1) A copy of a BREEAM compliant **Travel Plan** for the building. 2) **Written confirmation** and/or **drawings** demonstrating the measures outlined in the plan will be implemented.	RIBA Stage 1/2	Transport Consultant
Tra 02	**Sustainable transport measures**	**Pre-Requisite - Tra 01**	**1**	1. Achieve criteria 3-5 in the Tra 01 Transport assessment and travel plan credit.	**-**				**Yes**		Based on the calculated AI of 40, 6 points are required to achieve 10 credits. The following Sustainable transport measures options have been targeted to achieve the desired points: Option 3 - 1 point - 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. YES Option 7 - 1 point - Install compliant cycle storage spaces to meet the minimum levels (1 for every 10 staff) YES Option 8 - 1 point- option 7 has been achieved. Provide at least two compliant cyclist facilities for the building user. Showers and/or Changing facilities and/or Lockers and/or Drying spaces. YES Option 9 - 1 point- At least three existing accessible amenities are present. Option 10 - 2 points - Ensure a minimum of one new accessible amenity is provided. ~ Access to outdoor open space **10 credits targeted**	1) A copy of a BREEAM compliant **Travel Plan** 2) **Written confirmation** and/or **drawings** demonstrating the measures in the plan will be implemented.	RIBA Stage 1	Transport Consultant
		Sustainable public, private and active transport measures		Credits are achieved according to the Accessible Index (AI) of the project, and the total number of points achieved for the sustainable transport options implemented. AI < 25 = up to 10 points available 25 < AI < 40 = up to 8 points available AI > 40 = up to 6 points available	**10**	**9.58%**			**10**			1) **Specification / drawings / written confirmation** demonstrating the measures outlined in the plan will be implemented. 2) **Communication records/ Meeting minutes** confirming consultation with the LA or public transport companies (public transport measures and active travel measures).	RIBA Stage 4	Transport Consultant Client
Water														
Wat 01	**Water Consumption**	**Water Consumption**	**1-2**	Credits are awarded based on the following improvement over the notional baseline: - One credit - 12.5% improvement - Two credits - 25% improvement - Three credits - 40% improvement - Four credits - 50% improvement - Five credits - 55% improvement 3. If a greywater or rainwater system is specified, use its yield in L/person/day to offset potable water demand from components. 4. If a greywater or rainwater system is specified and installed: a: Greywater systems in compliance with BS 8525-1:2010 Greywater systems - Part 1 Code of Practice. b: Rainwater systems in compliance with BS EN 16941-1:2018 - On-site non-potable water systems. Systems for the use of rainwater. BSI; 2018	**5**	**3.89%**	**One Credit**	**Two Credits**	**3**		It was assumed that the development would be using water consuming components with low flush/flow rates and that grey water is being considered. **3 credits targeted.**	1) **Specification** / **sanitary schedule** confirming number of fittings and water efficiency figures for the following: a) WCs b) Urinals c) Taps (wash-hand basins and, where specified, kitchen taps and waste disposal unit) d) Showers e) Baths f) Domestic dishwasher g) Domestic washing machines 2) **Manufacturer datasheet** confirming the water efficiency figures in the specification can be delivered. 3) **Documentation/Specification** confirming the details of rainwater harvesting system (if specified).	RIBA Stage 4	PH Architect

Ref	Title	Sub-Title	Crit	BREEAM Criteria	Max Available	% Worth	Excellent	Outstanding	Design Stage Scoring		Commentary	Actions, to be provided:	Timeframe for Consideration	Responsibility
									Targeted	Potential				
Wat 02	**Water monitoring**	**Water monitoring**	**1-6**	1. Specify a water meter on the mains water supply to each building. This includes instances where water is supplied via a borehole or other private source. 2. For water-consuming plant or building areas consuming 10% or more of the building's total water demand: a. Fit easily accessible sub-meters OR b. Install water monitoring equipment integral to the plant or area. 3. For each meter (main and sub): a. Install a pulsed or other open protocol communication output AND b. Connect it to an appropriate utility monitoring and management system, e.g. BMS, for the monitoring of water consumption. 4. In buildings with swimming pools, or large water tanks and aquariums, fit separate sub-meters on the water supply of the above and any associated changing facilities. 5. In buildings containing laboratories, fit a separate water meter on the water supply to any process or cooling loop for 'plumbed-in' laboratory process equipment	**1**	**0.78%**	**Criterion 1**	**Criterion 1**	**1**		WSP MEP confirmed that water meter with pulsed output will be installed on the mains supply to the development. Compliance must be demonstrated for water-consuming plant/building areas identifiable by the developer. Water-consuming plant/building areas to be added/installed by the tenant do not need to be assessed for this issue. **1 credit targeted.**	1) **Specification** confirming the provision of a water meter and its connection to BMS. 2) **Design plan** confirming location of water meter and BMS display. 3) **Written confirmation** whether water consuming plant or areas consume 10% or more of the building's water use.	RIBA Stage 4	PH
Wat 03	**Major leak detection & prevention**	**Leak detection system**	**1-2**	One credit where evidence provided demonstrates that a leak detection system is specified or installed on the building's water supply. This should meet the following: a. Audible when activated; b. Activated when a continuous flow of water passes through the water meter at a flow rate above a pre-set minimum for a pre-set period of time; c. Able to identify different leakage rates, e.g. continuous, high and/or low level leaks, over set time periods; d. Programmable to suit the owner/occupiers' requirements; and e. Where applicable, designed to avoid false alarms caused by normal operation of large water consuming plant such as chillers.	**1**	**0.78%**			**1**		WSP MEP confirmed specification will be included in the MEP Stage 3 report. **1 credit targeted.**	1) **Specification** confirming the inclusion of the leak detection system and its capabilities as listed in the BREEAM Criteria column.	RIBA Stage 4	PH
		Flow control device	**3**	3. One credit where flow control devices that regulate the supply of water to each WC area/facility according to demand are installed.	**1**	**0.78%**			**1**		WSP MEP confirmed specification will be included in the MEP Stage 3 report. **1 credit targeted.**	1) **Specification** confirming the inclusion of the leak detection system and its capabilities as listed in the BREEAM Criteria column.	RIBA Stage 4	PH
Wat 04	**Water efficient equipment**	**Water efficient equipment**	**1-2**	1. One credit where the design team has identified all unregulated water demands that could be realistically mitigated or reduced. 2. The systems or processes have been identified to reduce the unregulated water demand, and demonstrate, through either good practice design or specification, a meaningful reduction in the total water demand of the building.	**1**	**0.78%**			**1**		Architect confirmed development will have some planting on the terraces which might require an irrigation systems. Process to reduce the water demand will be look at as design progresses. WSP BREEAM to discuss the irrigation system with landscape architect. **1 credit targeted.**	1) **Specification** confirming the irrigation system is water efficient, OR 2) **Written confirmation** all planting will rely solely on precipitation and no irrigation systems are specified.	RIBA Stage 4	PH Landscape Architect
Materials														
Mat 01	**Environmental impacts from construction products - Building life cycle assessment (LCA)**	**Superstructure**	**1-5**	**For offices, industrial and retail buildings** **Comparison with BREEAM benchmark during Concept Design** Superstructure 1. During the Concept Design, demonstrate the environmental performance of the building as follows: a.Carry out a building LCA on of the superstructure design using either the BREEAM Simplified Building LCA tool or an IMPACT Compliant LCA tool. b. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning. **Comparison with BREEAM benchmark during Technical Design** 2. During Technical Design, demonstrate the environmental performance of the building as follows: a. As criterion 1.a 2.b. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Technical Design. Where a project has not achieved criterion 1, criterion 2 may still be achieved. **For all building types** **Option appraisal during Concept Design** 3. For offices, industrial and retail building types, achieve criterion 1 4. During Concept Design, identify opportunities for reducing environmental impacts as follows: a. Carry out building LCA options appraisal of 2 to 4 significantly different superstructure design options b. Use a building LCA tool that is recognised by BREEAM c. For each design option, fulfil the same functional requirements specified by the client and all statutory requirements. d. Integrate the LCA options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document. e. Record the following in the Mat 01/02 Results Submission Tool: The differences between the design options; the design option selected by the client to be progressed beyond Concept Design; the reasons for selecting it and the reasons for not selecting the other design options. f. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning. **Options appraisal during Technical Design** 5. During Technical Design identify opportunities for reducing environmental impacts as follows: a. Carry out building LCA options appraisal of 2 to 3 significantly different superstructure design options b. Use a building LCA tool that is recognised by BREEAM c. As criteria 4.c to 4.e above. Where an options appraisal summary document was produced during Concept Design, update it to include the Technical Design options. d. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Technical Design. Where a project has not achieved criteria 3 and 4, criterion 5 may still be achieved.	**6**	**7.50%**			**4**	**2**	This credit has been targeted and Mat 01/02 Results Submission Tool was submitted to the BRE (Uploaded to BREEAM Project by an Accredited Assessor) before Planning Permission was applied for. Due to the fact that the development doesn't have any substructure, BRE are happy for us to scope it out, however an LCA will still have to be carried for the small hard landscaping area for this credit to be achieved. 'This credit has been targeted and Mat 01/02 Results Submission Tool was submitted to the BRE (Uploaded to BREEAM Project by an Accredited Assessor) before Planning Permission was applied for. **This credit has RIBA stage 2 timing requirements.** **4 credits targeted and 2 potential.**	1) A copy of the **options appraisal summary document**. 2) **Meeting minutes** and/ or **letter of acknowledgement** that the LCA options appraisal summary document has been received by the design team and client. 3) **Meeting minutes/ documented design development** of how the LCA design options have informed the design decision-making process.	RIBA Stage 2 RIBA Stage 2	LCA Practitioner LCA Practitioner
		Substructure and hard landscaping options appraisal during Concept Design	**6-7**	6. Criteria 3 and 4 are achieved. 7. During Concept Design identify opportunities for reducing environmental impacts as follows: a. Carry out building LCA options appraisal of a combined total of at least six significantly different substructure or hard landscaping design options (at least two of each) b. Using a building LCA tool that is recognised by BREEAM c. As criteria 4.c to 4.f above	**1**	**1.25%**			**1**				RIBA Stage 2	LCA Practitioner

Ref	Title	Sub-Title	Crit	BREEAM Criteria	Max Available	% Worth	Excellent	Outstanding	Design Stage Scoring		Commentary	Actions, to be provided:	Timeframe for Consideration	Responsibility
									Targeted	Potential				
Mat 02	**Environmental Product Declarations (EPD)**	**Specification of products with a recognised environmental product declaration (EPD)**	**1-2**	1. Specify construction products with EPD that achieve a total EPD points score of at least 20 (see table 9.8 in the manual) 2. Enter the details of each EPD into the Mat 01/02 Results Submission Tool, including the material category classification.	**1**	**1.25%**			**1**		WSP BREEAM advised the Architect to include the EPD requirement in the Contractor's Requirements for Tender. EPD should be required for the following construction products (A full list could be made available after the LCA has been carried out): ~ Concrete mix or (Cement, aggregates or any recycled materials used) ~ Timber ~ Steel reinforcement and Structural Steel ~ Plasterboard gypsum board ~ concrete screed / levelling products ~ Facade (Opaque and glazed) **1 credit targeted.**	1) **Drawings/specification** confirming material build-up of elements. 2) Evidence for the **Mat 01/02 Results Submission.** 3) Copies of **EPD certificates**.	RIBA Stage 4	Architect PM
Mat 03	**Responsible sourcing of materials**	**Pre-requisite Site timber**	**1**	1 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) Compliance with criterion 1 is a minimum requirement for achieving any BREEAM rating.	**-**		**Criterion 1**	**Criterion 1**	**Yes**		Timber sourcing requirements to be incorporated into contractor requirements.		RIBA Stage 4	PM
		Enabling sustainable procurement	**2**	2. A sustainable procurement plan must be used by the design team. The plan must: a. Be in place before Concept Design. b. Include sustainability aims, objectives and strategic targets to guide procurement activities. c. Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. d. 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. e. 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 20400:2017.	**1**	**1.25%**			**1**		WSP BREEAM have been appointed to produce a sustainable procurement plan. **This credit has RIBA stage 1 / 2 timing requirements.** **1 credit targeted.**	1) **Drawings/specification** confirming material build up of elements. 2) Evidence for the **Mat 03 Calculator**. 3) **Specification/ Written commitments** confirming that all timber will be sourced in accordance with the UK Government's Timber Procurement Policy. 4) A copy of a BREEAM compliant **Sustainability Procurement Plan.**	RIBA Stage 1	Client
		Measuring responsible sourcing	**3**	3. Use the Mat 03 calculator tool and methodology to determine the number of credits achieved for the construction products specified or procured. Credits are awarded in proportion to the scope of the assessment and the number of points achieved. **1 credit** where >10% RSM points are achieved (addressing the superstructure) **2 credits** where >20% RSM points are achieved (addressing superstructure and internal finishes, superstructure and hard landscaping) **3 credits** where >30% RSM points are achieved (addressing superstructure and internal finishes, superstructure and hard landscaping)	**3**	**3.75%**			**2**		The BREEAM AP suggest that the responsible sourcing requirements should be included in the Contractor's Requirements for Tender. **2 credits targeted.**		RIBA Stage 4	PM Contractor
Mat 05	**Designing for durability and resilience**	**Designing for durability and resilience**	**1-4**	**<u>Protecting vulnerable parts of the building from damage.</u>** 1. Protection measures are incorporated into the building to reduce damage from: a: Negative impacts of high user numbers in relevant areas of the building (e.g. corridors, lifts, stairs, doors etc.). b: Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. c: External building fabric damage by a vehicle. d: Potential malicious damage to building materials and finishes, in public and common areas where appropriate. **<u>Protecting exposed parts of the building from material degradation</u>** **2.** Key exposed building elements have been designed and specified to limit long and short term degradation. Demonstrated through: a: The element or product achieving an appropriate quality or durability standard or design guide. If none are available, use BS 7543:2015 **OR** b: A detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors. 3. Include convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design. 4. Design the roof and façade to prevent water damage, ingress and detrimental ponding.	**1**	**1.25%**			**1**		The Architect and Structural Engineer confirmed that protection and degradation measures will be incorporated into the building's design in compliance to BREEAM requirements. **1 credit targeted.**	1) **Design plan** marked-up to confirm internally and externally: a. areas of vulnerability b. protection from the effects of high pedestrian traffic c. protection against any internal vehicular/ trolley movement d. protection against or prevention from any potential vehicular collision where vehicular parking and manoeuvring occurs. e. protection against environmental degradation 2) **Design memo / plan** confirming the types of environmental degradation the building may be susceptible to, the areas most vulnerable to this degradation and the measures taken to protect those areas.	RIBA Stage 4	Architect
Mat 06	**Material efficiency**	**Material efficiency**	**1-3**	1. Opportunities have been identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life. The above is carried out by the design/construction team in consultation with the relevant parties at each of the following RIBA stages: a. Preparation and Brief b. Concept Design c. Developed Design d. Technical Design e. Construction. 2. Develop and record the implementation of material efficiency, during Developed Design, Technical Design and Construction. 3. Report the targets and actual material efficiencies achieved.	**1**	**1.25%**			**1**		WSP BREEAM have been appointed to produce the material efficiency report. **This credit has RIBA stage 1 / 2 timing requirements.** **1 credit targeted.**	1) Material efficiency **design notes / report revisions** for each key RIBA stage reached to date, identifying opportunities for and appropriate measures taken to optimise the use of materials in building design, procurement, construction, maintenance and end of life. 2) **Specifications / drawings** of implementing measures for optimising the use of materials.	RIBA Stage 1	Design Team

Ref	Title	Sub-Title	Crit	BREEAM Criteria	Max Available	% Worth	Excellent	Outstanding	Design Stage Scoring		Commentary	Actions, to be provided:	Timeframe for Consideration	Responsibility
									Targeted	Potential				
Waste														
Wst 01	**Construction Waste Management**	**Pre-demolition audit**	**1-3**	1. Complete a pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition. The audit must: a. Be carried out at Concept Design stage (RIBA Stage 2) by a competent person prior to strip-out or demolition works. b. Guide the design, consider materials for reuse and set targets for waste management c. Engage all contractors in the process of maximising high grade reuse and recycling opportunities 2. Make reference to the audit in the resource management plan (RMP). 3. Compare actual waste arisings and waste management routes used with those forecast and investigate significant deviations from planned targets.	**1**	**0.64%**			**1**		The PM confirmed that a demolition contractor will not be appointed until after Stage 2. This credit could be considered at a later stage & pre-demo audit to be reviewed once more details are available. **This credit has RIBA stage 2 timing requirements.** **1 credit targeted.**	1) Where the development involves demolition, provide a copy of **pre-demolition audit** including: a. Identification and quantification of the key materials present b. Potential applications and issues for the reuse and recycling of the key materials c. Opportunities for reuse and recycling d. Identification of local reprocessors or recyclers e. Identification of overall recycling targets f. Identification of reuse targets g. Identification of overall landfill diversion rate for key materials.	RIBA Stage 2	Client PM
		Construction resource efficiency	**4-5**	4. Prepare a compliant Resource Management Plan (RMP) covering: a. Non-hazardous waste materials (on and off-site), including demolition and excavation waste b. Accurate data records on waste arisings and waste management routes. 5. The amount of non-hazardous construction (excluding demolition and excavation) waste (m^3/100m^2 or tonnes 100m^2) generated on site by the development is the same as or better than good or best practice levels. This should be shown in a BREEAM compliant Site Waste Management Plan. One credit for <13.3 m^3 per 100m^2 (gross internal floor area) Two credits for <7.5m^3 per 100m^2 Three credits for < 3.4m^3 per 100m^2	**3**	**1.91%**		**One Credit**	**2**		Requirements to be included in the Contractor's Requirements for Tender. **3 credits targeted.**	2) **Written commitment** to produce a BREEAM compliant Resource Management Plan / Site Waste Management Plan containing: - the target benchmark for resource efficiency as per the figures noted - procedures and commitments for minimising non-hazardous waste in line with the benchmark - procedures for minimising hazardous waste - procedures for monitoring, measuring and report hazardous and non-hazardous site waste - Monthly reporting of all construction waste data throughout the project checked against what would be expected based on the stage of the project, invoices - procedures for sorting, reusing and recycling construction waste into defined waste groups either on site or through a licensed external contractor - the individual responsible for implementing this policy.	RIBA Stage 4	PM
		Diversion of resources from landfill	**6-7**	6. One credit where evidence provided demonstrates that 80% by volume or 90% by tonnage non-hazardous construction and demolition waste generated by the development will be diverted from landfill and reused or recycled. 7. Sort waste materials into separate key waste groups either on-site or through a licensed contractor for recovery.	**1**	**0.64%**			**1**				RIBA Stage 4	PM
Wst 02	**Use of recycled and sustainably sourced aggregates**	**Pre-requisite Pre-demolition audit**	**1**	**Prerequisite** 1. If demolition occurs on site, to encourage the reuse of site-won material on site, complete a pre demolition audit of any existing buildings, structures or hard surfaces.	**-**					**Yes**	The design team advised the requirements of this credit are deemed difficult for this development, due to the quantities of recycled aggregate required. Design team to advise when the quantities are available whether this credit will be achievable. **1 credit potential.**	1) A compliant **pre-demolition audit**.	RIBA Stage 2/3	Structural Engineer
		Project Sustainable Aggregate Points	**2-6**	2. Identify all aggregate uses and types on the project. 3 Determine the quantity in tonnes for each identified use and aggregate type. 4 Identify the region in which the aggregate source is located. 5 Calculate the distance in kilometres travelled by all aggregates by transport type. 6 The credit will be achieved if at least 3.5 'sustainable aggregate points' (as calculated in the Wst 02 tool) are achieved.	**1**	**0.64%**				**1**		1) Evidence to complete copy of the **Wst 02 calculator**. 2) **Specifications/drawings** of implementing of sustainable aggregate. 3) **Manufacturers details** and/or **datasheets** confirming the type and source of the aggregate.	RIBA Stage 4	Structural Engineer
Wst 03	**Operational Waste**	**Operational Waste**	**1-4**	1. One credit where a central, dedicated space is provided for the storage of the building's recyclable waste streams. This space must be: - Clearly labelled - Accessible to building occupants or facilities operators - Of a capacity appropriate to the building type, size, and predicted volumes of waste that will arise 2. Where high and consistent volume of operational waste streams are likely, the following facilities should be provided: - static waste compactor or baler - vessels for composting suitable organic waste or storing for collection - where organic waste is to be stored/composted on site, a water outlet should be provided.	**1**	**0.64%**	**One Credit**	**One Credit**	**1**		Architect confirmed a dedicated BREEAM compliant space will be provided. **Credit targeted.**	1) **Design plans** confirming location and area/ volume of storage space/ storage bins. 2) **Written confirmation** that the central bin store is adequately sized for the anticipated volume of waste and waste collection arrangement, is clearly labelled for recycling, is accessible to residents/ facilities management and in a location with good vehicular access. 3) **Written confirmation** that internal recyclable waste bins of appropriate capacity will be provided in a compliant communal space (additional to general waste bins) 4) **Written confirmation** that food waste caddies and information leaflets will be provided in kitchen area or compliant communal space.	RIBA Stage 4	Waste Consultant Architect
Wst 04		**Speculative Floor & Ceiling Finishes**	**1-2**	1. One credit where, for tenanted areas, prior to full fit-out works, carpets, other floor finishes and ceiling finishes have been installed in a show area only. OR 2. In a building developed for a specific occupant, that occupant has selected (or agreed to) the specified floor and ceiling finishes.	**1**	**0.64%**			**1**		The Architect confirmed on behalf of the Client that if present, floor and ceiling finishes will not be removed/replaced during fit-out. **Credit targeted.**	1) **Written confirmation** of ceiling and floor finish agreement with tenant or no finishes proposed.	RIBA Stage 4	PM
Wst 05	**Adaptation to climate change**	**Structural and fabric resilience**	**1-3**	1 .Conduct a climate change adaptation strategy appraisal using: a. A systematic 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. 2. Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design, that aim to mitigate the identified impact. 3. 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 have been justified in writing by the assessor.	**1**	**0.64%**			**1**		WSP BREEAM have been appointed to produce WST 05 report with input from the design team. **This credit has RIBA stage 2 timing requirements.** **1 credit targeted.**	1) A copy of the **Climate change adaptation strategy appraisal report** to identify and evaluate the impact on the building over its projected life cycle from expected extreme weather conditions arising from climate change and, where feasible, mitigate against these impacts. 2) Evidence to demonstrate how the findings of the **Climate Change Adaptation Strategy Appraisal** has influenced the design and measures that have been taken to mitigate the impact of the expected effects (e.g. specification documents)	RIBA Stage 2	Building Services Engineer Architect Structural Engineer

Ref	Title	Sub-Title	Crit	BREEAM Criteria	Max Available	% Worth	Excellent	Outstanding	Design Stage Scoring		Commentary	Actions, to be provided:	Timeframe for Consideration	Responsibility
									Targeted	Potential				
Wst 06	Design for disassembly and adaptability	**Recommendations**	**1-2**	1. Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design. 2. Develop recommendations or solutions based on the study (criterion 1 above), during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation.	**1**	**0.64%**			**1**		WSP BREEAM have been appointed to produce the WST 06 report with input from the design team. **This credit has RIBA stage 2 timing requirements.** **2 credits targeted.**	1) A copy of the **ease of disassembly and the Functional adaptation strategy appraisal report** to identify and make recommendations for measures to be incorporated to facilitate future adaptation. 2) **Implementation report/ drawings/ specification** that demonstrate how the findings of the Ease of Disassembly and Functional adaptation strategy appraisal report have influenced the design and particular measures have been implemented.	RIBA Stage 2	Building Services Engineer Architect Structural Engineer
		Implementation	**3-5**	3. Achieve criteria 1 and 2 4. Provide an update, during Technical Design, on: a. How the recommendations proposed have been implemented where practical and cost effective. Omissions have been justified in writing to the assessor. b. Changes to the recommendations and solutions during the development of the Technical Design. 5. Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.	**1**	**0.64%**			**1**				RIBA Stage 4	Building Services Engineer Architect Structural Engineer
Land Use & Ecology														
LE01	Site Selection	**Re-use of Land**	**1**	1. One credit where evidence provided demonstrates that the majority (75%) of the footprint of the proposed development falls within the boundary of previously developed land.	**1**	**1.15%**			**1**		Development is over 75% located on previously developed land. **1 credit targeted.**	1) **Drawings** which shows the site and its land use prior to development overlaid with a site boundary for the new works. This should confirm the footprint areas associate with both states.	RIBA Stage 4	Architect
		Contaminated Land	**2-3**	2. One credit where a specialist's site investigation, risk assessment and appraisal demonstrate that the land used for the new development has, prior to development, been defined as significantly contaminated and where adequate remedial steps have been taken to decontaminate the site **prior to construction.**	**1**	**1.15%**			**0**	**0**	The design team have advised no contamination has been found at the site. **Credit not targeted.**	1) **Contaminated land report**	RIBA Stage 4	Contaminated Land Consultant
LE02	Identifying and understanding the risks and opportunities for the project	**Prerequisite - Assessment route selection**	**1-2**	1. An assessment route for the project has been determined using BREEAM Guidance Note GN34 BREEAM Ecological Risk Evaluation Checklist. 2. The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.	**2**	**2.31%**			**Yes**		WSP Ecologist has been appointed at RIBA Stage 2. Ecologist route (Route 2) has been pursued. **RIBA stage 1 / 2 requirements satisfied.** **2 credits targeted.**	1) Copy of Guidance Note GN34 **BREEAM Ecological Risk Evaluation Checklist.** 2)A formal letter of commitment or contractual requirements document confirming compliance against all relevant UK and EU legislation .	RIBA Stage 2	Ecologist
		Survey and evaluation (Route 2)	**4-6**	If route 2 is followed , two credits are achievable. 4. An appropriate individual is appointed at a project stage that ensures early involvement in site configuration and, where necessary, can influence strategic planning decisions. 5. **Prior to the completion of the preparation and brief,** an appropriate level of survey and evaluation has been carried out to determine the ecological baseline of the site, taking account of the zone of influence to establish: a. Current and potential ecological value and condition of the site, and related areas within the zone of influence. b. Direct and indirect risks to current ecological value c. Capacity and feasibility for enhancement of the ecological value of the site and, where relevant, areas within the zone of influence. 6. Data are collated and shared with project team to inform the site preparation, design or construction works.					**2**			1) **Appointment letter** for the Suitably Qualified Ecologist. 2)A copy of the **ecologist's CV** to confirm they meet the BRE's definition of a Suitably Qualified Ecologist. 3) Suitably Qualified **Ecologist's BREEAM report** highlighting information required in accordance with the BREEAM manual.	RIBA Stage 1	Ecologist
		Determining the ecological outcomes for the site	**7-10**	7. Survey and evaluation criteria (criteria 3–6 above) relevant to the chosen route have been achieved. 8. During Concept Design, the project team liaise and collaborate with representative stakeholders to identify and consider ecological outcome for the sites for the project. 9. When determining the ecological outcome for the site, this must involve the identification, appraisal and selection of specific solutions and measures sufficiently early to influence key project planning decisions. This must be done in accordance with the following hierarchy of action: a. avoidance b. protection c. reduction or limitation of negative impacts d. on site compensation and, e. enhancement, considering the capacity and feasibility within the site, or where viable, off-site. 10. Following this the optimal ecological outcome for the site is selected after liaising with representative stakeholders and the project team.								1) **Meeting minutes / similar documentation** to demonstrate when collaborations began, what was discussed for the workshop to identify and consider the ecological outcomes for the site.	RIBA Stage 2	PM Ecologist

Ref	Title	Sub-Title	Crit	BREEAM Criteria	Max Available	% Worth	Excellent	Outstanding	Design Stage Scoring		Commentary	Actions, to be provided:	Timeframe for Consideration	Responsibility
									Targeted	Potential				
LE03	Managing negative impacts on ecology	**Prerequisite – Identification and understanding the risks and opportunities for the site**	**1**	1. LE 02 has been achieved.					**Yes**		WSP ecologist has confirmed they are appointed and have developed appropriate reporting and undertaken necessary actions using the route 2 approach. **RIBA stage 1 / 2 requirements satisfied.** **3 credits targeted.**	1) A **formal letter of commitment** or **contractual requirements** document confirming compliance against all relevant UK and EU legislation .	RIBA Stage 4	Ecologist PM
		Planning, liaison, implementation and data	**2-4**	2. Roles and responsibilities have been 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. 3. Site preparation and construction works have been planned for and are implemented at an early project stage to optimise benefits and outputs. 4. 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**	**1.15%**			**1**			1) **Meeting minutes** and **agendas** to demonstrate when collaborations began, what was discussed, the defining of roles and responsibilities and the outcomes. 2) **Meeting minutes** and **agendas** to demonstrate collaborating with representative stakeholders.	RIBA stage 1	Ecologist PM
		Managing negative impacts of the project	**5-8**	**Route 1 (one credit)** 6. Negative impacts from site preparation and construction works have been managed according to the hierarchy, and no net impact has resulted. **Route 2 (up to two credits)** 8. Negative impacts from site preparation and construction works have been managed according to the hierarchy and either: a. No net loss of ecological value has occurred **(2 credits)** OR b. The overall loss of ecological value has been limited as far as possible **(1 credit)**	**2**	**2.31%**			**2**			1) Compliant **BREEAM Evidence** confirming loss of ecological value has been limited as far as possible or no overall loss of ecological value.	RIBA Stage 4	Ecologist PM
LE04	Change and enhancement of ecological value	**Prerequisite - Identifying and understanding the risks and opportunities for the project**	**1-2**	1. LE 03 has been achieved. Including the following, specific to the aims of this issue: a. Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes. b.Site preparation and construction works have been planned for and implemented at a stage that is sufficiently early in the project to optimise benefits and outputs. 2.The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site.					**Yes**		WSP ecologist has confirmed they are appointed and will develop appropriate reporting and undertaken necessary actions using the route 2 approach. **1 credit targeted.**	1) Compliant **BREEAM documentary evidence** highlighting completion of the pre-requisite criteria.	RIBA Stage 4	Ecologist PM
		Route 2 **Liaison, implementation and data collation**	**5**	4 The project team, liaising and collaborating with representative stakeholders (for relevant stakeholders see LE 02 Identifying and understanding the risks and opportunities for the project - Determining the ecological outcomes for the site – project team liaison and collaboration with relevant stakeholders), and taking into consideration data collated and shared, have implemented the solutions and measures selected in a way that enhances ecological value in the following order: 4.a: On site, and where this is not feasible, 4.b: Off site within the zone of influence. 5 Data collated are provided to the local environmental records centres nearest to, or relevant for, the site.	**1**	**1.15%**			**1**			1) Compliant **BREEAM documentary evidence** confirming liaison, implementation and data collation.	RIBA Stage 3	Ecologist PM
		Route 2 **Enhancement of ecology**	**6**	6 Up to three credits are awarded based on the calculation of the 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 are awarded as follows: 6.a: Minimising loss of ecological value (one credit - percentage score of 75-94) 6.b: No net loss of ecological value (two credits - percentage score of 95-104) 6.c: Net gain of ecological value (three credits - percentage score of 105-109)	**3**	**3.46%**			**3**		WSP ecologist has confirmed they are appointed and will develop appropriate reporting and undertaken necessary actions using the route 2 approach. The performance required for the second credit will not be understood until detailed landscape design information is available, which is not anticipated in RIBA stage 2. To be reviewed post planning. **3 credits targeted.**	1) Compliant **BREEAM documentary evidence** highlighting the enhancement of ecology that has been carried out as per GN 36.	RIBA Stage 4	Ecologist PM

Ref	Title	Sub-Title	Crit	BREEAM Criteria	Max Available	% Worth	Excellent	Outstanding	Design Stage Scoring		Commentary	Actions, to be provided:	Timeframe for Consideration	Responsibility
									Targeted	Potential				
LE05	Long term ecology management and maintenance.	**Prerequisite - Roles and responsibilities, implementation, statutory obligations**	**1-2**	1. The client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. 2. Where pursued, LE 04 has been achieved, including the following specific aims of this issue: a. Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes. b. Site preparation and construction works have been planned for and implemented at a stage that is sufficiently early in the project to optimise benefits and outputs.					**Yes**		Based on initial assessment by WSP Ecologist this credit should be targeted. The second credit requires the development of a habitat and landscape management plan, which should be developed once the landscape design is finalised in the later design stages. **RIBA stage 1 / 2 requirements satisfied.** **2 credits targeted.**	1) Compliant **BREEAM documentary evidence** highlighting completion of the pre-requisite criteria.	RIBA Stage 1	Ecologist PM
		Planning, liaison, data, monitoring and review management and maintenance	**3-5**	If route 1 is followed, only 1 credit is achievable. If route 2 is followed, 2 credits are achievable. 3. The project team liaise and collaborate with representative stakeholders, taking into consideration data collated and shared, on solutions and measures implemented to: a. monitor and review implementation and the effectiveness b. develop and review management and maintenance solutions, actions or measures. 4. In support of the above and to help ensure their continued relevance over the period of the project the following should be considered: a. Monitoring and reporting of on the ecological outcomes for site implemented at the design and construction stage b. Monitoring and reporting of outcomes and successes from the project c. Arrangements for the ongoing management of landscape and habitat connected to the project (on and, where relevant, off site). d. Maintaining the ecological value of the site and its relationship or connection to its zone of influence. e. Maintaining the site in line with the any sustainability linked activities, e.g. ecosystems benefits (LE 02). f. Remedial or other management actions are carried out which relate to those identified in LE 02, LE 03 and LE 04. 5. As part of the tenant or building owner information supplied, include a section on Ecology and Biodiversity to inform the owner or occupant of local ecological features, value and biodiversity on or near the site.	**1**	**1.15%**			**1**			1) Compliant **BREEAM documentary evidence** highlighting completion of the planning, liaison, data, monitoring and review management and maintenance criteria.	RIBA Stage 3	Ecologist PM
		Landscape and ecology management plan	**6-7**	6. Landscape and ecology management plan, or similar, is developed in accordance with BS 42020:2013 covering as a minimum the first five years after project completion and includes: a. Actions and responsibilities, prior to handover, to give to relevant individuals b. The ecological value and condition of the site over the development life. c. Identification of opportunities for ongoing alignment with activities external to the development project. d. Identification and guidance s to trigger appropriate remedial actions to address previously unforeseen impacts e. Clearly defined and allocated roles and responsibilities. 7. The landscape and management plan or similar is updated as appropriate to support maintenance of the ecological value of the site.	**1**	**1.15%**			**1**			1) Copy of **landscape and ecology management plan** that is in accordance with BS 42020:2013. 2) A **formal letter of commitment** or **contractual requirements** document confirming implementation of landscape and ecology management plan.	RIBA Stage 4	Ecologist PM
Pollution														
Pol 01	Impact of refrigerants	**Prerequisite Compliance with BS EN 378:2016**	**2**	2. All systems (with electric compressors) must comply with the requirements of BS EN 378:2016 (parts 2 and 3) and where refrigeration systems containing ammonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice.					**Yes**		WSP MEP confirmed that all systems with electric compressor will comply with the requirements of BS EN 378:2016 and all refrigeration systems containing ammonia will comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice. Based on experience with a similar project (Air Source Heat Pump system) WSP assume that at this stage of the design one credit could targeted. **1 credit targeted.**	1) **Written confirmation** and m**anufacturer datasheet** of any system with Electrical Compressors confirming compliance with BS EN 378:2016 (parts 2 and 3) and where refrigeration systems containing ammonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice.	RIBA Stage 4	Building Services Engineer
		No refrigerant use	**1**	1. Three credits where the building does not require the use of refrigerants within its plant / systems OR	**2**	**1.50%**			**1**			1) **Written confirmation** and **manufacturer datasheet** of the relevant refrigeration type confirming compliant refrigerant charge.	RIBA Stage 4	Building Services Engineer
		Impact of Refrigerant	**3-5**	3. & 4. Two credits where systems using refrigerants have DELC CO2e of 100kgCO2e/kW cooling capacity. OR where the air-conditioning or refrigeration systems use refrigerants with a GWP of less than 10. 5. One credit where systems using the refrigerants have Direct Effect Life Cycle CO2 equivalent emissions (DELC CO2e) of 1000kgCO2e/kW cooling capacity.								1) **Specification** document confirming requirement to meet criteria. 2) **Written confirmation** and **manufacturer datasheet** confirming system type(s) and system information.	RIBA Stage 4	Building Services Engineer
		Refrigerant Leak Detection	**6-7**	6 All systems are hermetically sealed or only use environmentally benign refrigerants. OR 7.a. Where the systems are not hermetically sealed, systems have: i. A permanent automated refrigerant leak detection system, that is robust and tested, and capable of continuously monitoring for leaks. OR ii An inbuilt automated diagnostic procedure for detecting leakage is enabled. 7.b. 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	**1**	**0.75%**			**1**		WSP MEP confirmed that a refrigerant Leak Detection system will be installed and included within their specifications. **1 credit targeted.**	1) **Specification** confirming inclusion of refrigerant leak detection and containment system(s) as per the BREEAM criteria. 2) **Design drawings** demonstrating the refrigeration leak detection.	RIBA Stage 4	Building Services Engineer
Pol 02	Local Air Quality	**NOx Emissions** **NO_x > 15 µg/ m^3 avg a year** **PM10 > 10µg/ m^3 avg a year**	**1-3**	1. All heating and hot water is supplied by non-combustion systems. E.g. only powered by electricity. **OR** 2. Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set in the manual (see table 12.4 and for biomass 12.5) The measurements must be provided by manufacturers, following the labelling requirements of the European directive 2009/125/EC. No credits can be awarded for Pol 02 if any of the combustion appliances are not covered. **Gas Boilers will require NOx Emissions (mg/kWh) of:** **<27 for 1 credit** **<24 for 2 credits** 3. Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set. To identify whether the site is in a low or high pollution location go to: https://uk-air.defra.gov.uk/data/gis-mapping	**2**	**1.50%**			**2**		WSP Energy specialist expects that 2 credits can be targeted based on the proposed air source heat pump servicing (fully electric) strategy for the building **2 credits targeted.**	1) Compliant **BREEAM documentary evidence** highlighting completion of the local air quality criteria.	RIBA Stage 4	Building Services Engineer

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									Targeted	Potential				
Pol 03	Flood and surface water management.	**Pre-Requisite - appointment of an Appropriate consultant**	**1**	1. An appropriate consultant is appointed to carry out and demonstrate the development's compliance with all criteria.					**Yes**		WSP Flood Risk Consultant has been appointed to carry out an FRA. The site is located on a low flood risk zone **2 credits targeted.**	1) Appointment letter for the appropriate consultant.	RIBA Stage 3	Drainage Consultant
		Flood resilience	**2-4**	**Two credits - Low flood risk** 2. A site-specific flood risk assessment (FRA) confirms the development is in a flood zone that is defined as having a low annual probability of flooding. **One credit - Medium or high flood risk** 3. A site-specific FRA confirms the development is in a flood zone that is defined as having a medium or high annual probability of flooding and is not in a functional floodplain. 4.Increase the resilience and resistance of the development to flooding, by ensuring: a. The ground level of the building and access to both the building and the site, are designed (or zoned) so they are at least 600 mm above the design flood level of the site's flood zone. b. The final design of the building and the wider site reflects the recommendations made by an appropriate consultant in accordance with the hierarchy approach outlined in section 5 of BS 8533:2017.	**2**	**1.50%**			**2**			1) A **site specific FRA** confirming flood risk from all current and future sources of flooding. 2) A **statement** from the Flood Risk Specialists confirming whether the design is in accordance with the hierarchy approach outlined in section 5 of BS 8533:2011.	RIBA Stage 3	Drainage Consultant
		Surface water run-off Pre-requisite	**5**	**Prerequisite for surface water run-off credits** 5. 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 must be followed, with justification given by the appropriate consultant where water is allowed to leave the site.					**0**	**0**	Credit not targeted as confirmed by the Flood Specialist. **Credit not targeted.**	1) Compliant **BREEAM documentary evidence** highlighting completion of the pre-requisite criteria.	RIBA Stage 4	Drainage Consultant
		Surface water run off (Rate)	**6-8**	6. Drainage measures are 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 should comply at the 1-year and 100-year return period events. 7. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified Sustainable Drainage Systems (SuDS) are in place. 8. Calculations include an allowance for climate change. This should be made in accordance with current best practice planning guidance.	**1**	**0.75%**			**0**	**0**		1) Drainage consultant's **report/ calculations/ specification** confirming BREEAM requirements. 2) **Client commitment** to ensure management and maintenance agreements are put is in place for SuDS	RIBA Stage 4	Drainage Consultant
		Surface water run off (Volume)	**9-15**	9. Flooding of property will not occur in the event of local drainage system failure; AND EITHER 10. Drainage design measures are specified so that the post-development run-off volume, over the development lifetime, is no greater than prior to the assessed site's development. This must be for the 100-year 6-hour event, including climate change. 11. Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other SuDS techniques. OR (where criteria 10 and 11 cannot be achieved): 12. Justification from the appropriate consultant indicating why the above criteria cannot be achieved 13. Drainage design measures are specified so that the post-development peak rate of run-off is reduced to the limiting discharge. 14. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place. 15. For either option, above calculations must include an allowance for climate change; this should be made in accordance with current best practice planning guidance.	**1**	**0.75%**			**1**		It was considered that the surface water run off requirements would be met. **1 credit targeted.**		RIBA Stage 4	Drainage Consultant
		Minimising water course pollution	**16-23**	16. There is no discharge from the developed site for rainfall up to 5 mm. 17. Areas with a low risk source of watercourse pollution, an appropriate level of pollution prevention treatment is provided, using appropriate SuDS techniques. 18. Areas with a high risk of contamination or spillage of substances, such as petrol and oil, have separators are installed in surface water drainage systems. 19. Chemical or liquid gas storage areas have a means of containment fitted to the site drainage system (i.e. shutoff valves). 20. All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as the SuDS manual and other best practice. They must be bespoke solutions taking account of the specific site requirements 21. A comprehensive and up to date drainage plan of the site will be made available for the building or site occupiers. 22. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place. 23. All external storage and delivery areas are designed and detailed in accordance with the current best practice planning guidance.	**1**	**0.75%**			**0**	**0**	Credit not targeted as confirmed by the Flood Specialist. **Credit not targeted.**		RIBA Stage 4	Drainage Consultant
Pol 04	**Reduction of Night Time Light Pollution**	**Reduction of Night Time Light Pollution**	**1-5**	2. One credit where evidence provided demonstrates that the external lighting design is in compliance with the guidance in the ILP Guidance notes for the reduction of obtrusive light, 2011. 3. All external lighting (except safety and security) should be automatically switched off between 23:00 and 7:00 hours. 4. Safety and security lighting levels should be lowered between these hours to meet the criteria in table 2 of the ILP notes. 5. illuminated advertisements, where specified, must be designed in compliance with ILE Technical Report 5 – The Brightness of Illuminated Advertisements	**1**	**0.75%**			**1**		It is understood that the architect and specialist lighting designer will ensure at Stage 3 that the requirements meet the BREEAM requirements. **1 credit targeted.**	1) **Specification** confirming compliance with the ILP Guidance notes for the reduction of obtrusive light, 2011 and inclusion of controls to automatically switch off lighting between 23:00 and 07:00 hours.	RIBA Stage 4	Building Services Engineer
Pol 05	**Noise Attenuation**	**Noise Attenuation**	**1-5**	1 There are no noise-sensitive areas within the assessed building or within 800 m radius of the assessed site. OR 2 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 4142:2014 is commissioned to determine: a: Existing background noise levels b: Noise rating level from the assessed building. 3. The noise impact assessment must be carried out by a suitably qualified acoustic consultant. 4. The noise level from the assessed building must be at least 5dB lower than the background noise throughout the day and night. 5. If the noise sources from the assessed building are greater than the levels described in criterion 4, measures have been installed to attenuate where it will comply with the criterion.	**1**	**0.75%**			**1**		A Noise Assessment has been carried out. WSP Suitable Qualified Acoustician (SQA) to confirm that new sources of noise from the development is 5dB lower than background noise throughout the day and night and will not give rise to the likelihood of complaints from existing noise- sensitive premises (e.g. residential areas) and amenity. **1 credit targeted.**	1) **Acoustician's report** confirming all required items 2) W**ritten confirmation** that any recommendations made by the Acoustician will be implemented into the design to ensure the final building is compliant with the relevant standards 3) A copy of the **Acoustician's CV** to confirm they meet the BRE's definition of a Suitably Qualified Acoustician	RIBA Stage 4	Acoustician

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									Targeted	Potential				
Innovation														
Man 03	**Responsible Construction Practices**	**Responsible Construction Management**	**23**	23. Achieve **all items a-s** in the Table as noted in the criteria in Man 03	**1**				**1**		See MAN 03 above. **1 credit targeted.**		RIBA Stage 4	
Hea 01	**Visual Comfort**	**Daylighting**	**14**	14. Relevant building areas meet exemplary daylight factors and the relevant criteria in Table 5.8 (see manual)	**1**				**0**	**0**	**Credit not targeted.**		RIBA Stage 4	
Hea 06	**Security**	**Security**	**4**	4. A compliant risk based security rating scheme has been used. The performance against the scheme has been confirmed by independent assessment and verification.	**1**				**0**	**0**	**Credit not targeted.**		RIBA Stage 2	
Ene 01	**Reduction of energy use and carbon emissions**	**Reduction of energy use and carbon emissions**	**6-12**	Achieve exemplary level Ene01 performance via: - Carbon Neutral (up to 2 credit) OR - Carbon Negative (up to 3 credits) AND **- Reporting of post-occupancy energy consumption (2 credits)**	**5**				**0**	**0**	**Credit not targeted.**		RIBA Stage 4	
Wat 01	**Water Consumption**	**Water Consumption**	**7-8**	Where the development achieves an improvement of 65% over baseline building water consumption.	**1**				**0**	**0**	**Credit not targeted.**		RIBA Stage 4	
Mat 01	**Materials Specification**	**Materials Specification**	**8-18**	Achieve exemplary level Mat01 criteria via: - Core building services options appraisal (1 credit) - LCA and LCC alignment (1 credit) - Third Party Verification (1 credit)	**3**				**0**	**0**	**Credit not targeted.**		RIBA Stage 2	
Mat 03	**Responsible Sourcing of Materials**	**Responsible Sourcing of Materials**	**3**	1 exemplary credit is achieved where > 50% RSM points are achieved (addressing superstructure and internal finishes, superstructure and hard landscaping AND core building services)	**1**				**0**	**0**	**Credit not targeted.**		RIBA Stage 4	
Wst 01	**Construction Site Waste Management**	**Construction Site Waste Management**	**8-11**	8. Non-hazardous construction waste generated, excluding demolition and excavation waste, is <1.6m3 or <1.9 tonnes per 100m2 GIFA. 9. The percentage of non-hazardous construction waste diverted from landfill meets or exceeds the exemplary level percentage benchmarks: Demolition waste >85% volume or >95% tonnage Excavation waste >95 volume or >85% tonnage 10. All key waste groups for diversion from landfill are covered in the RMP. 11. Waste data obtained from licensed external waste contractors is reliable and verifiable, by using data from EA/SEPA/EA Wales/NIEA Waste Return Forms or from a PAS 402:2013 compliant company.	**1**				**0**	**0**	**Credit not targeted.**		RIBA Stage 4	
Wst 02	**Recycled aggregates**	**Recycled aggregates**	**7**	Exemplary level recycled aggregate applications have been achieved.	**1**				**0**	**0**	**Credit not targeted.**		RIBA Stage 4	
Wst 05	**Adaptation to climate change**	**Adaptation to climate change**	**4-5**	Hea 04 Thermal comfort: Criterion 6 - Prevent increasing risks of overheating. Ene 01 Reduction of energy use and carbon emissions: A minimum of six credits Ene 04 Low carbon design: The passive design analysis credit - Maximise opportunities to avoid unnecessary carbon emissions. Wat 01 Water consumption: A minimum of three credits - Minimise water demand in periods of drought. Mat 05 Designing for durability and resilience: Criteria 2–4 - Avoid increased risks of deterioration and higher maintenance demands. Pol 03 Flood and surface water management: Flood resilience: a minimum of one credit Pol 03 Flood and surface water management: Surface water run-off: two credits -	**1**				**0**	**0**	**Credit not targeted.**		RIBA Stage 2	
Le 02	**Identifying and understanding the risks and opportunities for the project**	**Identifying and understanding the risks and opportunities for the project**	**11-13**	Determine the ecological outcomes for the site (sustainability-related activities) 11. Achieve criteria 8 to 10. 12. When determining the optimal ecological outcome for the site consider, in addition to those outlined in criteria 8 to 10, the wider site sustainability-related activities and the potential for ecosystem service related benefits. 13. Achieve the credits of the assessment issues outlined below: a: Hea 07 Safe and healthy surroundings - Both credits b: Pol 03 Flood and surface water management - Achieve credits for 'Surface water run-off' and 'Minimising watercourse pollution' c: Pol 05 Reduction of noise pollution	**1**				**0**	**0**	**Credit not targeted.**		RIBA Stage 2	

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