



Client: Dalata Hotel Group

Clayton Hotel, Manchester Airport - Extension

**BREEAM 2018 New Construction
Pre-assessment Report**

breeam

Date: 30th June 2023

Report Status: Rev 1.2 – For Issue

SBL Project No: SBL428

BREEAM Assessor: Phil Garlick

Quality Assurance

This report has been checked in accordance with SBL's internal Quality Assurance procedures.

Issue	Rev	Prepared & checked by	Description	Issued
1	0	Phil Garlick	For Issue	21.11.19
1	1	Phil Garlick	For Issue	05.12.19
1	2	Phil Garlick	For Issue	30.06.23

Contact Details

Phil Garlick
Director
Sustainably Built Ltd
Office 15, York Eco Business Centre
Amy Johnson Way, Clifton Moor
York, YO30 4AG

Tel: 07786 195695
Email: phil.garlick@sustainablybuilt.co.uk

TABLE OF CONTENTS

TABLE OF CONTENTS.....	4
TABLES AND APPENDICES.....	4
1.0 EXECUTIVE SUMMARY	5
2.0 DISCLAIMER.....	7
3.0 COPYRIGHT.....	7
4.0 INTRODUCTION	8
5.0 PROJECT DESCRIPTION.....	8
6.0 BREEAM ASSESSMENT METHODOLOGY	9
7.0 RESULTS, CONCLUSIONS AND RECOMMENDATIONS.....	11
8.0 REFERENCES	15

TABLES AND APPENDICES

Tables:

Table 1 – BREEAM Pre-assessment Workshop Attendees

Table 2 - Actions Required to Achieve the Cost Options

Table 3 – Actions Required to Resolve Uncertain Credits

Table 3 - BREEAM Credit Assessment

Appendices:

Appendix 1 – Details of the BREEAM Methodology

1.0 EXECUTIVE SUMMARY

SBL were commissioned by Joe Byrne of Tom McNamara & Partners to provide BREEAM assessment and advisory services for a proposed net 214 bedroom extension and associated provision of car parking to the existing Clayton Hotel at Manchester Airport. This BREEAM assessment covers the new-build extension only. The assessment is being carried out using the BREEAM 2018 New Construction methodology and will be required to achieve of a rating of Very Good for planning purposes.

Fig 1 overleaf shows the current predicted BREEAM score and rating. This shows the following:

- 4.3% is achieved and signed off at design stage.
- 54.3% is achieved subject to submission of suitable evidence.

This totals 58.6% and achieves the required Very Good rating (minimum 55% required) with a relatively small margin of comfort. All mandatory credits and criterion will be met for a Very Good rating.

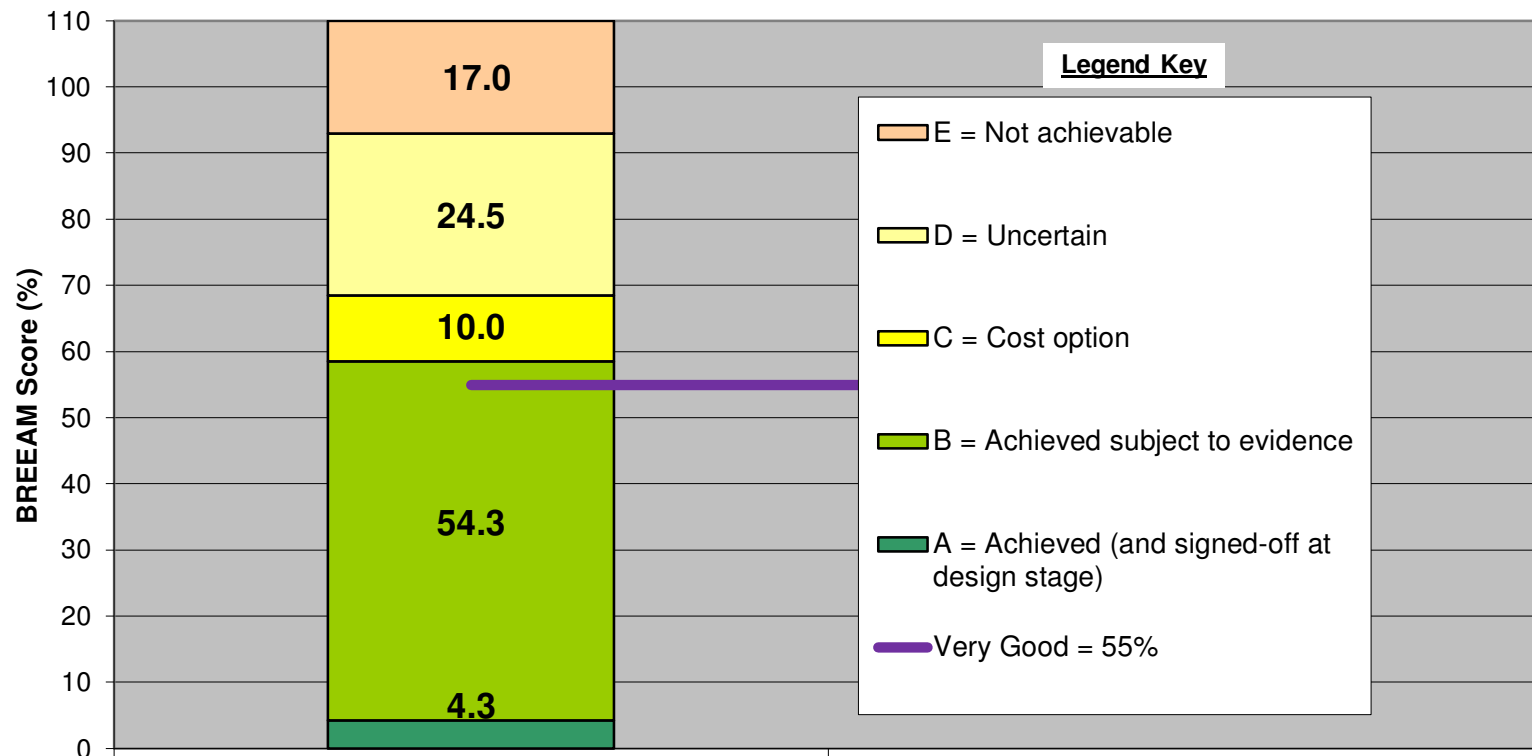
Further to this, there are:

- 10.0% of credits which are cost options at this stage. The actions required to achieve these credits are set out in Table 2 in Section 7.0 of this report.
- 24.5% of credits which are uncertain at this stage of which up to 22.7% may be realistically achievable. The actions required to achieve these credits are set out in Table 3 in Section 7.0 of this report.

A BREEAM rating of 'Very Good' is achievable on this project. The following are recommended at this stage:

- The cost options and uncertain credits in Tables 2 & 3 should be reviewed to confirm how the margin of comfort in achieving Very Good is to be increased.
- In order to comfortably achieve a Very Good BREEAM rating, a score of 60% should be considered as the target minimum at this early stage in the development of the scheme. This is as a contingency to allow for unforeseen issues arising between now and the end of construction and also to allow for BRE's QA check of the final BREEAM report.

Figure 1 - BREEAM 2018 NC Scoring Prediction



Predicted score = 58.6 %

Predicted margin of comfort = 3.6 %

2.0 DISCLAIMER

This report has been prepared by Sustainably Built Ltd. (SBL) using all reasonable skill, care and diligence on behalf of the consultant. The study to which this report relates has been carried out in accordance with the strict quality requirements prescribed by the Building Research Establishment (BRE).

In order to prepare this report, SBL has made use of evidence supplied by the design team. This has been both physical, e.g. documentation such as reports, drawings, plans, correspondence, etc., and anecdotal, i.e. verbally reported information from meetings, telephone calls, etc. SBL's professional liability is strictly limited to the provision of assessment services against criteria set out by the Building Research Establishment (BRE). The consultant accepts no responsibility for misinformation or inaccurate information supplied by any third party as part of this assessment.

This document has been prepared in accordance with the scope of SBL's appointment with its client and is subject to the terms of that appointment. It is addressed to and for the sole use and reliance of SBL's client. SBL accept no liability for any use of this document other than by SBL's client and only for the purposes, stated in the document, for which it was prepared and provided. No person other than the client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of the Company secretary of SBL. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole. The contents of this document are not to be construed as providing legal, business or tax advice or opinion.

If the reader disagrees with any statement, or finds any information contained within this report to be inaccurate, SBL request that the writer is informed immediately.

3.0 COPYRIGHT

The BREEAM name and logo are registered trademarks of the Building Research Establishment Ltd. Copyright exists on BREEAM and it may not be used or reproduced in any form or for any purpose without prior written consent of BRE.

4.0 INTRODUCTION

SBL were commissioned by Joe Byrne of Tom McNamara & Partners to provide BREEAM assessment and advisory services for a proposed net 214 bedroom extension and associated provision of car parking to the existing Clayton Hotel at Manchester Airport. This BREEAM assessment covers the new-build extension only. The assessment is being carried out using the BREEAM 2018 New Construction methodology and will be required to achieve of a rating of Very Good for planning purposes.

5.0 PROJECT DESCRIPTION

The extension will provide 216 additional guest bedrooms with the loss of two hotel bedrooms in the existing hotel therefore giving a net 214 bedroom increase on the existing 365 bedroom hotel. The extension will be nine storeys with a gross internal floor area of 6758m². There are also a number of internal modifications to the existing hotel ground floor which are outside the scope of the BREEAM assessment. The new extension is located on part of the existing hotel car park and will be constructed fully fitted-out.

The building fabric for extension comprises the following:

- Insitu RC frame with flat slab upper floors. Columns will be blade columns to the upper floors to be built into partition walls with conventional square columns to the ground floor.
- External walls will comprise a rainscreen cladding of 20mm natural stone and a cement based particle board with SFS and plasterboard.
- The roof will comprise an insitu RC flat slab with either a single ply membrane or hot melt bitumen finish.
- Internal walls will be metal stud partition throughout with bathroom pods manufactured offsite.

The M&E services strategy comprises the following:

- Space heating and cooling from a hybrid VRF system (water and refrigerant cooled).

- There will be full mechanical supply and extract ventilation throughout with 100% fresh air from AHU plant with thermal wheel.
- DHW is provided from centralised gas-fired water heaters.
- There is a BMS in the building.
- LZC technologies are from PV cells to the roof. It is to be confirmed whether the VRF is from air source heat pumps.

6.0 BREEAM ASSESSMENT METHODOLOGY

Appendix 1 to this report provides a brief summary of the BREEAM methodology.

A BREEAM Pre-assessment Workshop for the original extension scheme was held at the Clayton Hotel at Manchester Airport on the 12th November 2019. The following members of the team were present:

Table 1 – BREEAM Workshop Attendees

	Initials
Phil Garlick, SBL, BREEAM assessor	PG
Steph Davies, TEP, Ecologist	SD
Emma Pickering, TEP, Ecologist	EP
Duncan Carter, AECOM, Transport Planning	DC
Matthew Robinson, Sandy Brown, Acoustic Consultant	MR
James O'Donoghue, TMP, Quantity Surveyor	JOD
Joe Byrne, TMP, Project Manager	JB
Stuart Aldred, LRW, Architect	SA
Robert Thornton, P. McCaul, M&E Consultant	RT
Robert Fox, FFA, Civil & Structural Engineer	RF

At the BREEAM Workshop, all credits were classified using a simple A, B, C, D and E whereby credits are assessed in terms of the relative ease with which they could be achieved by the developments and are categorised as follows:

- A. Credits that are achieved
- B. Credits that are achieved subject to provision of suitable evidence
- C. Credits that could be achieved as a cost option
- D. Credits that are uncertain
- E. Credits that are not achieved.

The above system provides an easy method for project teams to assess the most cost-effective options for achieving the required BREEAM rating. The BREEAM thresholds given ratings are shown below.

Pass = 30%
Good = 45%
Very Good = 55%
Excellent = 70%
Outstanding = 85%

All BREEAM ratings contain mandatory credits which must be achieved for a particular rating band.

Table 4 details the assessment status of the development with details of compliance with BREEAM credit criteria.

This BREEAM Report provides a further snapshot of the development's BREEAM performance under current proposals and sets out viable options to improve the BREEAM score and rating. Based on this report, the project team are to confirm the credit options to be pursued to achieve the required BREEAM rating with a suitable margin of comfort.

As information is received from the project team, this report will be updated and an abridged version issued to the project team periodically setting out current and predicted BREEAM scores and ratings and any outstanding actions and evidence required. All information received is referenced in a separate document.

Once the design is complete and all required design stage evidence has been provided to the assessor, an interim design stage report will be submitted to BRE. At this point, BRE reserve the right to seek clarification of credits as part of their rigorous quality assurance procedures and this may result in the need for further information from the project team. SBL will make the project team aware of any further information requirements at the earliest possible opportunity. On completion of this QA process, BRE will issue the interim design stage BREEAM certificate.

At Practical Completion (PC), when all available evidence has been received and the required BREEAM score and rating has been achieved, the assessment will be closed out and a final report submitted to BRE with a recommended score and rating for their QA check and certification. As with interim design stage, at this point, BRE may seek clarifications on certain credits prior to issue of the final BREEAM certificate. It should be noted that this QA process can take around 8 to 12 weeks from initial submission of final BREEAM report to BRE.

7.0 RESULTS, CONCLUSIONS AND RECOMMENDATIONS

Fig 1 shows the current predicted BREEAM score and rating. This shows the following:

- 4.3% is achieved and signed off at design stage.
- 54.3% is achieved subject to submission of suitable evidence.

This totals 58.6% and achieves the required Very Good rating (minimum 55% required) with a relatively small margin of comfort. All mandatory credits and criterion will be met for a Very Good rating.

Further to this, there are:

- 10.0% of credits which are cost options at this stage. The actions required to achieve these credits are set out in Table 2 below.
- 24.5% of credits which are uncertain at this stage of which up to 22.7% may be realistically achievable. The actions required to achieve these credits are set out in Table 3 below.

A BREEAM rating of 'Very Good' is achievable on this project. The following are recommended at this stage:

- The cost options and uncertain credits in Tables 2 & 3 should be reviewed to confirm how the margin of comfort in achieving Very Good is to be increased.
- In order to comfortably achieve a Very Good BREEAM rating, a score of 60% should be considered as the target minimum at this early stage in the development of the scheme. This is as a contingency to allow for unforeseen issues arising between now and the end of construction and also to allow for BRE's QA check of the final BREEAM report.

Table 2 - Actions Required to Implement the Cost Options

Note: Table 2 only provides 'headline' details of the actions required to achieve the low cost options (rated as 'C' in Table 4). Further details of the required actions are given in Table 4.

Credit Ref.	Credit Title	Credit % worth	Actions required (all to meet full BREEAM requirements)
Man02	Life cycle cost and service life planning - Component level LCC options appraisal	0.52	Undertake a component level LCC option appraisal by the end of Process Stage 4 to influence the design.
Man03	Responsible construction practices - BREEAM AP (site)	0.52	BREEAM AP to be employed during construction (RIBA Stages 5 & 6) to monitor and report BREEAM progress/activities.
Man05	Post-occupancy evaluation (POE)	0.52	Dalata to carry out a POE one year after occupation.
Hea07	Safe and healthy surroundings - Outside space	0.78	Develop the external area to the rear of the hotel adjacent to the staff room to provide a staff outdoor space.
Ene01	Reduction of energy use and carbon emissions - Prediction of operational energy consumption	2.80	Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption together with reporting and risk assessment.
Ene02	Sub-metering of high	0.70	Provide sub-metering/monitoring of relevant systems

Credit Ref.	Credit Title	Credit % worth	Actions required (all to meet full BREEAM requirements)
	energy load and tenancy areas		by building area and floor plate.
Ene04	Low carbon design - Low zero carbon feasibility study	0.70	Carry out low/zero carbon feasibility study and confirm the reduction in CO ₂ from LZC technologies (PV and possibly air source heat pumps).
Tra02	Sustainable transport measures - Transport options implementation	0.83	Provide additional Electric Vehicle charging points for at least 10% of car parking spaces.
Wst05	Adaptation to climate change	0.60	Undertake adaptation to climate change study no later than early RIBA Stage 3.
Exemplary Ene01	Reduction of energy use and carbon emissions	2.00	Commit to post-occupancy appointment of assessor to report on the actual energy consumption.
	Total %	10.0	

Table 3 - Actions Required to Resolve Uncertain credits

Note: Table 3 only provides 'headline' details of the actions required to resolve the uncertain credits (rated as 'D' in Table 4). Further details of the required actions are given in Table 4.

Credit Ref.	Credit Title	Credit % worth	Actions required (all to meet full BREEAM requirements)
Hea01	Visual comfort - Daylighting	0.78	Confirm whether at least 80% of relevant spaces meet BREEAM daylight criteria.
Hea02	Ventilation	0.78	Confirm whether intakes and extracts can be located with sufficient separation to meet BREEAM criteria.
	Emissions from construction products	0.78	Confirm whether Dalata's finishes spec. meets BREEAM criteria for VOC emissions.
	Post-construction indoor air quality measurement	0.78	Confirm whether post-construction pre-occupancy air quality testing is feasible given phased building handover.

Credit Ref.	Credit Title	Credit % worth	Actions required (all to meet full BREEAM requirements)
Hea05	Acoustic performance – Sound insulation	Up to 1.56	Confirm whether airborne and impact sound insulation values are up to 5dB better than relevant building regulations or standards.
	Acoustic performance – Indoor ambient noise levels	0.78	Confirm whether indoor ambient noise levels in relevant building spaces meet Section 7 of BS 8233:2014.
Ene01	Reduction of energy use and carbon emissions - Energy performance	Up to 1.40	Confirm whether an EPR_{NC} of up to 0.70 is achieved.
Tra02	Sustainable transport measures - Transport options implementation	Up to 4.15	Confirm whether the following can be specified to meet BREEAM criteria: <ul style="list-style-type: none"> • Dedicated bus service (shuttle) • Travel information point in reception • Priority car sharing spaces
Wat01	Water consumption	Up to 1.56	Confirm whether the sanitary specification achieves up to a 55% improvement on the BREEAM notional baseline.
Wat03	Water leak detection	0.78	Confirm whether major water leak detection will be provided.
Mat02	Specification of products with a recognised environmental product declaration (EPD)	1.07	Confirm whether sufficient products with EPDs can be specified to achieve a total EPD points score of at least 20.
Mat03	Responsible sourcing of construction products - Measuring responsible sourcing	1.07	Confirm whether up to 30% of available RSM points are achieved.
Wst01	Construction waste management - Construction resource efficiency	0.60	Confirm whether non-hazardous construction waste can be limited to no more than 7.5m ³ or 6.5 tonnes per 100m ² GIFA.

Credit Ref.	Credit Title	Credit % worth	Actions required (all to meet full BREEAM requirements)
Wst02 (inc. Exemplary)	Use of recycled and sustainably sourced aggregates	Up to 1.60	Confirm whether at least 6 Project Sustainable Aggregate points are achieved (based on quantity and distance travelled by all aggregates in the development).
LE01	Site selection - Contaminated land	1.00	Confirm whether the ground is significantly contaminated requiring remediation.
Pol01	Impact of refrigerants	0.67	Confirm whether refrigerant leak detection and recovery is specified.
Pol02	Local air quality	Up to 1.33	Confirm whether gas-fired boiler plant for DHW has NOx emissions of 27 or 24 mg/kWh
Pol03	Surface Water Run-Off-Rate & Volume	Up to 1.33	Civil engineer to confirm whether BREEAM criteria for surface water run-off rate and volume are met.
Pol04	Reduction of night-time light pollution	0.67	Confirm whether external lighting will meet BREEAM light pollution criteria for overnight lighting.
	Total %	Up to 22.7	

8.0 REFERENCES

The references used in this assessment are listed in a separate document.



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT						
Management						
Man 01 Project brief and design	Project delivery planning	<p>1. Prior to completion of the Concept Design, the project delivery stakeholders (see Definitions on page 37) meet to identify and define for each key phase of project delivery:</p> <p>a. Roles b. Responsibilities c. Contributions.</p> <p>2. Consider each one of the following items when defining roles, responsibilities and contributions for each key phase of the project:</p> <p>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 (see Assessment scope) 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. The appropriate project delivery stakeholder considers each item, based on likely scenarios of building occupancy.</p> <p>3. The project team demonstrates how the project delivery stakeholders' contributions and the consultation process outcomes influence the following:</p> <p>a. Initial Project Brief b. Project Execution Plan (see Definitions) c. Communication Strategy (see Definitions) d. Concept Design.</p>	1	0.52	E	<p>BREEAM Workshop 12.11.19 - The project team confirmed the following:</p> <ul style="list-style-type: none"> - Early stage meetings have been held and are fully minuted. - Formal appointment documentation is in place but is unlikely to meet full BREEAM criteria. <p>This credit is not achieved.</p>
	Stakeholder consultation (interested parties)	<p>4. Prior to completion of the Concept Design, the design team consult with all interested parties (see Definitions) on matters that cover the minimum consultation content (see Methodology).</p> <p>5. Demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design.</p> <p>6. Prior to completion of the detailed design (RIBA Stage 4, Technical Design or equivalent), all interested parties (see Definitions) give and receive consultation feedback.</p> <p>7. Not applicable to 'other' buildings.</p>	1	0.52	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that extensive third party consultation has/will be carried out and is formally documented in a Statement of Community Involvement.</p> <p>AC email 21.10.19 confirms a Statement of Community Involvement will be provided for the planning application. Latest is SBL email feedback 22.11.19.</p> <p>REF 8 provides the Design & Access Statement. Section 4.1 details the design evolution of the scheme.</p> <p>REF 14 provides a Draft Planning Statement. Section 4 provides details of the consultation with various interested parties.</p> <p>REF 16 provides an updated Planning Statement. Section 4 provides further details of the consultation with various interested parties.</p> <p>MAG to provide complete details of the Users consultation in Section 4 of the Planning Statement (email request 05.12.19).</p> <p>This credit is achieved subject to further evidence.</p>



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
	Prerequisite for BREEAM Advisory Professional credits (Concept and Developed Design)	8. The project team, including the client, formally agree strategic performance targets (see Definitions) early in the design process, see Definitions, (with the support of the BREEAM AP where appointed).	0	0.00	N/A	BREEAM Workshop 12.11.19 - The project team confirmed that the requirement for BREEAM Very Good will be a planning requirement and will be agreed as a strategic performance target. Prerequisite requirements are achieved subject to evidence.
Man 01 Project brief and design	BREEAM AP (Concept Design)	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 (see Definitions) 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	0.52	E	BREEAM Workshop 12.11.19 - The project team confirmed that a BREEAM AP was not employed through Concept Design Stage. This credit is not achieved.
	BREEAM AP (Developed Design)	10. Criteria 8 and 9 are achieved. 11. Involve the 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 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 on the previous page throughout all stages where decisions critically impact the specification and tendering process and the 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	0.52	E	BREEAM Workshop 12.11.19 - The project team confirmed that the credit above is not achieved. This credit is not achieved.

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
Man 02 Life cycle cost and service life planning	Elemental LCC	<p>1. A competent person (see Definitions on the facing page) carries out an outline, entire asset LCC plan at Process Stage 2 (equivalent to Concept Design - RIBA Stage 2) together with any design options appraisals in line with 'Standardised method of life cycle costing for construction procurement' PD 156865: 2008.</p> <p>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. The study period should ideally be agreed by the client, in line with the design life expectancy of the building. However, where the life expectancy of the building is not yet formally agreed (due to being at very early design stages), the default design life of 60 years should be used for modelling purposes (in line with the UK default).</p> <p>3. Demonstrate, using appropriate examples provided by the design team, 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.</p>	1	0.52	E	BREEAM Workshop 12.11.19 - The project team confirmed that an outline, entire asset elemental life cycle cost (LCC) plan could be carried out at RIBA Stage 2 as a cost option.
			1	0.52	E	<p>BREEAM assessor 30.06.23 - An elemental LCC has not been undertaken.</p> <p>Two credits are not achieved.</p>
Man 02 Life cycle cost and service life planning	Component level LCC options appraisal	<p>4. A competent person develops a component level LCC options appraisal by the end of Process Stage 4 (equivalent to Technical Design – RIBA Stage 4) in line with PD 156865: 2008. The component level LCC 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. The Component level LCC option appraisal should review all of the above component types (where present). However, you do not need to consider every single example cited under each component; only a selection of those most likely to draw valued comparisons. This is to ensure that a wide range of options are considered and help focus the analysis on components which would benefit the most from appraisal.</p> <p>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.</p>	1	0.52	C	<p>BREEAM Workshop 12.11.19 - The project team confirmed that a component level LCC option appraisal meeting BREEAM criteria could be developed by the end of Process Stage 4 as a cost option.</p> <p>This credit is a cost option at this stage.</p>
	Capital cost reporting	<p>6. Report the capital cost for the building in pounds per square metre of gross internal floor area (£/ m²) as part of the submission to BRE. See also Methodology and Additional information.</p>	1	0.52	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that it is uncertain whether reporting capital cost will be acceptable by the client Dalata Hotel Group.</p> <p>SBL email 20.11.19 to JOD with details of BRE confidentiality status.</p> <p>REF 7 provides an email chain confirming that Dalata Hotel Group as client are happy to share the project capital cost with BRE.</p> <p>This credit is achieved subject to further evidence.</p>

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Man 03 Responsible construction practices	Prerequisite - Legally harvested and traded timber	<p>1. All timber and timber-based products used during the construction process of the project are legal and sustainable timber (see Definitions).</p> <p>For other materials there are no prerequisite requirements at this stage.</p>	0	0.00	N/A	<p>BREEAM Workshop 12.11.19 - The project team confirmed that all timber and timber-based products used on the project will be 'legally harvested and traded timber'.</p> <p>The prerequisite requirements are achieved subject to evidence.</p>
	Environmental management	<p>3. All parties who at any stage manage the construction site (e.g. the principal contractor, the demolition contractor) operate an EMS covering their main operations. The EMS must:</p> <p>a. Be third party certified, to ISO 14001: 2015, EMAS (EU Eco-Management and Audit Scheme) or equivalent standard; OR</p> <p>b. In compliance with BS 8555: 2016 have:</p> <p>i. Appropriate structure</p> <p>ii. Reached implementation stage phase four 'implementation and operation of the environmental management system'</p> <p>iii. Completed defined phase audits one to four.</p> <p>4. All parties who at any point manage the construction site (e.g. the principal contractor, the demolition contractor) implement best practice pollution prevention policies and procedures on site in accordance with Working at construction and demolition sites: PPG6, Pollution Prevention Guidelines.</p>	1	0.52	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that the principal contractor will be ISO14001 certified and will meet PPG6 requirements.</p> <p>This credit is achieved subject to evidence.</p>



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Man 03 Responsible construction practices	Pre-requisite for the BREEAM AP credit	5. The client and the contractor formally agree performance targets.	0	0.00	N/A	BREEAM Workshop 12.11.19 - The project team confirmed that BREEAM performance targets will be formally agreed and will be included in tender documentation. As a minimum, these will include the BREEAM rating and minimum standards required. The pre-requisite requirements are achieved subject to evidence.
	BREEAM AP (site)	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 going beyond the design intent, to maximise the project's performance against the agreed performance targets throughout the Construction, Handover and Close Out stages. b. Monitor construction progress against the performance targets agreed under criterion 5 above throughout all stages where decisions critically impact BREEAM performance. c. Proactively identify risks and opportunities related to the procurement and construction process and the achievement of the targets agreed under criterion 5 above. 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	0.52	C	BREEAM Workshop 12.11.19 - The project team confirmed that the principal contractor could be required to appoint a BREEAM AP for the construction stage as a cost option. SBL emailed a fee proposal 21.11.19. This credit is a cost option at this stage.
	Responsible construction management	One credit 7. Achieve items listed as required for one credit in Table 4.1. Two credits 8. Achieve criterion 7 above. 9. Achieve six additional items in Table 4.1. Note: GN33 confirms that a CCS score of at least 35 plus Table 4.1 item g (Ensure clear and safe access in and around the buildings at the point of handover) will achieve two credits.	1	0.52	B	BREEAM Workshop 12.11.19 - The project team confirmed that the principal contractor will be required to meet the requirements of Table 4.1. for two credits. Two credits are achieved subject to evidence.
			1	0.52	B	



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Man 03 Responsible construction practices	Monitoring of construction-site impacts	10. Assign responsibility to an individual for monitoring, recording and reporting energy use, water consumption and transportation data (where measured) resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme. To ensure the robust collection of information, this individual must have the appropriate authority and responsibility to request and access the data required. Where appointed, the BREEAM AP could perform this role.	0	0.00	N/A	BREEAM Workshop 12.11.19 - The project team confirmed that the principal contractor will be required to assign responsibility to a suitable member of site staff as required in BREEAM. The pre-requisite requirements are achieved subject to evidence.
		Energy consumption 11. Achieve criterion 10. 12. Set targets for the site energy consumption in kWh (and where relevant, litres of fuel used) 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 described in criterion 12. 14. Report the total carbon dioxide emissions (total kgCO ₂ /project value) from the construction process via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking). Water consumption 15. Achieve criterion 10. 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. Use the collated data to report the total net water consumption (m ³), i.e. consumption minus any recycled water use from the construction process via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking).	1	0.52	B	BREEAM Workshop 12.11.19 - The project team confirmed that the principal contractor will be required to monitor energy and water consumption as required in BREEAM. This credit is achieved subject to evidence.
	Monitoring of construction-site impacts	Transportation of construction materials and waste 19. Achieve criterion 10. 20. Set targets for transportation movements and impacts resulting from delivery of the majority of construction materials to site and construction waste from site. As a minimum cover: a. transportation of materials from the point of supply to the building site, including any transport, intermediate storage and point of supply (see Definitions). Monitor as a minimum: i. Materials used in major building elements (i.e. those defined in BREEAM issue Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA)). ii. Ground works and landscaping materials. b. Transportation of construction waste from the construction gate to waste disposal processing or recovery centre gate. This monitoring must cover the construction waste groups outlined in the project's resource management plan. 21. Monitor and record data for the transportation movements as described in criterion 20. 22. Using the collated data, report separately for materials and waste, the total transport-related carbon dioxide emissions (kgCO ₂ -eq), plus total distance travelled (km) via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking).	1	0.52	B	BREEAM Workshop 12.11.19 - The project team confirmed that the principal contractor will be required to monitor delivery and waste transport as required in BREEAM. This credit is achieved subject to evidence.

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Man 04 Commissioning and handover	Commissioning - testing schedule and responsibilities	CREDIT MANDATORY FOR VERY GOOD 1. Prepare a schedule of commissioning and testing. The schedule identifies and includes a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems and for testing and inspecting building fabric. 2. The schedule identifies the appropriate standards for all commissioning activities to be conducted, where applicable, in accordance with: a. Current Building Regulations. b. BSRIA guidelines. c. CIBSE guidelines. d. Other appropriate standards (see Methodology). Exclude from the assessment any process or manufacture-related equipment specified as part of the project. However, include such equipment in cases where they form an integral part of the building HVAC services, such as some heat recovery systems. 3. Where a building management system (BMS) is specified: a. Carry out commissioning of air and water systems when all control devices are installed, wired and functional. b. Include physical measurements of room temperatures, off-coil temperatures and other key parameters, as appropriate, in commissioning 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 (if BMS is present) 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. Where necessary include re-commissioning activities on behalf of the client. 5. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and the main programme of works. Allow the required time to complete all commissioning and testing activities prior to handover.	1	0.52	B	BREEAM Workshop 12.11.19 - The project team confirmed that the principal contractor will be required to schedule and assign commissioning responsibilities as required in BREEAM. This credit is achieved subject to evidence.
Man 04 Commissioning and handover	Commissioning - design and preparation	6. Achieve criteria 1 to 5. 7. During the design stage, the client or the principal contractor appoints an appropriate project team member (see criterion 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 (see Definitions on page 58 of the manual).	1	0.52	B	BREEAM Workshop 12.11.19 - The project team confirmed that the principal contractor will be required to make suitable preparations for commissioning as required in BREEAM. This credit is achieved subject to evidence.
	Testing and inspecting building fabric	8. Achieve criteria 1 to 5. 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 (see Definitions) 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 (see Methodology).	1	0.52	B	BREEAM Workshop 12.11.19 - The project team confirmed that the principal contractor will be required to ensure the integrity of the building fabric including carrying out a thermographic survey as required in BREEAM. This credit is achieved subject to evidence.

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Man 04 Commissioning and handover	Handover	<p>CRITERION 11 MANDATORY FOR VERY GOOD</p> <p>11. Prior to handover, develop two building user guides (see Methodology) for the following users:</p> <p>a. A non-technical user guide for distribution to the building occupiers.</p> <p>b. A technical user guide for the premises facilities managers.</p> <p>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.</p> <p>12. Prepare two training schedules timed appropriately around handover and proposed occupation plans for the following users:</p> <p>a. A non-technical training schedule for the building occupiers.</p> <p>b. A technical training schedule for the premises facilities managers.</p>	1	0.52	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that BUG and training schedules will be provided to meet full BREEAM criteria.</p> <p>This credit is achieved subject to evidence.</p>
	Aftercare support	<p>1. Provide aftercare support to the building occupiers through having in place operational infrastructure and resources. This includes as a minimum:</p> <p>a. A meeting between the aftercare support team or individual, and the building occupier or management team (prior to initial occupation, or as soon as possible thereafter) to:</p> <p>i. Introduce the aftercare support available, including the content of the building user guide (where it exists) and training schedule.</p> <p>ii. Present key information on the building including the design intent and how to use the building to ensure it operates as efficiently and effectively as possible.</p> <p>b. On-site facilities management training including:</p> <p>i. a walkabout of the building</p> <p>AND</p> <p>ii. introduction to and familiarisation with the building systems, their controls and how to operate them in accordance with the design intent and operational demands.</p> <p>c. Provide initial aftercare support for at least the first month of building occupation, e.g. weekly attendance on-site, to support building users and management (the level of frequency will depend on the complexity of the building and building operations).</p> <p>d. Provide longer term aftercare support for occupiers for at least the first 12 months from occupation, e.g. a helpline, nominated individual or other appropriate system to support building users and management.</p> <p>2. Establish operational infrastructure and resources to coordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months, once the building is substantially occupied. This facilitates analysis of discrepancies between actual and predicted performance, with a view to adjusting systems and user behaviours accordingly.</p>	1	0.52	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that aftercare support would be provided together with post-completion monitoring as required in BREEAM.</p> <p>SBL to resolve whether post-completion monitoring applies to the extension only or the whole hotel.</p> <p>This credit is achieved subject to evidence.</p>
Man 05 Aftercare	Commissioning - implementation	<p>3. Complete the following commissioning activities over a minimum 12-month period, once the building becomes substantially occupied:</p> <p>a. Complex systems: The specialist commissioning manager will:</p> <p>i. Identify changes made by the owner or operator that might have caused impaired or improved performance.</p> <p>ii. Test all building services under full load conditions, i.e. heating equipment in mid-winter, cooling and ventilation equipment in mid-summer and under part load conditions (spring and autumn).</p> <p>iii. Where applicable, carry out testing during periods of extreme (high or low) occupancy.</p> <p>iv. Interview building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems.</p> <p>v. Produce monthly reports comparing sub-metered energy performance to the predicted one (see Ene 01 Reduction of energy use and carbon emissions).</p> <p>vi. Identify inefficiencies and areas in need of improvement.</p> <p>vii. Re-commission systems (following any work needed to serve revised loads), and incorporate any revisions in operating procedures into the operations and maintenance (O&M) manuals.</p> <p>b. Simple systems (naturally ventilated): The external consultant, aftercare team or facilities manager will:</p> <p>i. Review thermal comfort, ventilation, and lighting, at three, six and nine month intervals after initial occupation, either by measurement or occupant feedback.</p> <p>ii. Identify deficiencies and areas in need of improvement.</p> <p>iii. Re-commission systems and incorporate any relevant revisions in operating procedures into the O&M manuals.</p>	1	0.52	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that seasonal commissioning would be carried out.</p> <p>This credit is achieved subject to evidence.</p>

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
	Post-occupancy evaluation (POE)	<p>4. The client or building occupier commits to carry out a POE exercise (see Definitions) one year after the building is substantially occupied. This gains comprehensive in-use performance feedback (see criterion 5.b.v) and identifies gaps between design intent and in-use performance. The aim is to highlight any improvements or interventions that need to be made and to inform operational processes.</p> <p>5. An independent party (see Definitions on the facing page) carries out the POE covering:</p> <ul style="list-style-type: none"> a. A review of the design intent and construction process (review of design, procurement, construction and handover processes). b. Feedback from a wide range of building users including facilities management on the design and environmental conditions of the building covering: <ul style="list-style-type: none"> i. Internal environmental conditions (light, noise, temperature, air quality) ii. Control, operation and maintenance iii. Facilities and amenities iv. Access and layout v. Energy and water consumption (see criterion 2 and Methodology) vi. Other relevant issues, where appropriate (see Definitions) <p>6. The independent party provides a report with lessons learned to the client and building occupiers.</p> <p>7. The client or building occupier commits funds to pay for the POE in advance. This requires an independent party to be appointed to carry out the POE as described in criterion 5. Evidence of the appointment of the independent party and schedule of responsibilities which fulfils the BREEAM criteria are acceptable to demonstrate compliance.</p>	1	0.52	C	<p>BREEAM Workshop 12.11.19 - The project team confirmed that the client Dalata Hotel Group could carry out a POE as a cost option.</p> <p>This credit is a cost option at this stage.</p>
		Subtotals	21	11.0		
Health and Wellbeing						
	Control of glare from sunlight	<p>1. Identify areas at risk of glare using a glare control assessment. The glare control assessment also justifies any areas deemed not at risk of glare.</p> <p>2. Where risk has been identified within a relevant building area (Definitions), a glare control strategy is used to design out the potential for glare.</p> <p>3. The glare control strategy does not increase energy consumption used for lighting. This is achieved by:</p> <ul style="list-style-type: none"> a. Maximising daylight levels in all weather, cloudy or sunny AND b. Ensuring the use or location of shading does not conflict with the operation of lighting control systems. 	1	0.78	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed the following:</p> <ul style="list-style-type: none"> - The ground floor meeting rooms are excluded from glare control requirements as 'conference space'. - The only relevant area for glare control is the ground floor office and would have the required coverage of blinds. <p>This credit is achieved subject to evidence.</p>

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Hea 01 Visual comfort	Daylighting	4. Daylighting criteria have been met using either of the following options: a. The relevant building areas meet good practice daylight factors and other criteria as outlined in Table 5.1 below and Table 5.2 OR b. The relevant building areas meet good practice average and minimum point daylight illuminance criteria as outlined in Table 5.3.	1	0.78	D	BREEAM Workshop 12.11.19 - The project team confirmed the following: - Relevant build areas are the ground floor office, meeting rooms and break-out area, reception and guest bedrooms. - It is uncertain whether 80% of the above areas will have an average DF of 2% and 0.3 uniformity ratio. This credit is uncertain at this stage.
	View out	5. 95% of the floor area in 95% of spaces for each relevant building area provides an adequate view out (see Adequate view out). 6. In addition, the building type criteria in Table 5.6 are applicable to view out criteria.	1	0.78	B	BREEAM Workshop 12.11.19 - The project team confirmed the following: - The ground floor meeting rooms are excluded from view out requirements as 'conference space'. - The ground floor office and guest bedrooms are relevant areas and have an adequate view out. - The ground floor reception is a relevant area and has an adequate view out through the entrance doors via Table 1.0 of BS 8206: part 2. This credit is achieved subject to evidence.
	Internal and external lighting levels, zoning and control	Internal lighting 7. Internal lighting in all relevant areas of the building is designed to provide illuminance (lux) levels and colouring rendering index in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. Internal lighting should be appropriate to the tasks undertaken, accounting for building user concentration and comfort levels. 8. For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 7 sections 2.4, 2.13 to 2.15, 2.20, and 6.10 to 6.20. This gives recommendations highlighting: a. Limits to the luminance of the luminaires to avoid screen reflections (manufacturers' data for the luminaires should be sought to confirm this). b. Any area where a surface is used to reflect light in to a space, such as uplighting, the recommendations refer to the luminance of the lit ceiling rather than the luminaire; a design team calculation is usually required to demonstrate this. c. Recommendations for direct lighting, ceiling illuminance, and average wall illuminance. External lighting 9. All external lighting located within the construction zone is specified in accordance with BS 5489-1:2013 Code for the practice for the design of road lighting. Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places. External lighting should provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. 10. Where no external light fittings are specified (either separate from or mounted on the external building façade or roof), the criteria relating to external lighting do not apply and the credit can be awarded on the basis of compliance with criteria 7 – 8.c above. If no internal lighting is specified, the credit cannot be awarded. Zoning and occupant control 11. Internal lighting is zoned to allow for occupant control. Zoning is in accordance with BREEAM criteria for relevant areas present within the building. 12. Areas used for teaching, seminar or lecture purposes have lighting controls provided in accordance with CIBSE Lighting Guide 5. 13. In addition, the building type criteria in Table 5.7 (where relevant).	1	0.78	B	BREEAM Workshop 12.11.19 - The project team confirmed the following: - Internal and external lighting will meet the required lighting levels in BREEAM criteria. - Internal lighting to all areas will be zoned and controlled to meet BREEAM criteria. - There is minimal external lighting which will meet BREEAM criteria. This credit is achieved subject to evidence.

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Hea 02 Indoor air quality	Pre-requisite - Indoor air quality (IAQ) plan	<p>1. A site-specific indoor air quality plan has been produced and implemented in accordance with the guidance in Guidance Note GN06. The objective of the plan is to facilitate a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during occupation of the building. The indoor air quality plan must consider the following:</p> <ul style="list-style-type: none"> a. Removal of contaminant sources b. Dilution and control of contaminant sources: <ul style="list-style-type: none"> i. Where present, consideration is given to the air quality requirements of specialist areas such as laboratories c. Procedures for pre-occupancy flush out d. Third party testing and analysis e. Maintaining good indoor air quality in-use. 	0	0.00	N/A	<p>BREEAM Workshop 12.11.19 - The project team confirmed that the principal contractor will be required to provide an IAQP.</p> <p>The pre-requisite requirements are achieved subject to evidence.</p>
	Ventilation	<p>2. The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building as follows:</p> <ul style="list-style-type: none"> a. Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation. b. Ventilation pathways are designed to minimise the ingress and build-up of air pollutants inside the building (see Methodology). c. Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 16798-3:2017(45). The specified filters should achieve supply air classification of at least SUP 2. d. Areas of the building subject to large and unpredictable or variable occupancy patterns have carbon dioxide (CO₂) or air quality sensors specified and: <ul style="list-style-type: none"> i. In mechanically ventilated buildings or spaces: sensors are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space. ii. In naturally ventilated buildings or spaces: sensors either have the ability to alert the building owner or manager when CO₂ levels exceed the recommended set point, or are linked to controls with the ability to adjust the quantity of fresh air, i.e. automatic opening windows or roof vents. e. For naturally ventilated or mixed mode buildings, the design demonstrates that the ventilation strategy provides adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates in accordance with CIBSE AM10. 	1	0.78	D	<p>BREEAM Workshop 12.11.19 - The project team confirmed that it is uncertain whether intakes and extracts can be located to meet BREEAM criteria.</p> <p>This credit is uncertain at this stage.</p>

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Hea 02 Indoor air quality	Emissions from construction products	One credit 3. Three out of the five product types meet the emission limits, testing requirements and any additional requirements listed in Table 5.11. Where wood-based products are not one of three selected product types, all wood-based products used for internal fixtures and fittings must be tested and classified as formaldehyde E1 class as a minimum.	1	0.78	D	BREEAM Workshop 12.11.19 - The project team confirmed that it is uncertain whether DHG's finishes spec will meet the required VOC standards.
		Two Credits 4. All of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.11.	1	0.78	E	One credit is uncertain at this stage and one credit is not achieved.
	Post-construction indoor air quality measurement	5. The formaldehyde concentration in indoor air is measured post construction (but pre-occupancy) and does not exceed 100 µg/ m³ averaged over 30 minutes (World Health Organization guidelines for indoor air quality: Selected pollutants, 2010). 6. The formaldehyde sampling and analysis is performed in accordance with ISO 16000-2 and ISO 16000-3. 7. The total volatile organic compound (TVOC) concentration in indoor air is measured post construction (but pre-occupancy) and does not exceed 500 µg/ m³ over 8 hours. 8. The TVOC sampling and analysis is performed in accordance with ISO 16000-5 and ISO 16000-6 or ISO 16017-1. 9. Where levels are found to exceed these limits, the project team confirms the measures that have, or will be, undertaken in accordance with the IAQ plan, to reduce the TVOC and formaldehyde levels to within the above limits. 10. The measured concentration levels of formaldehyde (µg/ m³) and TVOC (µg/ m³) are reported, via the BREEAM Scoring and Reporting Tool.	1	0.78	D	BREEAM Workshop 12.11.19 - The project team confirmed the following: - Post construction air quality testing could be undertaken and included in the contractor's Prelims as a cost option. - There is likely to be a phased handover which could add cost to the pre-occupancy air quality testing and make the exercise impracticable. This credit is uncertain at this stage.



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Hea 04 Thermal comfort	Thermal modelling	<p>1. Thermal modelling has been carried out using software in accordance with CIBSE AM11 Building Energy and Performance Modelling.</p> <p>2. The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. For smaller and more basic building designs with less complex heating or cooling systems, an alternative less complex means of analysis may be appropriate (such methodologies must still be in accordance with CIBSE AM11).</p> <p>3. The modelling demonstrates that:</p> <p>a. For air-conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5; or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type); or the thermal environment in occupied spaces meet the Category B requirements for PPD, PMV and local discomfort set out in Table A.1 of Annex A of ISO 7730:2005.</p> <p>b. For naturally ventilated buildings:</p> <p>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. Or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type).</p> <p>ii. The building is designed to limit the risk of overheating, in accordance with the adaptive comfort methodology outlined in either of the following standards as appropriate; CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings or CIBSE TM59: Design methodology for the assessment of overheating risk in homes.</p> <p>4. For air-conditioned buildings, the PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.</p>	1	0.78	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that thermal comfort modelling will be carried out with the required standards met.</p> <p>This credit is achieved subject to evidence.</p>
	Design for future thermal comfort	<p>5. Criteria 1 to 4 are achieved.</p> <p>6. The thermal modelling demonstrates that the relevant requirements set out in criterion 3 above are achieved for a projected climate change environment (see Definitions).</p> <p>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 in order to subsequently meet the requirements under criterion 6 above.</p> <p>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.</p>	1	0.78	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that thermal comfort modelling would be carried out for a projected climate change environment (2020s weather file. If the required thermal comfort levels were not met, it is likely that suitable additional cooling capacity could be included in the scheme either as spare initial capacity or plant space.</p> <p>This credit is achieved subject to evidence.</p>
Hea 04 Thermal comfort	Thermal zoning and controls	<p>9. Criteria 1 above to 4 above are achieved.</p> <p>10. The thermal modelling analysis (criteria 1 on the previous page to 4 on the previous page) has informed the temperature control strategy for the building and its users.</p> <p>11. The strategy for proposed heating or cooling systems demonstrates that it has addressed the following:</p> <p>a. Zones within the building, and how the building services could efficiently and appropriately heat or cool these areas. For example consider the different requirements for the central core of a building compared with the external perimeter adjacent to the windows.</p> <p>b. The degree of occupant control required for these zones. This is based on discussions with the end user (or alternatively building type or use specific design guidance, case studies, feedback) and considers:</p> <p>i. User knowledge of building services.</p> <p>ii. Occupancy type, patterns and room functions (and therefore appropriate level of control required).</p> <p>iii. How the user is likely to operate or interact with the systems, e.g. are they likely to open windows, access thermostatic radiator valves (TRV) on radiators, change air-conditioning settings etc.</p> <p>iv. The user expectations (this may differ in the summer and winter) and degree of individual control (i.e. obtaining the balance between occupant preferences, for example some occupants like fresh air and others dislike draughts).</p> <p>c. How the proposed systems will interact with each other (where there is more than one system) and how this may affect the thermal comfort of the building occupants.</p> <p>d. The need or otherwise for an accessible building user actuated manual override for any automatic systems.</p>	1	0.78	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that thermal zoning and controls will be provided as required.</p> <p>This credit is achieved subject to evidence.</p>

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Hea 05 Acoustic performance		<p>3. The building meets the appropriate acoustic performance standards and testing requirements defined in the relevant table below. These tables define criteria for the acoustic principles of:</p> <p>a. Sound insulation b. Indoor ambient noise level c. Room acoustics.</p> <p>1st credit - Sound insulation Airborne sound insulation values are at least 3 dB higher and impact sound insulation values are at least 3 dB lower than the performance standards in the relevant building regulations or standards.</p> <p>2nd credit - Sound insulation Airborne sound insulation values are at least 5 dB higher and impact sound insulation values are at least 5 dB lower than the performance standards in the relevant building regulations or standards.</p> <p>3rd credit - Internal indoor ambient noise levels Achieve indoor ambient noise levels that comply with the design ranges given in Section 7 of BS 8233:2014.</p> <p>4th credit - Room acoustics Achieve the requirements relating to sound absorption and within the common spaces of the building described in the relevant building regulations or building standards national guidance.</p>	1	0.78	D	SBL emailed acoustic brief 24.10.19.
			1	0.78	D	BREEAM Workshop 12.11.19 - The project team confirmed the following: - The 1st and 2nd credits relate to internal sound insulation between rooms with a requirement to hit either +3 or +5dB above Building Regulations Part E criteria. SB confirmed that this is likely to add significantly to internal wall and floor make-ups and hence cost, space and overall building height. As such these credits are uncertain. SB to confirm internal wall and floor make-ups to meet Bldg Regs Pt E and DHG's standard and then confirm internal wall and floor make-ups to meet BREEAM.
			1	0.78	D	- The 3rd credit is achievable depending on the interpretation of BREEAM criteria. - The 4th credit for room acoustics should be achievable at no additional cost.
						REF 1 provides a summary of the credit status.
						REF 2 provides details of plant noise levels.
Hea 06 Security	Security of site and building	<p>1. A Suitably Qualified Security Specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) during or prior to Concept Design . The purpose of the SNA will be to identify attributes of the proposal, site and surroundings which may influence the approach to security for the development .</p> <p>2. The SQSS develops a set of security controls and recommendations for incorporation into the proposals. Those controls and recommendations shall directly relate to the threats and assets identified in the preceding SNA.</p> <p>3. The controls and recommendations shall be incorporated into proposals and implemented in the as-built development. Any deviation from those controls and recommendations shall be justified and agreed with the SQSS.</p>	1	0.78	B	REF 3 provides the transcript from a BRE Live Chat which confirms that for the assessment of indoor ambient noise levels, external noise sources only to be considered and internal noise sources such as plant noise do not need to be considered.
						SBL email advice to Sandy Brown 18.11.19 re REF 3 above and that approx. 19% of the floor area of the extension is non -resi.
						REF 4 provides details of the constructions required to achieve BREEAM credits for sound insulation.
						REF 29 provides the Initial Acoustic Design Review Report.
						One credit is achieved subject to further evidence and three credits are uncertain at this stage.
Hea 06 Security	Security of site and building	<p>1. A Suitably Qualified Security Specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) during or prior to Concept Design . The purpose of the SNA will be to identify attributes of the proposal, site and surroundings which may influence the approach to security for the development .</p> <p>2. The SQSS develops a set of security controls and recommendations for incorporation into the proposals. Those controls and recommendations shall directly relate to the threats and assets identified in the preceding SNA.</p> <p>3. The controls and recommendations shall be incorporated into proposals and implemented in the as-built development. Any deviation from those controls and recommendations shall be justified and agreed with the SQSS.</p>	1	0.78	B	BREEAM Workshop 12.11.19 - The project team confirmed that a Crime Impact Statement will be provided at planning stage and their recommendations are achievable.
						SA email 21.10.19 confirms a CIS will be provided.
						BREEAM Manual confirms that SNA (CIS) can be provided after RIBA Stage 2).
						REF 18 provides email correspondence between the architect Greater Manchester Design for Security/Crime Prevention Team confirming that the Crime Impact Statement is in process of being produced.
						REF 30 provides the Crime Impact Statement and supporting perimeter fence drwg.
Hea 06 Security	Security of site and building	<p>1. A Suitably Qualified Security Specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) during or prior to Concept Design . The purpose of the SNA will be to identify attributes of the proposal, site and surroundings which may influence the approach to security for the development .</p> <p>2. The SQSS develops a set of security controls and recommendations for incorporation into the proposals. Those controls and recommendations shall directly relate to the threats and assets identified in the preceding SNA.</p> <p>3. The controls and recommendations shall be incorporated into proposals and implemented in the as-built development. Any deviation from those controls and recommendations shall be justified and agreed with the SQSS.</p>				This credit is achieved subject to further evidence.

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Hea 07 Safe and healthy surroundings	Safe access	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 offsite 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	0.78	D	BREEAM Workshop 22.05.18 - The project team confirmed that the following: - Existing hotel covered cycle racks are located to the rear of the existing hotel. - The existing site layout for pedestrian and cyclist access does not meet BREEAM criteria. - The addition of the extension in the existing car park will further restrict opportunities for pedestrian and cyclist access and so BREEAM criteria is unlikely to be met. This credit is uncertain at this stage and unlikely to be achieved.
Hea 07 Safe and healthy surroundings	Outside space	7. There is an outside space providing building users with an external amenity area.	1	0.78	C	BREEAM Workshop 12.11.19 - The project team confirmed the following: - The existing staff amenities are located to the rear of the hotel and include a smoking shelter. - There is a further external area to the rear of the hotel adjacent to the staff room. This could be developed as a cost option to provide a staff outdoor space. - The hotel are looking to add landscaping to the rear of the hotel. This credit is a cost option at this stage.
		Subtotals	18	14.0		
Energy						
Ene 01 Reduction of energy use and carbon emissions	Energy performance	1. Calculate an Energy Performance Ratio for New Construction (EPR NC). Compare the EPR NC achieved with the benchmarks in Table 6.1 and award the corresponding number of BREEAM credits. A description of how the EPR NC is calculated from a building's modelled operational energy performance, primary energy consumption and CO ₂ -eq emissions is provided in 'Energy performance'.	1	0.70	B	BREEAM Workshop 12.11.19 - The project team that the hybrid VRF system should provide a significant improvement in primary energy consumption and an EPR _{NC} of at least 0.5 will be achieved. Five credits are achieved subject to evidence, two credits are uncertain at this stage and two credits are not achieved.
			1	0.70	B	
			1	0.70	B	
			1	0.70	B	
			1	0.70	B	
			1	0.70	D	
			1	0.70	D	
			1	0.70	E	

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
Ene 01 Reduction of energy use and carbon emissions	Prediction of operational energy consumption	RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
		2. Involve relevant members of the design team in an energy design workshop focusing on operational energy performance (see Methodology).	1	0.70	C	BREEAM Workshop 12.11.19 - The project team confirmed that further modelling and reporting could be undertaken as a cost option. SBL to provide a brief (inc. exemplary credits). Four credits are cost options at this stage.
		3. Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures (see Prediction of operational energy consumption).	1	0.70	C	
		4. Report predicted energy consumption targets by end use, design assumptions and input data (with justifications).	1	0.70	C	
		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.	1	0.70	C	
Ene 02 Energy monitoring	Sub-metering of end-use categories	CREDIT MANDATORY FOR VERY GOOD 1. Install energy metering systems so that at least 90% of the estimated annual energy consumption of each fuel is assigned to the end-use categories (see Methodology). 2. Meter the energy consumption in buildings according to the total useful floor area: a. If the area is greater than 1,000 m ² , by end-use category with an appropriate energy monitoring and management system. b. If the area is less than 1,000 m ² , use either: i. an energy monitoring and management system or ii. separate accessible energy sub-meters with pulsed or other open protocol communication outputs, for future connection to an energy monitoring and management system (see Definitions). 3. Building users can identify the energy consuming end uses, for example through labelling or data outputs.	1	0.70	B	BREEAM Workshop 12.11.19 - The project team confirmed that relevant systems would be sub-metered/monitored to meet BREEAM requirements. Also sub-metering/monitoring of relevant systems by floor plate could be specified as a cost option.
	Sub-metering of high energy load and tenancy areas	4. Monitor a significant majority of the energy supply with: a. An accessible energy monitoring and management system for: i. tenanted areas or ii. relevant function areas or departments in single occupancy buildings. OR b. 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	0.70	C	One credit is achieved subject to evidence and one credit is a cost option at this stage.



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Ene 03	External lighting	<p>1. No external lighting (which includes lighting on the building, at entrances and signs).</p> <p>OR</p> <p>2. External light fittings within the construction zone with:</p> <p>a. Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt.</p> <p>b. Automatic control to prevent operation during daylight hours</p> <p>c. Presence detection in areas of intermittent pedestrian traffic.</p>	1	0.70	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed there is minimal external lighting which will be specified to meet the required lighting efficacies. The external lighting will be controlled to prevent operation during daylight hours and there are no areas with intermittent pedestrian traffic.</p> <p>This credit is achieved subject to evidence.</p>
Ene 04	Low carbon design	<p>1. Achieve the first credit Hea 04 Thermal comfort: One credit - Thermal modelling to demonstrate that the building design delivers appropriate thermal comfort levels in occupied spaces.</p> <p>2. The project team analyses the proposed building design and development during Concept Design to identify opportunities for the implementation of passive design measures (see Passive design analysis).</p> <p>3. Implement passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the passive design analysis findings.</p> <p>4. Quantify the reduced total energy demand and carbon dioxide (CO₂) emissions resulting from the passive design measures.</p>	1	0.70	E	<p>BREEAM Workshop 12.11.19 - The project team confirmed that a passive study could be carried out at Concept Design stage and there are significant opportunities to specify passive measures to reduce energy demand such as the thermal efficiency of the building fabric (U values, air tightness). Also possible glazing options to reduce solar gain.</p> <p>BREEAM assessor 30.06.23 - No PDA study pre-planning.</p> <p>This credit is not achieved.</p>
	Free cooling	<p>5. Achieve the passive design analysis credit.</p> <p>6. Include a free cooling analysis (see Free cooling analysis on the facing page) in the passive design analysis carried out under criterion 2.</p> <p>7. Identify opportunities for the implementation of free cooling solutions.</p> <p>8. The building is naturally ventilated or uses any combination of the free cooling strategies listed in Free cooling analysis.</p>	1	0.70	E	<p>BREEAM Workshop 12.11.19 - The project team confirmed that the VRF system provides conventional cooling.</p> <p>This credit is not achieved.</p>

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
Ene 04 Low carbon design	Low zero carbon feasibility study	9. An energy specialist (see Definitions) completes a feasibility study (see Low and zero carbon feasibility study) by the end of Concept Design.	1	0.70	C	BREEAM Workshop 12.11.19 - The project team confirmed the following: - An LZC feasibility study for LZC could be carried out as a cost option. - PV will be specified to the roof and will provide a significant reduction in CO2 emissions. - It is to be confirmed whether the hybrid VRF system is from air source heat pumps. This credit is a cost option at this stage.
		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.				
Ene 06 Energy efficient transportation systems	Energy consumption	1. For specified lifts, escalators or moving walks (transportation types): a. Analyse the transportation demand and usage patterns for the building to determine the optimum number and size of lifts, escalators or moving walks. b. Calculate the energy consumption in accordance with BS EN ISO 25745 Part 2(124) or Part 3(125) for one of the following: i. At least two options for each transportation type (e.g. for lifts, hydraulic, traction or machine roomless (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	0.70	B	BREEAM Workshop 12.11.19 - The project team confirmed that a suitable demand study would be carried out and energy consumptions comparisons made. This credit is achieved subject to evidence.
	Energy efficient features	2. Criterion 1 is achieved. 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	0.70	B	BREEAM Workshop 12.11.19 - The project team confirmed that relevant energy efficiency lift features will be specified. This credit is achieved subject to evidence.



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Ene 08 Energy efficient equipment		1. Identify the building's unregulated energy consuming loads. Estimate their contribution to the total annual unregulated energy consumption of the building, assuming a typical or standard specification.	1	0.70	B	BREEAM Workshop 12.11.19 - The project team confirmed that the only unregulated energy use in the extension would be domestic scale washing machines in the linen room(s). These would be specified to meet BREEAM criteria. Two credits are achieved subject to evidence.
		2. Identify the systems or processes that use a significant proportion of the total annual unregulated energy consumption of the building. 3. Demonstrate a meaningful reduction in the total annual unregulated energy consumption of the building. Table 6.5 lists some examples of significant contributors to unregulated energy consumption, and the associated criteria. If other significant contributors, not listed in the table, will be specified, the design team should justify how a meaningful reduction will be achieved for these contributors.	1	0.70	B	
		Subtotals	23	16.0		



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Transport						
Tra01	Transport assessment and travel plan	<p>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; see Methodology.</p> <p>2. The site-specific travel assessment (or statement) shall cover as a minimum:</p> <p>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.</p> <p>b. Predicted travel patterns and transport impact of future building or site users.</p> <p>c. Current local environment for pedestrians and cyclists, accounting for any age-related requirements of occupants and visitors.</p> <p>d. Reporting of the number and type of existing accessible amenities, see Table 7.1 below, within 500m of the site.</p> <p>e. Disabled access accounting for varying levels and types of disability, including visual impairment.</p> <p>f. Calculation of the existing public transport Accessibility Index (AI), see Methodology on the facing page.</p> <p>g. Current facilities for cyclists.</p> <p>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.</p> <p>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 see Methodology.</p> <p>4. If the occupier is known, involve them in the development of the travel plan.</p> <p>5. Demonstrate that the travel plan will be implemented and supported by the building's management in operation.</p>	1	0.83	B	<p>SBL email brief 21.10.19.</p> <p>BREEAM Workshop 12.11.19 - The project team confirmed the following:</p> <ul style="list-style-type: none"> - A suitable site-specific Transport Statement will be provided. - The project team are looking to utilise MAG's existing site-wide travel plan as opposed to developing a Travel Plan specifically for the Clayton Hotel only. - It is uncertain whether the definition of an existing 'organisational Travel Plan' in KBCN1068 below applies in this scenario. - AECOM to provide a suitable rationale for the use of MAG's existing Travel Plan. Then SBL to submit Tech Query to BRE. - If BRE reject the use of MAG's Travel Plan, a site-specific Travel Plan just for the Clayton Hotel would be developed. <p>KBCN1068 'Existing travel plan' confirms - "If an up to date organisational travel plan, that is BREEAM compliant, exists for a site on which an assessed building is located, it can be used to meet the relevant criteria. All building users (in existing and new buildings) and additional travel resulting from users of the new building need to be taken into account."</p> <p>REF 5 provides a copy of MAG's airport-wide Travel Plan. Para 1.4 confirms the scope of the Travel Plan covers hotel staff, passengers and visitors. Table 12 confirms the travel plan considers and is actively planning the following sustainable transport measures:</p> <ul style="list-style-type: none"> - Restrict provision of car parking including tenant sites. - Increase EV charging provision. - Provide dedicated car sharing spaces. - Additional Metrolink service in the night provided. - Working with local train and bus operators to increase service provision. - Work with hotels to understand routes and services provided by their shuttle buses and seek agreement for other staff to use these services. - In longer-term, develop full comprehensive branded shuttle bus service serving all key workplace locations including hotels, with hop-on, hop-off options and prioritising routes from GTI above those from car parking. Could potentially be a 'free travel zone'. - Improve Active Travel options by increased permeability of walking network. - Improve cycle routes. - Increase cycle storage and cyclist shower/changing facilities. - Green bridge & active travel network (ACN) constructed and in use. - Various travel fare reduction options. <p>REF 6 provides a written justification as to why MAG's Travel Plan should be used in lieu of a site-specific plan to meet BREEAM criteria in line with KBCN1068.</p> <p>REF 9 provides BRE's response to Query No. QN-53851-V3H9D8 confirming that the airport-wide Travel Plan can be used for BREEAM purposes as opposed to a hotel site-specific Travel Plan.</p> <p>REF 26 provides a site-specific Transport Statement.</p> <p>Two credits are achieved subject to further evidence.</p>
			1	0.83	B	

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Tra 02 Sustainable transport measures	Prerequisite	1. Achieve criteria 3-5 in the Tra 01 Transport assessment and travel plan.	0	0.00	N/A	BREEAM Workshop 12.11.19 - The project team confirmed Tra01 credit above would be achieved. REF 5 provides a copy of MAG's Travel Plan - See Tra01 above for details. REF 9 provides BRE's response to Query No. QN-53851-V3H9D8 confirming that the airport-wide Travel Plan can be used for BREEAM purposes as opposed to a hotel site-specific Travel Plan. The prerequisite requirements are achieved subject to evidence.
	Transport options implementation	2. Identify the sustainable transport measures, see Table 7.4. 3. Award credits according to the Accessible Index (AI) of the project, and the total number of points achieved for the options implemented, see Table 7.3.	1	0.83	B	BREEAM Workshop 12.11.19 - The project team confirmed that the AI is likely to be around 11 or 12 and following transport options could be implemented (points in brackets): - Option 1 - AI > 8 (1 achieved) - Option 2 - The hotel runs a dedicated shuttle service (3 uncertain) - Option 3 - Possible enhancement to the existing travel information point in reception (1 uncertain) - Option 4 - Around 6 EV charging points in the existing hotel. Circa 300 car parking spaces therefore substantial increase in EV charging points required (1 cost option) - Option 5 - Uncertain whether priority car sharing spaces will be provided (1 uncertain) - Option 6 - No change to existing access to the hotel (1 not achieved) - Option 7 - Bldg type Other 'A' therefore staff cycle parking only. Approx. 3 additional covered cycle parking spaces required (1 achieved) - Option 8 - Cyclist facilities (1 achieved) - Option 9 - Existing accessible amenities - Food outlet, gym plus one other (1 achieved) - Option 10 - No enhanced amenities (1 not achieved) - Total 4 points achieved, 1 point cost option, 5 points uncertain, 2 not achieved. Four credits are achieved subject to evidence (Options 1, 7, 8, 9) , one credit is a cost option at this stage (Option 4) and five credits are uncertain at this stage (Options 2, 3, 5) Options 6 & 10 are not achieved.
			1	0.83	B	
			1	0.83	B	
			1	0.83	B	
			1	0.83	C	
			1	0.83	D	
			1	0.83	D	
			1	0.83	D	
			1	0.83	D	
Subtotals			12	10.0		



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT						
Water						
Wat 01 Water consumption		ONE CREDIT MANDATORY FOR VERY GOOD	1	0.78	B	BREEAM Workshop 12.11.19 - The project team confirmed the following: - Rainwater harvesting will be specified as there is a restriction on discharge rates. - The Alternative Wat01 Calculator would need to be used. - At least a Level 3 performance would be achieved. Any further improvements are uncertain at this stage. Three credits are achieved subject to evidence and two credits are uncertain at this stage.
		1. Use the BREEAM Wat 01 calculator to assess the efficiency of the domestic water-consuming components.				
		2. Use the standard Wat 01 method (see Methodology) to compare the water consumption (litres/person/day) for the assessed building against a baseline performance. Award BREEAM credits based upon Table 8.1. Where it is not possible to use the standard method, complete the assessment using the alternative Wat 01 method (see Methodology).	1	0.78	B	
		3. If a greywater or rainwater system (see Definitions on page 196) is specified, use its yield in L/person/day to offset potable water demand from components.	1	0.78	B	
		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.	1	0.78	D	
		Achieve - Criterion 6 for Wat02 if you intend to pursue a post occupancy stage certification.	1	0.78	D	
Wat 02 Water monitoring		CRITERIA 1 MANDATORY FOR VERY GOOD	1	0.78	B	BREEAM Workshop 12.11.19 - The project team confirmed that BREEAM criteria will be met. This credit is achieved subject to evidence.
		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. a building management system (BMS), for the monitoring of water consumption. If there is no BMS system in operation at Post-Construction stage, award credits provided that the system used enables connection when the BMS becomes operational. 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 (toilets, showers etc.) irrespective of their water consumption levels. 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, irrespective of their water consumption levels. Additionally for those pursuing a post occupancy stage certification: 6. The water monitoring strategy used enables the identification of all water consumption for sanitary uses as assessed under Wat 01 (litres/person/day), if a post occupancy stage certification is sought.				

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Wat 03 Water leak detection	Leak detection system	<p>1. Install a leak detection system capable of detecting a major water leak:</p> <p>1.a. On the utilities water supply within the buildings, to detect any major leaks within the buildings</p> <p>AND</p> <p>1.b. Between the buildings and the utilities water supply, to detect any major leaks between the utilities supply and the buildings under assessment.</p> <p>2. The leak detection system is:</p> <p>a. A permanent automated water leak detection system that alerts the building occupants to the leak OR an inbuilt automated diagnostic procedure for detecting leaks.</p> <p>b. Activated when the flow of water passing through the water meter or data logger is at a flow rate above a pre-set maximum for a pre-set period of time. This usually involves installing a system which detects higher than normal flow rates at meters or sub-meters. It does not necessarily require a system that directly detects water leakage along part or the whole length of the water supply system.</p> <p>c. Able to identify different flow and therefore leakage rates, e.g. continuous, high or low level, over set time periods. Although high and low level leakage rates are not specified, the leak detection equipment installed must have the flexibility to distinguish between different flow rates to enable it to be programmed to suit the building type and owner's or occupier's usage patterns.</p> <p>d. Programmable to suit the owner's or occupier's water consumption criteria.</p> <p>e. Where applicable, designed to avoid false alarms caused by normal operation of large waterconsuming plant such as chillers.</p> <p>Where there is physically no space for a leak detection system between the utilities water meter and the building, alternative solutions can be used, provided that a major leak can still be detected.</p>	1	0.78	D	<p>BREEAM Workshop 12.11.19 - The project team confirmed that it is uncertain whether BREEAM criteria will be met.</p> <p>This credit is uncertain at this stage.</p>
	Flow control devices	<p>3. Install flow control devices that regulate the water supply to each WC area or sanitary facility according to demand, in order to minimise undetected wastage and leaks from sanitary fittings and supply pipework.</p>	1	0.78	E	<p>BREEAM Workshop 12.11.19 - The project team confirmed that suitable flow control devices would not be provided to guest bedroom en-suites.</p> <p>This credit is not achieved.</p>
Wat 04 Water efficient equipment		<p>1. Identify all water demands from uses other than those listed under - Calculation of water efficiency performance on page 204 that could be realistically mitigated or reduced. Where there is no water demand from uses other than domestic-scale, sanitary use components in the building, this issue is not applicable.</p> <p>2. Identify systems or processes to reduce the relevant water demand (criterion 1 above), and establish, through either good practice design or specification, a demonstrable reduction in the total water demand of the building.</p>	1	0.83	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that external landscaping and planting will rely solely on precipitation and manual watering during all seasons of the year.</p> <p>This credit is achieved subject to evidence.</p>
		Subtotals	9	7.1		



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Materials						
Mat 01 Life cycle impacts	Up to six credits – Superstructure		1	1.07	A	BREEAM Workshop 22.05.18 - The project team confirmed that LCA modelling is to be carried out pre-planning and at least six credits would be achieved. Any further improvements are uncertain at this stage. REF 20 provides input data from the project team for the LCA base model. REF 21 provides manufacturer's and other literature in support of the input data from the project team in REF 20 above for the LCA base model. REF 22 provides consultation emails with the project team for the LCA option appraisal. REF 23 provides the Concept Design stage outputs from the LCA modelling exercise for upload to BREEAM projects. Four credits are achieved and signed off at design stage. Two credits are subject to further evidence and one credit is not achieved.
	Comparison with the BREEAM benchmark during Concept Design (offices, industrial and retail buildings only) Superstructure (offices, industrial and retail buildings) 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 according to the methodology (see Methodology). b. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for (that includes external material or product specifications).		1	1.07	A	
	Comparison with the BREEAM benchmark during Technical Design (offices, industrial and retail buildings only) 2. During Technical Design, demonstrate the environmental performance of the building as follows: a. As criterion 1.a 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.		1	1.07	A	

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
	Mat 01 Life cycle impacts	<p>Option appraisal during Concept Design (all building types)</p> <p>3. For offices, industrial and retail building types, achieve criterion 1 (except where Notes 1.0, 1.1 and 1.2 above apply).</p> <p>4. During Concept Design, identify opportunities for reducing environmental impacts as follows:</p> <p>a. Carry out building LCA options appraisal of 2 to 4 significantly different superstructure design options (applicable to the Concept Design stage, see Methodology).</p> <p>b. Use a building LCA tool that is recognised by BREEAM (as suitable for assessing superstructure during Concept Design) according to the methodology (see Methodology).</p> <p>c. For each design option, fulfil the same functional requirements specified by the client and all statutory requirements (to ensure functional equivalency).</p> <p>d. Integrate the LCA options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document.</p> <p>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.</p> <p>f. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for (that includes external material or product specifications).</p> <p>If the building LCA tool recognised by BREEAM and used for criteria 3 to 5 (and 6 to 9, if pursued) is not an IMPACT Compliant LCA tool and criteria 1 to 2 are applicable, then the BREEAM Simplified Building LCA tool (or an IMPACT Compliant LCA tool) shall be used for criteria 1 to 2.</p>	1	1.07	A	
			1	1.07	B	



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Mat 01 Life cycle impacts		Options appraisal during Technical Design (all building types) 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 (based on the selected Concept Design option and as applicable to the Technical Design stage, see Methodology). b. Use a building LCA tool that is recognised by BREEAM (as suitable for assessing superstructure during Technical Design) according to the methodology (see Methodology). 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.	1	1.07	B	
		One credit – Substructure and hard landscaping options appraisal during Concept Design (all building types) 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 shall be substructure and at least two shall be hard landscaping). b. Using a building LCA tool that is recognised by BREEAM (as suitable for assessing substructure and hard landscaping during Concept Design) according to the methodology (see Methodology). c. As criteria 4.c to 4.f above.	1	1.07	E	
Mat 02 Environmental impacts from construction products - Environmental Product Declarations	Specification of products with a recognised environmental product declaration (EPD)	1. Specify construction products with EPD that achieve a total EPD points score of at least 20, according to the Methodology. 2. Enter the details of each EPD into the Mat 01/02 Results Submission Tool, including the material category.	1	1.07	D	BREEAM Workshop 12.11.19 - The project team confirmed that it is uncertain whether sufficient EPDs will be available to achieve this credit. This credit is uncertain at this stage.

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Mat 03 Responsible sourcing of construction products	Pre-requisite	CRITERIA 1 MANDATORY FOR VERY GOOD 1. 100% of timber and timber-based products used on the project are 'Legal' and 'Sustainable' as per the UK Government's Timber Procurement Policy (TPP) (see Definitions). Compliance with criterion 1 is a minimum requirement for achieving any BREEAM rating. There are no prerequisite requirements for other materials.	0	0.00	N/A	BREEAM Workshop 12.11.19 - The project team confirmed that all timber and timber-based products used on the project will be legally harvested and traded timber. The pre-requisite requirements are achieved subject to evidence.
	Enabling sustainable procurement	2. A sustainable procurement plan must be used by the design team to guide specification towards sustainable construction products. The plan must: a. Be in place before Concept Design. b. Include sustainability aims, objectives and strategic targets to guide procurement activities. Note: targets do not need to be achieved for the credit to be awarded but justification must be provided for targets that are not achieved. 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	1.07	B	BREEAM Workshop 12.11.19 - The project team confirmed that a sustainable procurement plan will be provided at Concept Design stage. SBL emailed SPP template 21&26&28.11.19. Latest is SBL email request 29.11.19. REF 19 provides a project-specific Sustainable Procurement Plan. This credit is achieved subject to further evidence.
	Measuring responsible sourcing	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, as set out in Table 9.10.	1	1.07	B	BREEAM Workshop 12.11.19 - The project team confirmed that at least 20% of the available points for the superstructure, substructure and hard landscaping will be achieved with any further improvements uncertain at this stage. Two credit are achieved subject to evidence and one credit is uncertain at this stage.
			1	1.07	B	
			1	1.07	D	



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
	Mat 05 Designing for durability and resilience	<p>Protecting vulnerable parts of the building from damage</p> <p>1. Protection measures are incorporated into the building's design and construction to reduce damage to the building's fabric or materials in case of accidental or malicious damage occurring. These measures must provide protection against:</p> <p>a. Negative impacts of high user numbers in relevant areas of the building (e.g. corridors, lifts, stairs, doors, etc.)</p> <p>b. Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas.</p> <p>c. External building fabric damage by a vehicle. Protection where parking or manoeuvring areas are within 1 metre of the building façade and where delivery areas or routes are within 2 metres of the façade, i.e. specifying bollards or protection rails.</p> <p>d. Potential malicious damage to building materials and finishes, in public and common areas where appropriate.</p> <p>Protecting exposed parts of the building from material degradation</p> <p>2. Key exposed building elements have been designed and specified to limit long and short term degradation due to environmental factors. This can be demonstrated through one of the following:</p> <p>a. The element or product achieving an appropriate quality or durability standard or design guide, see Table 9.14 on the facing page. If none are available, use BS 7543:2015 as the default appropriate standard</p> <p>OR</p> <p>b. A detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors.</p> <p>3. Include convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design.</p> <p>4. Design the roof and façade to prevent water damage, ingress and detrimental ponding. See Table 9.14 for an example list of relevant industry durability and quality standards.</p>	1	1.07	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that the following :</p> <ul style="list-style-type: none"> - Vulnerable parts of the building suitably protected. - An analysis of exposed parts of the building and design to limit material degradation could be achieved as a cost option. <p>This credit is achieved subject to evidence.</p>
	Mat 06 Material efficiency	<p>1. At the Preparation and Brief and Concept Design stages, set targets and report on opportunities and methods to optimise the use of materials. These must be done for each of the following stages. See Table 9.15:</p> <p>a. Preparation and Brief</p> <p>b. Concept Design</p> <p>c. Developed Design</p> <p>d. Technical Design</p> <p>e. Construction</p> <p>2. Develop and record the implementation of material efficiency, see Table 9.15, during:</p> <p>a. Developed Design</p> <p>b. Technical Design</p> <p>c. Construction</p> <p>3. Report the targets and actual material efficiencies achieved.</p>	1	1.07	E	<p>BREEAM Workshop 12.11.19 - The project team confirmed that it is unlikely that BREEAM material efficiency requirements will be met.</p> <p>This credit is not achieved.</p>
		Subtotals	14	15.0		

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT						
Waste						
Wst 01 Construction waste management	Pre-demolition audit	<p>1. Complete a pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition. This must be used to determine whether refurbishment or reuse is feasible and, in the case of demolition, to maximise the recovery of material for subsequent high grade or value applications. The audit must cover the content of Pre-demolition audit scope and:</p> <p>1.a. Be carried out at Concept Design stage by a competent person (see Definitions) prior to strip-out or demolition works</p> <p>1.b. Guide the design, consider materials for reuse and set targets for waste management</p> <p>1.c. Engage all contractors in the process of maximising high grade reuse and recycling opportunities</p> <p>2. Make reference to the audit in the resource management plan (RMP) (see Definitions).</p> <p>3. Compare actual waste arisings and waste management routes used with those forecast and investigate significant deviations from planned targets.</p>	1	0.60	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed there will be some minor demolition from the connection to the existing hotel. A pre-demo audit would be carried out at Concept Design Stage.</p> <p>SA email 21.10.19 confirms very little demolition to the existing building entrance only. LRW to consider re-use options.</p> <p>KBCN0537 confirms that the pre-demo audit can be post RIBA Stage 2.</p> <p>REF 17 provides a copy of the pre-demolition audit for the existing hotel entrance where the new extension will join the existing building.</p> <p>This credit is achieved subject to further evidence.</p>
Wst 01 Construction waste management	Construction resource efficiency	4. Prepare a compliant Resource Management Plan (RMP) covering:	1	0.60	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed:</p> <ul style="list-style-type: none"> - GIFA = 6758m2. - Principal contractor will be required to provide an RMP. - For one credit, (67.6 x 11.1 tonnes)/Approx 3 tonnes per skip = Approx. 250 No. 8 yard skips during construction. It is assumed that one credit for resource efficiency will be achieved. - For two credits, (67.6 x 6.5 tonnes)/Approx 3 tonnes per skip = Approx. 146 No. 8 yard skips during construction. It is assumed that achieving two credits for resource efficiency are uncertain at this stage. - At least 80% by weight of non-hazardous construction waste and 90% by weight of non-hazardous demolition waste will be diverted from landfill. <p>Two credits are achieved subject to evidence, one credit is uncertain at this stage and one credit is not achieved.</p>
		a. Non-hazardous waste materials (from on-site construction and dedicated off-site manufacture or fabrication, see Definitions), including demolition and excavation waste.	1	0.60	D	
		b. Accurate data records on waste arisings and waste management routes.	1	0.60	E	
Wst 01 Construction waste management	Division of resources from landfill	5. Meet or improve upon the benchmarks in Table 10.1 for non-hazardous construction waste, excluding demolition and excavation waste.	1	0.60	E	
		6. Meet, where applicable, the diversion from landfill benchmarks in Table 10.2 for non-hazardous construction waste and demolition and excavation waste generated.	1	0.60	B	
		7. Sort waste materials into separate key waste groups as per Table 10.3, either on-site or through a licensed contractor for recovery.	1	0.60	B	



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Wst 02 Use of recycled and sustainably sourced aggregates	<p>Pre-requisite</p> <p>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 in accordance with - Criterion 1 & 2.</p> <p>One credit - Project Sustainable Aggregate Points</p> <p>2. Identify all aggregate uses and types on the project Table 10.5 and Table 10.6.</p> <p>3. Determine the quantity in tonnes for each identified use and aggregate type.</p> <p>4. Identify the region in which the aggregate source is located.</p> <p>5. Calculate the distance in kilometres travelled by all aggregates by transport type.</p> <p>6. Enter the information into the BREEAM Wst 02 calculator to calculate the Project Sustainable Aggregate points.</p> <p>The corresponding number of BREEAM credits will be awarded as shown in Table 10.4</p>	1	0.60	D	<p>BREEAM Workshop 12.11.19 - The project team confirmed the following:</p> <ul style="list-style-type: none">- Pre-demo audit (as Wst01 above) will be carried out.- The significant use of aggregates in the project are insitu RC structural frame and upper floors and very small quantities for engineered fill, asphalt, pipe bedding and granular bedding for hard landscape.- It is uncertain whether BREEAM criteria will be met. <p>This credit is uncertain at this stage.</p>	
Wst 03 Operational waste	<p>1. Provide a dedicated space for the segregation and storage of operational recyclable waste generated. The space is:</p> <ul style="list-style-type: none">a. Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams.b. Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management contractors.c. Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will arise from daily or weekly operational activities and occupancy rates. <p>2. For consistent and large amounts of operational waste generated, provide:</p> <ul style="list-style-type: none">a. Static waste compactors or balers; situated in a service area or dedicated waste management space.b. Vessels for composting suitable organic waste OR adequate spaces for storing segregated food waste and compostable organic material for collection and delivery to an alternative composting facility.c. A water outlet provided adjacent to or within the facility for cleaning and hygiene purposes where organic waste is to be stored or composted on site.	1	0.60	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that suitable waste facilities would be provided.</p> <p>This credit is achieved subject to evidence.</p>	

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Wst 05	Adaptation to climate change	<p>1. Conduct a climate change adaptation strategy appraisal using:</p> <p>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 and includes (see Methodology):</p> <p>i. Hazard identification</p> <p>ii. Hazard assessment</p> <p>iii. Risk estimation</p> <p>iv. Risk evaluation</p> <p>v. Risk management.</p> <p>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.</p> <p>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.</p>	1	0.60	C	<p>BREEAM Workshop 12.11.19 - The project team confirmed that it would be a cost option to carry out a climate change adaptation strategy meeting full BREEAM criteria.</p> <p>KBCN0533 confirms that climate change adaptation study could be undertaken early RIBA Stage 3.</p> <p>This credit is a cost option at this stage.</p>
Wst 06	Design for disassembly and adaptability	<p>1. Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios (see Methodology below) by the end of Concept Design.</p> <p>2. Develop recommendations or solutions (see Methodology) based on the study (criterion 1 above), during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation.</p>	1	0.60	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that a functional adaptability/disassembly study would be undertaken at Concept Design Stage.</p> <p>KBCN0730 confirms that functional adaptation study could be undertaken early RIBA Stage 3.</p> <p>SBL email brief 25.11.19.</p> <p>REF 12 provides preliminary disassembly & functional adaptability studies for architecture and finishes.</p> <p>REF 15 provides an updated disassembly & functional adaptability studies for architecture.</p> <p>REF 27 provides the Wst06 MEP Report.</p> <p>This credit is achieved subject to further evidence.</p>
	Disassembly and functional adaptability – implementation	<p>3. Achieve criteria 1 and 2</p> <p>4. Provide an update, during Technical Design, on:</p> <p>a. How the recommendations or solutions proposed by Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing to the assessor.</p> <p>b. Changes to the recommendations and solutions during the development of the Technical Design.</p> <p>5. Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.</p>	1	0.60	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that criteria 1 and 2 above will be achieved. The project team confirmed that this credit would be pursued.</p> <p>This credit is achieved subject to evidence.</p>
		Subtotals	10	6.0		



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT						
Land Use and Ecology						
LE 01 Site selection	Previously occupied land	1. At least 75% of the proposed development's footprint is on an area of land which has previously been occupied (see Definitions).	1	1.00	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that at least 75% of the new development footprint is located on the existing car park.</p> <p>REF 10 provides a topographical survey drwg of the pre-development site.</p> <p>REF 11 provides existing and proposed site plans for the extension.</p> <p>This credit is achieved subject to further evidence.</p>
	Contaminated land	<p>2. A contaminated land professional's site investigation, risk assessment and appraisal has deemed land within the site to be affected by contamination. The site investigation, risk assessment and appraisal have identified:</p> <p>a. The degree of contamination.</p> <p>b. The contaminant sources or types.</p> <p>c. The options for remediating sources of contamination which present an unacceptable risk.</p> <p>3. The client or principal contractor confirms that remediation of the site will be carried out in accordance with the remediation strategy and its implementation plan as recommended by the contaminated land professional (see Definitions).</p>	1	1.00	D	<p>BREEAM Workshop 12.11.19 - The project team confirmed that it is uncertain whether there is any significant ground contamination requiring remediation.</p> <p>REF 28 provides a Ground Investigation Report. Para 5.6 confirms ... "Three soil samples were selected for Waste Acceptance Criteria Testing. The samples were analysed by Chemtest for their compliance to the criteria set out in the 2002 European Landfill Directive (2003/33/EC). From the resultant testing, each sample satisfied the inert landfill limits as per the 2002 European Landfill Directive (2003/33/EC)."</p> <p>This credit is uncertain at this stage.</p>
LE02 Ecological risks and opportunities	Prerequisite - Statutory obligations	1 The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.	0	0.00	N/A	<p>BREEAM Workshop 12.11.19 - TEP confirmed that legislative compliance will be monitored and achieved. Relevant legislation relates to bats, nesting birds. There is Japanese Knotweed on the existing hotel site but not in the area of new extension.</p> <p>SBL emailed ecology brief (LE02-05) 20.10.19 & 13.11.19.</p> <p>REF 24 provides the BREEAM Ecology Report which confirms the following:</p> <ul style="list-style-type: none"> - Section B2 - SQE qualifications and experience. - LE02 - Prerequisite criteria are met. <p>The pre-requisite requirements are achieved subject to further evidence.</p>

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
LE02 Ecological risks and opportunities	Survey and evaluation	<p>Foundation route (Route 1) 2. The site is evaluated using the BREEAM Ecological Risk Evaluation Checklist (Guidance Note 34) confirming that the Foundation route can be used (see Methodology and Definitions).</p> <p>Comprehensive route (Route 2) 3. A Suitably Qualified Ecologist (SQE) carries out a survey and evaluation (see Methodology) for the site early enough to influence site preparation works, layout and, where necessary, strategic planning decisions (typically Preparation and brief stage) (see Definitions). 4. The SQE's survey and evaluation determines the site's ecological baseline (see Definitions), including: 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 from the project. c. Capacity and feasibility for enhancement of the site's ecological value and, where relevant, areas within the Zone of Influence. 5. Recommendations and data collected from the survey and evaluation are shared with appropriate project team members to influence decisions made for activities during site preparation, design and construction works, which can support ecological features (see Methodology and Definitions).</p>	1	1.00	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that baseline surveys will be carried out and data shared with GMEU.</p> <p>REF 24 provides the BREEAM Ecology Report which confirms the following: - LE02 - 'Survey & evaluation' criteria are met.</p> <p>This credit is achieved subject to further evidence.</p>
	Determining ecological outcomes (Routes 1 & 2)	<p>Foundation and Comprehensive routes (Routes 1 and 2) 6. Survey and evaluation criteria relevant to the chosen route (criterion 2 if following the Foundation route or Criteria 3–5 above for the Comprehensive route).</p> <p>7. The project team liaise and collaborate with representative stakeholders (see Methodology) early enough to influence key planning decisions (typically Concept Design stage), to: a. Identify the optimal ecological outcomes for the site. b. Identify, appraise and select measures to meet the optimal ecological outcomes for the site (criterion 7.a), in line with the mitigation hierarchy of action, according to the route being used (see Definitions).</p>	1	1.00	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that relevant stakeholders will be consulted to optimise outcomes.</p> <p>REF 24 provides the BREEAM Ecology Report which confirms the following: - LE02 - 'Determining the Ecological Outcomes' criteria are met subject to confirmation of client consultation.</p> <p>This credit is achieved subject to further evidence.</p>

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
LE03 Managing impacts on ecology	Prerequisite – Ecological risks and opportunities	1. LE02's 'Survey and evaluation and Determining ecological outcomes' criteria have been achieved using the Foundation route (Route 1) or the Comprehensive route (Route 2).	0	0.00	N/A	<p>BREEAM Workshop 12.11.19 - The project team confirmed the pre-requisite criteria will be met.</p> <p>REF 24 provides the BREEAM Ecology Report which confirms the following:</p> <ul style="list-style-type: none"> - LE03 - Prerequisite criteria requires confirmation of achievement of all LE02 credits. <p>The prerequisite requirements are achieved subject to further evidence.</p>
	Planning and measures on-site	<p>Foundation and comprehensive route (Routes 1 and 2)</p> <p>2. Further planning to avoid and manage negative ecological impacts on-site is carried out (see Methodology) early enough to influence the concept design and design brief as well as site preparation planning (typically Concept Design stage).</p> <p>3. On-site measures for managing negative ecological impacts during site preparation and construction are implemented in-practice (e.g. mitigation measures to protect existing ecological features) (see Methodology).</p> <p>4. Criteria 2-3 are based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE 02 Ecological risks and opportunities (see Methodology).</p>	1	1.00	B	<p>BREEAM Workshop 12.11.19 - The project team confirmed that further planning will be undertaken pre-planning to manage negative impacts with construction site measures included in the CEMP.</p> <p>REF 24 provides the BREEAM Ecology Report which confirms the following:</p> <ul style="list-style-type: none"> - LE03 - 'Planning and Measures On-Site' criteria requires confirmation of how the appraisal influenced the design and client collaboration. <p>This credit is achieved subject to further evidence.</p>

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
LE03 Managing impacts on ecology	Managing negative impacts	Foundation route (Route 1) (one credit) 5. Criteria 2 and 3 have been achieved. 6. Negative impacts from site preparation and construction works are managed according to the mitigation hierarchy (see Methodology on the next page) and no overall loss (see Definitions) of ecological value has occurred. Comprehensive route (Route 2) (up to two credits) 7. Criteria 2-4 have been achieved.	1	1.00	B	BREEAM Workshop 12.11.19 - The project team confirmed that negative impacts will be managed to achieve at least no overall loss in ecological value. REF 24 provides the BREEAM Ecology Report which confirms the following: - LE03 - The loss of ecological value has been limited as far as possible. One credit is achieved subject to further evidence and one credit is not achieved.
		8. Negative impacts from site preparation and construction works have been managed according to the mitigation hierarchy, in line with the SQE's recommendations (see Methodology) and, either: a. No overall loss of (see Definitions) ecological value has occurred (two credits). OR where criterion 8.a is not possible: b. The loss of ecological value has been minimised (Minimising Loss) (one credit).	1	1.00	E	
	Pre-requisite - Managing negative impacts on ecology	1. Criterion 6 (for Foundation route) or 8 (for Comprehensive route) in LE03 has been achieved. 2. The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site.	0	0.00	N/A	BREEAM Workshop 12.11.19 - The project team confirmed that the prerequisite criteria will be met. REF 24 provides the BREEAM Ecology Report and LE04 Calculation which confirms the following: - LE04 - Prerequisite criteria require previous credits to be achieved. The pre-requisite requirements are achieved subject to further evidence.

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
LE04 Ecological change and enhancement	Ecological enhancement	Foundation route (Route 1) only 3. Locally relevant ecological measures have been implemented that enhance the site's ecological value. The measures adopted are based on (see Methodology). a. Recommendations from recognised 'local' ecological expertise and specialist input and guidance. b. Input from the project team in collaboration with representative stakeholders and data collated as part of 'Determining ecological outcomes' in LE02.	1	1.00	B	BREEAM Workshop 12.11.19 - The project team confirmed that enhancements will be implemented and records provided to GMEU. REF 24 provides the BREEAM Ecology Report and LE04 Calculation which confirms the following: - LE04 - 'Ecological Enhancement' criteria are met with enhancement onsite. This credit is achieved subject to further evidence.
		Comprehensive route (Route 2) only 4. Measures have been implemented that enhance ecological value, which are based on input from the project team and SQE in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE02 (see Methodology). Measures are implemented in the following order: a. On site, and where this is not feasible, b. Off site within the Zone of Influence. 5. Data collated are analysed and where potentially valuable, provided to the local environmental records centres nearest to, or relevant for, the site.				
	Change and enhancement of ecology	Comprehensive route (Route 2) only 6 Up to three credits are awarded based on 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 in line with the Reward Scale table in GN36 where there are no residual impacts on protected sites or irreplaceable habitats.	1	1.00	B	BREEAM Workshop 12.11.19 - The project team confirmed that there will be a net gain in ecological value.
			1	1.00	B	REF 24 provides the BREEAM Ecology Report and LE04 Calculation which confirms the following: - LE04 - 'Change and Enhancement of Ecology/Liaison, Implementation, and Data' criteria are met with 207% score. Three credits are achieved subject to further evidence.
LE05 Long term ecology management and maintenance	Pre-requisite - Statutory obligations, planning and site implementation	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. The following must be achieved, according to the route being assessed: a. Foundation route (Route 1) - Criterion 6 in LE03 has been achieved. b. Comprehensive route (Route 2) - Criterion 8 in LE03 has been achieved, and at least one credit under LE04 for 'Change and Enhancement of Ecology' has been awarded.	0	0.00	N/A	BREEAM Workshop 12.11.19 - The project team confirmed that the prerequisite criteria will be met. REF 24 provides the BREEAM Ecology Report which confirms the following: - LE05 - Prerequisite criteria require confirmation of achievement of earlier credits. The pre-requisite requirements are achieved subject to further evidence.



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
LE05 Long term ecology management and maintenance	Management and maintenance throughout the project – Foundation and Comprehensive routes (Route 1 and Route 2)	<p>3. Measures have been implemented to manage and maintain ecology throughout the project. These measures are based on input from the project team in collaboration with representative stakeholders and data collated as part of the 'Determining ecological outcomes' in LE 02 (see Methodology). To ensure the optimal ecological outcomes agreed in LE 02 are met in-practice, these measures must monitor and review the effectiveness of the mitigation and enhancement measures in place for LE 03 & LE 04 to ensure they are implemented.</p> <p>4. A section on Ecology and Biodiversity has been included as part of the tenant or building owner information supplied, to inform the owner or occupant of local ecological features, value and biodiversity on or near the site (see Methodology). This should include detailed management and maintenance plans as required by landscape and asset managers as well as relevant parts of the handover information for occupiers written in a format that encourages understanding and supportive behaviours.</p>	1	1.00	B	<p>BREEAM Workshop 12.11.19 - The following is assumed:</p> <ul style="list-style-type: none"> - Given the simplicity of the site from an ecological perspective, BREEAM requirements for planning, liaison, data, monitoring and review management and maintenance will be achieved. - A landscape and ecology management plan, or similar will be provided. <p>REF 24 provides the BREEAM Ecology Report which confirms the following:</p> <ul style="list-style-type: none"> - LE05 - 'Management and Maintenance Throughout the Project' criteria will be met in due course. - LE05 - 'Landscape and Ecology Management Plan' criteria will be met in due course.
	Landscape and ecology management plan	<p>5. A Landscape and Ecology Management Plan, or equivalent, has been developed in accordance with BS42020:2013 Section 11.1(205) covering at least the first five years after project completion as a minimum and including:</p> <ul style="list-style-type: none"> a. Actions and responsibilities of relevant individuals prior to handover. b. The ecological value and condition of the site at handover and how this is expected to develop and change over time. c. Identification of opportunities for ongoing alignment with activities beyond the development project, which support the aims of BREEAM's Strategic Ecology Framework. d. Identification and guidance to trigger appropriate remedial actions to address previously unforeseen impacts. e. Clearly defined and allocated roles and responsibilities for delivering the plan. <p>6. The landscape and management plan or similar will be updated to support maintenance of the ecological value of the site (see sections relating to Maintenance and Monitoring in CIEEM, CIRIA, IEMA, for helpful guidance).</p>	1	1.00	B	<p>REF 25 provides the Landscape & Habitat Management Plan.</p> <p>Two credits are achieved subject to further evidence.</p>
		Subtotals	13	13.0		

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
Pollution						
Pol 01 Impact of refrigerants		Three credits - No refrigerant use 1. No refrigerant use within the installed plant or systems. OR alternatively, where the building does use refrigerants, the three credits can be awarded as follows: Prerequisite 2. All systems with electric compressors comply with the requirements of BS EN 378:2016 (parts 2 and 3). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice. Impact of refrigerant Two credits 3. The direct effect life cycle CO ₂ equivalent emissions (DELCO) of ≤ 100 CO ₂ -eq/kW. For systems which provide cooling and heating, the worst performing output based on the lower of kW cooling output and kW heating output is used to complete the calculation. To calculate the DELCO, refer to the relevant definitions in Methodology and Additional information. OR 4. All refrigerants used have a global warming potential (GWP) ≤ 10. OR One credit 5. Systems using refrigerants have a DELCO of ≤ 1000 kgCO ₂ -eq/kW cooling and heating capacity. One credit - Leak detection 6. All systems are hermetically sealed or only use environmentally benign refrigerants (see 'Leak detection and Hermetically sealed systems'). OR 7. Where the systems are not hermetically sealed: a. 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. 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 (see 'Automatic isolation and containment of refrigerant').	1	0.67	E	BREEAM Workshop 12.11.19 - The project team confirmed the following: - Pre-requisite criteria will be met. - Cooling provided via a hybrid VRF system. Hence, substantial refrigerants use in the scheme. - Refrigerants will be 'conventional' with GWP > 10. - DELCO CO ₂ e ≤ 1000 kgCO ₂ e/kW cooling/heating capacity will be achieved. - It is unlikely that refrigerant leak detection and recovery can be provided. One credit is achieved subject to evidence and one credit is uncertain at this stage. One credit is not achieved.
			1	0.67	B	
			1	0.67	D	



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
Pol 02 Local air quality		1. All heating and hot water is supplied by non-combustion systems. For example, only powered by electricity. OR alternatively;	1	0.67	D	BREEAM Workshop 12.11.19 - The project team confirmed the following: - Space heating is from a hybrid VRF system from mains electric. - DHW is from gas-fired boiler plant. It is uncertain whether the gas-fired boiler plant will not meet BREEAM thresholds for NOx of 27 or 24 mg/kWh for 1 and 2 credits respectively. Two credits are uncertain at this stage.
		2. Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set in Table 12.4 and Table 12.5.	1	0.67	D	
Pol 03 Flood and surface water management	Pre-requisite	1. An appropriate consultant is appointed to carry out and demonstrate the development's compliance with all criteria.	0	0.00	N/A	BREEAM Workshop 12.11.19 - The project team confirmed that an appropriate consultant is employed for the surface water drainage design. The pre-requisite requirements are achieved subject to evidence.
	Flood resilience	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. The FRA takes all current and future sources of flooding into consideration (see 'Sources 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. The FRA must take all current and future sources of flooding into consideration (see 'Sources of flooding'). For smaller sites refer to 'Level of detail required in the FRA for smaller sites', which overrides criterion 2 above. 4. To increase the resilience and resistance of the development to flooding, one of the following must be achieved: 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 (see '600 mm threshold'). 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.	1	0.67	B	BREEAM Workshop 12.11.19 - The project team confirmed that an FRA will be provided and the site has a low flood risk from all current and future sources. Two credits are achieved subject to evidence.
			1	0.67	B	



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Pol 03 Flood and surface water management	Pre-requisite 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 detailed in the Methodology must be followed, with justification given by the appropriate consultant where water is allowed to leave the site.	0	0.00	N/A	BREEAM Workshop 12.11.19 - The project team confirmed that roof discharges will flow to the existing airport surface water drainage system which has substantial attenuation. There is no on-site attenuation. It is assumed that the priority levels defined in BREEAM can be followed and justified. The pre-requisite requirements are achieved subject to evidence.
	Surface Water Run-Off - Rate	6. For brownfield sites, 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. For Greenfield sites, drainage measures are specified so that the peak rate of run-off from the site to the watercourses (natural or municipal) is no greater for the developed site than it was for the pre-development site. This should comply at the 1-year and 100-year return period events. 8. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified Sustainable Drainage Systems (SuDS) are in place. 9. Calculations include an allowance for climate change. This should be made in accordance with current best practice planning guidance (see Definitions).	1	0.67	D	BREEAM Workshop 12.11.19 - The project team confirmed that it is uncertain whether a 30% improvement in surface water discharges can be achieved. This credit is uncertain at this stage.
	Surface Water Run-Off - Volume	10. Flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance); AND EITHER 11. Drainage design measures are specified so that the post-development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's development. This must be for the 100-year 6-hour event, including an allowance for climate change (see criterion 14). 12. Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other SuDS techniques. OR (only where criteria 11 and 12 cannot be achieved): 13. Justification from the appropriate consultant indicating why the above criteria cannot be achieved, i.e. where infiltration or other SuDS techniques are not technically viable options. 14. Drainage design measures are specified so that the post-development peak rate of run-off is reduced to the limiting discharge. The limiting discharge is defined as the highest flow rate from the following options: a. The pre-development one-year peak flow rate. b. The mean annual flow rate (Qbar). c. 2L/s/ha. For the one-year peak flow rate, the one-year return period event criterion applies. 15. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place. 16. 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	0.67	D	BREEAM Workshop 12.11.19 - The project team confirmed the following: - Pt 10 will be met. - Uncertain whether the BREEAM criteria will be met. - It is unlikely that the credit would be achieved on the basis of 'no change in impermeable area'. This credit is uncertain at this stage.

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT	Credits Available	% Worth	Scoring	Assessment Commentary
Pol 03 Flood and surface water management	Minimising watercourse pollution	<p>17. There is no discharge from the developed site for rainfall up to 5 mm (confirmed by the appropriate consultant).</p> <p>18. Areas with a low risk source of watercourse pollution, an appropriate level of pollution prevention treatment is provided, using appropriate SuDS techniques.</p> <p>19. Areas with a high risk of contamination or spillage of substances, such as petrol and oil, have separators (or an equivalent system) are installed in surface water drainage systems.</p> <p>20. Chemical or liquid gas storage areas have a means of containment fitted to the site drainage system (i.e. shut-off valves). This is to prevent the escape of chemicals to natural watercourses in the event of a spillage or bunding failure.</p> <p>21. All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as the SuDS manual and other relevant industry best practice. They must be bespoke solutions taking account of the specific site requirements and natural or man-made environment of and surrounding the site.</p> <p>22. A comprehensive and up to date drainage plan of the site will be made available for the building or site occupiers.</p> <p>23. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place.</p> <p>24. All external storage and delivery areas are designed and detailed in accordance with the current best practice planning guidance.</p>	1	0.67	E	<p>BREEAM Workshop 12.11.19 - The project team confirmed that criteria 17 will not be achieved.</p> <p>This credit is not achieved.</p>
Pol 04 Reduction of night time light pollution		<p>1. External lighting pollution has been eliminated through effective design that removes the need for external lighting. This does not adversely affect the safety and security of the site and its users.</p> <p>OR alternatively, where the building does have external lighting, one credit can be awarded as follows:</p> <p>2. The external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the Institution of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light, 2011.</p> <p>3. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00.</p> <p>4. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP guidance notes.</p> <p>5. Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements</p>	1	0.67	D	<p>BREEAM Workshop 12.11.19 - The project team confirmed that the building has a 24 hour operation and it is uncertain whether external lighting will meet BREEAM light pollution criteria for overnight lighting.</p> <p>This credit is uncertain at this stage.</p>



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
	Pol 05 Reduction of noise pollution	<p>1. There are no noise-sensitive areas within the assessed building or within 800 m radius of the assessed site.</p> <p>OR</p> <p>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(218) is commissioned. Noise levels must be measured or determined for:</p> <p>a. Existing background noise levels:</p> <p>i. at the nearest or most exposed noise-sensitive development to the proposed assessed site.</p> <p>ii. including existing plant on a building, where the assessed development is an extension to the building.</p> <p>2.b. Noise rating level from the assessed building.</p> <p>3. The noise impact assessment must be carried out by a suitably qualified acoustic consultant.</p> <p>4. The noise level from the assessed building, as measured in the locality of the nearest or most exposed noise sensitive development, must be at least 5dB lower than the background noise throughout the day and night.</p> <p>5. If the noise sources from the assessed building are greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with the criterion.</p>	1	0.67	B	<p>SBL emailed acoustic brief 24.10.19.</p> <p>BREEAM Workshop 12.11.19 - The project team confirmed that BREEAM criteria should be easily achievable as the criteria is less onerous than Manchester City Council planning policy which will be met.</p> <p>REF 1 provides a summary of the credit status and confirms that - "In meeting the MCC criteria the BREEAM 2018 Pol 05 criteria will also be achieved."</p> <p>REF 2 provides details of plant noise levels.</p> <p>REF 13 provides a 'Noise and vibration planning report'.</p> <p>REF 29 provides the Initial Acoustic Design Review Report.</p> <p>This credit is achieved subject to further evidence.</p>
		Subtotals	12	8.0		
Exemplary & Innovation Credits						
Exemplary Man03	Responsible construction management	<p>23. Achieve all items in Table 4.1.</p> <p>Note:</p> <p>GN33 confirms that a CCS score of at least 35 plus the following Table 4.1 items will achieve the Exemplary credit:</p> <p>g. Ensure clear and safe access in and around the buildings at the point of handover.</p> <p>p. The fleet operators undertakes driver training and awareness to promote safety within the development footprint and off site.</p> <p>q. The fleet operators, captures and investigates any road accidents, incidents and near misses and reports them back to the principal contractor. The principal contractor analyses these items.</p> <p>Fleet operator is defined as - "A fleet operator is responsible for groups of motor vehicles owned or leased by a business, government agency or other organisation rather than by an individual or family. Transportation to the project is likely to be by several fleet operators many of which will not be under the control of the constructor. The criteria relate to all fleet operators nonetheless."</p>	1	1.00	D	<p>BREEAM Workshop 12.11.19 - The project team confirmed that it is uncertain whether the principal contractor will achieve all items in Table 4.1.</p> <p>This credit is uncertain at this stage and unlikely to be achieved.</p>

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT	Credits Available	% Worth	Scoring	Assessment Commentary
Exemplary Hea01	Daylighting	To achieve an exemplary performance credit for daylighting: 14. Daylighting criteria have been met using either of the following options: a. Relevant building areas meet exemplary daylight factors and the relevant criteria in Table 5.8. b. Relevant building areas meet exemplary average and minimum point daylight illuminance criteria in Table 5.9.	1	1.00	E	BREEAM Workshop 12.11.19 - The project team that exemplary daylighting criteria will not be met. This credit is not achieved.
	Internal lighting zoning and control	To achieve an exemplary performance credit for Internal and external lighting levels, zoning and control: 15. Lighting in each zone can be manually dimmed by occupants down to 20% of the maximum light output using dimmer switches positioned in accessible locations. Dimming and control gear should avoid flicker and noise.	1	1.00	E	BREEAM Workshop 12.11.19 - The project team confirmed that manual dimming of light switching will not be provided. This credit is not achieved.
Exemplary Hea02	Emissions from construction products	11. Three of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.12. Where wood-based products are not one of the three selected product types, all wood-based products used for internal fixtures and fittings must be tested and classified as formaldehyde E1 class as a minimum.	1	1.00	E	BREEAM Workshop 12.11.19 - The project team confirmed that exemplary VOC criteria will not be achieved. This credit is not achieved.
Exemplary Hea 06	Security	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	1.00	E	BREEAM Workshop 12.11.19 - The project team confirmed that it is uncertain whether the security performance of the project will be confirmed by independent assessment and verification. Manual 'definitions' confirm that SABRE meets the definition of 'independent assessment and verification' whereas SbD does not. This credit is not achieved.

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Exemplary Ene01	Reduction of energy use and carbon emissions	Up to two credits - Beyond zero net regulated carbon 6. The building achieves an EPR NC ≥ 0.9 and zero net regulated CO ₂ emissions (see Definitions). 7. Energy generation from on-site and near-site LZC sources is sufficient to offset carbon emissions from regulated energy use plus a percentage of emissions from unregulated energy use. 8. Award the exemplary credits based on the percentage of additional emissions from unregulated energy that are offset by LZC sources (see Table 6.2).	1	1.00	E	BREEAM Workshop 12.11.19 - The project team confirmed that the building will not achieve an EPR _{NC} ≥ 0.9 and have zero net CO ₂ emissions. Post-occupancy monitoring credits could be achieved as a cost option. SBL to provide a brief for exemplary credits. Two credits are cost options at this stage and five credits are not achieved.
			1	1.00	E	
			1	1.00	E	
		Three credits - Carbon negative 9. The building is deemed carbon negative where $> 100\%$ (see Table 6.2) of carbon emissions from unregulated (and regulated) energy use are offset by energy generated from on-site and near-site LZC sources (see Definitions).	1	1.00	E	
			1	1.00	E	
		Two credits - Post-occupancy stage 10. Achieve maximum available credits in Ene 02 Energy monitoring. In addition, preschools, primary schools, law courts, prisons and multi-residential buildings must meet the requirements of the second credit for sub-metering of high energy load and tenancy areas. 11. The client or building occupier commits funds to pay for the post occupancy stage. This requires an assessor to be appointed and to report on the actual energy consumption compared with the targets set in criterion 4 above. 12. The energy model (criterion 3 above) is: a. Submitted to BRE and b. Retained by the building owner.	1	1.00	C	
			1	1.00	C	
Exemplary Wat01	Water consumption	7. Achieve criteria 1 to 4 of Wat01. 8. The water consumption (litres/person/day) for the assessed building achieves the 65% improvement described as exemplary performance in Table 8.1.	1	1.00	E	BREEAM Workshop 12.11.19 - The project team confirmed that a 65% on the notional baseline will not be achieved. This credit is not achieved.

Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Exemplary Mat 01		<p>One credit – Core building services options appraisal during Concept Design (all building types) 8. Criteria 3 to 4 are achieved (see Mat01). 9. During Concept Design identify opportunities for reducing environmental impacts as follows: a. Carry out building LCA options appraisal of at least 3 significantly different core building services design options. b. Use a building LCA tool that is recognised by BREEAM (as suitable for assessing core building services during Concept Design) according to the methodology (see Methodology). c. As criteria 4.c to 4.f above (see Mat01).</p>	1	1.00	E	<p>BREEAM Workshop 12.11.19 - The project team confirmed that BREEAM exemplary Mat01 criteria for core building services is unlikely to be achieved.</p> <p>This credit is not achieved.</p>
		<p>One credit – LCA and LCC alignment (all building types) 10. Achieve criteria 3 to 5. 11. Achieve Elemental LCC plan and Component Level LCC options appraisal credits (Man 02 Life cycle cost and service life planning). 12. Include design options appraised for criteria 3 to 4 (and 6 to 7 and 8 to 9, if pursued) during Concept Design in Assessment scope - The elemental LCC plan. 13. Include the design options appraised for criterion 5 during Concept Design in the 'Component level LCC option appraisal' (in Man 02 Life cycle cost and service life planning). 14. Integrate the aligned LCA and LCC options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document including the relevant cost information from the 'elemental LCC plan' and 'Component level LCC option appraisal'.</p>	1	1.00	E	<p>BREEAM Workshop 12.11.19 - The project team confirmed that it is unlikely that the LCC and LCA will be aligned.</p> <p>The Man02 elemental LCC is not being pursued pre-planning.</p> <p>This credit is not achieved.</p>
Exemplary Mat 01		<p>One credit – Third party verification (all building types) 15. Criteria 1 to 7 (as applicable to the building type) are achieved. 16. A suitably qualified third party (see Definitions) carries out the building LCAs or produces a report verifying the building LCAs accurately represent the designs under consideration during Concept Design and Technical Design with reference to the requirements of criteria 1 to 7 (and 8 to 14 if pursued). 17. For each LCA option, itemise the findings of the verification checks made by the suitably qualified third party in the report including, as a minimum, the quality requirements show in Table 9.4. 18. Include details of the suitably qualified third party's relevant skills and experience and a declaration of their third party independence from the project client and design team in the report.</p>	1	1.00	E	<p>BREEAM Workshop 12.11.19 - The project team confirmed that it is unlikely that the LCA study will be third party verified.</p> <p>This credit is not achieved.</p>



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Exemplary Mat03	Responsible sourcing of materials	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, as set out in Table 9.10.	1	1.00	E	BREEAM Workshop 12.11.19 - The project team confirmed that BREEAM exemplary responsible sourcing criteria will not be achieved. This credit is not achieved.
Exemplary Wst01	Construction waste management	8. Non-hazardous construction waste generated, excluding demolition and excavation waste, is less than or equal to the exemplary level resource efficiency benchmarks (see Table 10.1). 9. The percentage of non-hazardous construction, demolition and excavation waste (if relevant) diverted from landfill meets or exceeds the exemplary level percentage benchmarks in Table 10.2. 10. All key waste groups in Table 10.3 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 (see Definitions).	1	1.00	E	BREEAM Workshop 12.11.19 - The project team confirmed that exemplary Wst01 criteria will not be met. This credit is not achieved.
Exemplary Wst02	Use of recycled and sustainably sourced aggregates	7. The Project Sustainable Aggregate Points score meets or exceeds the exemplary level performance benchmark in Table 10.4.	1	1.00	D	BREEAM Workshop 12.11.19 - The project team confirmed that it is uncertain whether exemplary BREEAM criteria will be met (see Wst02 above). This credit is uncertain at this stage.



Table 4 - BREEAM Credit Assessment

Credit Ref.	Credit Title	Outline Credit Criteria	Credits Available	% Worth	Scoring	Assessment Commentary
		RIBA STAGE 1 & 2 ACTIONS HIGHLIGHTED IN RED BOLD TEXT				
Exemplary Wst05	Responding to climate change	Achievement of the following criteria demonstrates a holistic approach to the design and construction of the building's life cycle to mitigate against the impacts of climate change. To achieve an exemplary performance credit: 4. Meet criteria 1 to 3 above. 5. Meet the criteria or achieve credits of the assessment issues given in Table 10.11.	1	1.00	E	BREEAM Workshop 12.11.19 - The project team confirmed that BREEAM exemplary Wst05 criteria will not be achieved. This credit is not achieved.
Exemplary LE02	Wider site sustainability	8. Achieve criterion 7 above. 9. Wider sustainability related activities and potential ecosystem service benefits (see Definitions) are considered as part of determining the optimal ecological outcomes for the site (criterion 7), including the areas outlined in the Methodology below. 10. 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	1.00	E	BREEAM Workshop 12.11.19 - The project team confirmed that it is unlikely that the wider site-sustainability benefits will be considered and additional credits for pt 10 achieved. The Pol03 credit for minimising watercourse pollution will not be achieved. REF 37 provides the BREEAM Ecology Report which confirms the following: - LE02 - 'Wider Site Sustainability' criteria are met but credit unlikely to be achieved as other prerequisite BREEAM credits are unlikely to be achieved. This credit is not achieved.
Exemplary LE04	Change and enhancement of ecology	7. The change in ecological value calculated under criterion 6 above confirms significant net gain has been achieved as set out in GN36 - BREEAM, CEEQUAL and HQM Ecology Calculation Methodology – Route 2.	1	1.00	B	BREEAM Workshop 12.11.19 - The project team confirmed that it is uncertain whether a significant net gain will be achieved. REF 24 provides the BREEAM Ecology Report and LE04 Calculation which confirms the following: - LE04 - Prerequisite criteria require previous credits to be achieved. - LE04 - 'Ecological Enhancement' criteria are met with enhancement onsite. - LE04 - 'Change and Enhancement of Ecology/Liaison, Implementation, and Data' criteria are met with 207% score. This credit is achieved subject to further evidence.
Innovations	Approved Innovations	One innovation credit can be awarded for each innovation application approved by BRE Global, where the building complies with the criteria defined within an Approved Innovation application form.	1	1.00	E	BREEAM Workshop 12.11.19 - The project team confirmed that no innovations will be applied for. This credit is not achieved.
Subtotals			23	23.0		

A = Achieved
B = Achieved subject to evidence
C = Cost option
D = Uncertain
E = Not achievable

APPENDIX 1 - DETAILS OF THE BREEAM METHODOLOGY

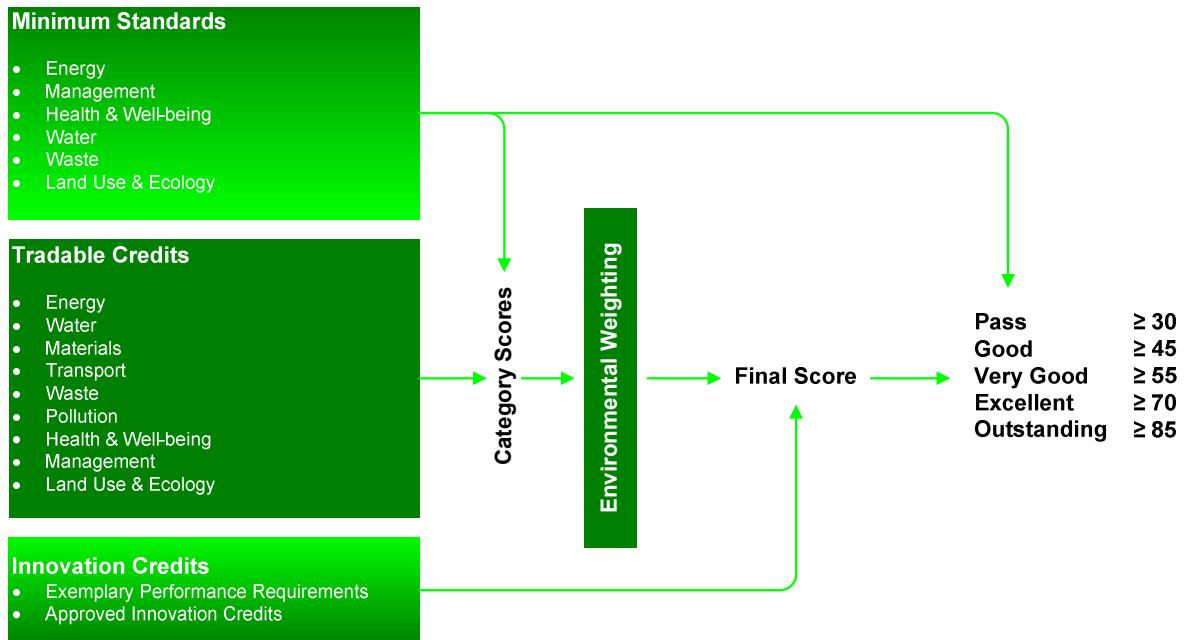
BREEAM is a tool that allows professionals with a vested interest in buildings to review and improve environmental performance throughout their life cycle. In the UK, BREEAM has been accepted as representing best practice and is now being used extensively by property professionals to provide a benchmark for the environmental performance of buildings that they are designing, refurbishing or operating. BREEAM is flexible and can be applied to provide a benchmark of environmental performance at any stage of the building's life cycle.

Using BREEAM, a building is assessed against a range of environmental issues covering impacts of a global, regional, local and indoor scale. For each issue, there are a number of credits available. Where a building attains or exceeds various benchmarks of performance, an appropriate number of credits are awarded.

Although a wide range of credits is available for each assessment, each credit does not carry equal importance to the overall score. The findings are weighted based upon their perceived importance as determined by consensus, achieved through detailed research and consultation by BRE with a variety of interest groups including:

Government Policy Makers	Developers and Investors
Construction Professionals	Environmental Groups and Lobbyists
Local Authorities	Academics
Materials Producers	

The weightings obtained as a result of this research are applied to the individual issue categories to provide an overall BREEAM Assessment score.



Depending upon the number of credits attained in the various issue categories, the results are translated into a corresponding overall rating as follows:

Outstanding (85%+);

Excellent (70%+);

Very Good (55%+);

Good (45%+), or;

Pass (30%+).