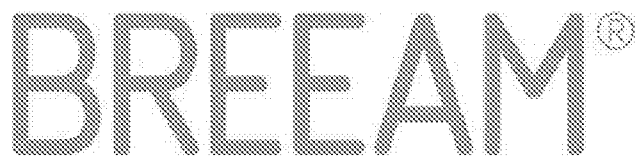




**Client: Primary Health Properties Primary
Care Developments Ltd**

**The Croft Medical Centre, Eastergate, West
Sussex**

**BREEAM New Construction 2018
Pre-Assessment**



Date: 7th May 2021

Issue: 1.02

Assessor Name: Ivan Blazevic

Issue	Rev	Prepared by	Approved by	Description	Issued
1	01	Ivan Blazevic	Aparna Maladkar	Draft for comment	23/02/2021
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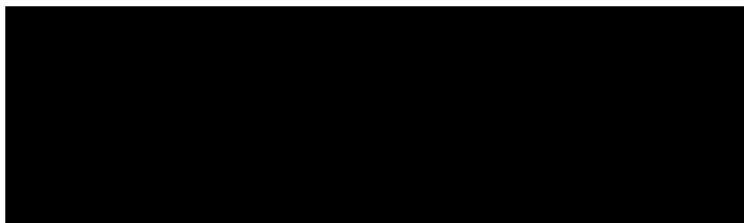


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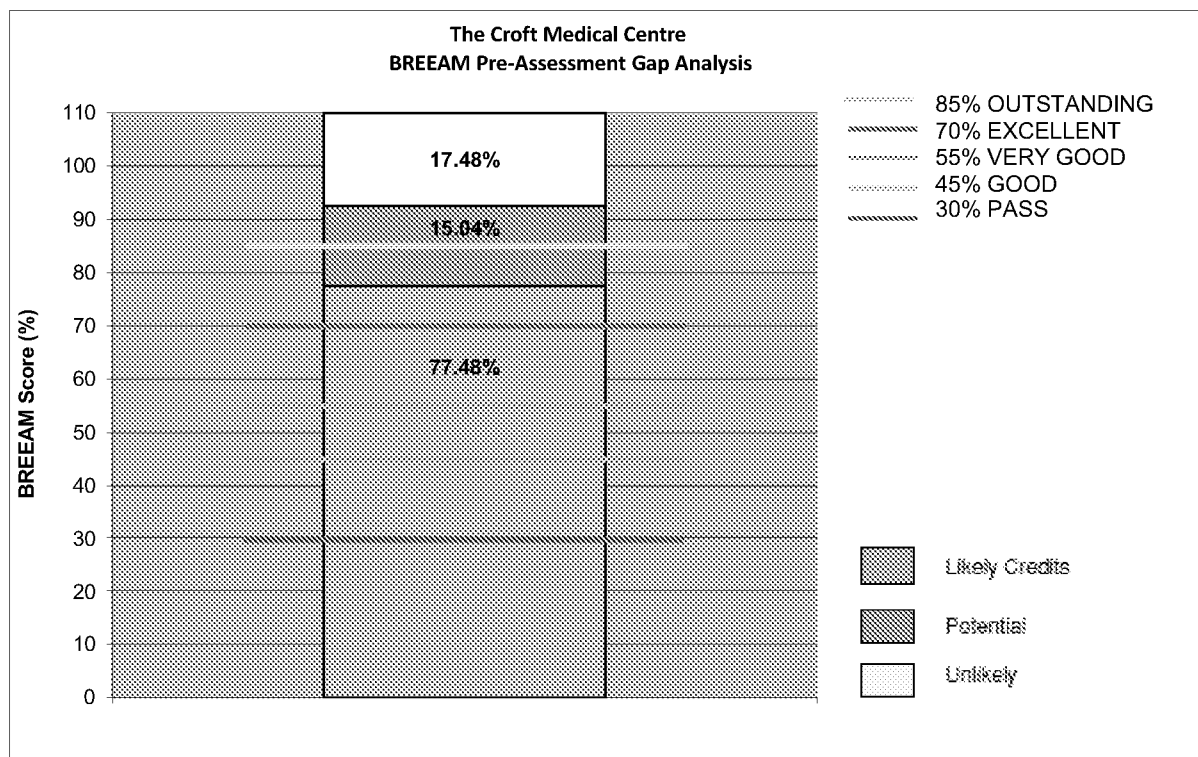
1.0 EXECUTIVE SUMMARY

Carbon Conscious Ltd was commissioned by Primary Health Properties Primary Care Developments Ltd to carry out a BREEAM pre-assessment of the proposed Croft Medical Centre in Eastergate, West Sussex. The pre-assessment is based on the BREEAM UK New Construction 2018 standard. The proposed development comprises construction of two - storey General Practice (GP) premises and associated landscaping works. This pre-assessment was carried out pre-planning in order to inform the concept design and identify relevant actions needed to reach the targeted BREEAM score of 70% and a rating of Excellent.

Table 1 on page 7 and the gap analysis graph below show that under current proposals and with a relatively low additional effort and/or cost, the development is likely to achieve a score of 77.48% and the targeted BREEAM rating of 'Excellent'. It also shows a potential for the development to achieve further 15.04%, bringing the total score to 92.52% and a BREEAM rating of 'Outstanding'. The likely and potential scores demonstrate that the project is firmly on course towards achieving the targeted rating with sufficient contingency should any of the credits classified as 'likely' not be achieved going forward.

Table 1 on page 7 provides a summary of all BREEAM issues and identifies project team members responsible for their implementation during RIBA Stages 2, 3 and 4. Table 2 on page 8 summarises BREEAM issues, and corresponding requirements, classified as 'potential'.

Table 3 on page 9 provides detailed requirements related to each BREEAM issue identified as 'likely' or 'potential.' These detailed requirements should be incorporated within design proposals and tender documents.



2.0 DISCLAIMER

This report has been prepared by Carbon Conscious Ltd 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, Carbon Conscious 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). Carbon Conscious' professional liability is strictly limited to the provision of pre-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 pre-assessment.

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4.0 INTRODUCTION

Carbon Conscious Ltd was commissioned by Primary Health Properties Primary Care Developments Ltd to carry out a BREEAM pre-assessment of the proposed Croft Medical Centre in Eastergate, West Sussex. The pre-assessment is based on the BREEAM UK New Construction 2018 standard for healthcare buildings.

This pre-assessment was carried out pre-planning in order to inform the Concept Design and identify actions needed to reach the targeted BREEAM rating of Excellent.

5.0 PROJECT DESCRIPTION

The proposed development will result, subject to planning, in the construction of two-storey General Practice (GP) premises that will replace the existing Croft Surgery located next to the proposed development site. The proposed development is located away from its neighbouring boundaries with landscaping intended to provide privacy and amenity. The building, with the overall gross internal area of approximately 1,400m², comprises consulting and treatment rooms, new shell-only pharmacy and associated staff and patient facilities. Externally, the proposals include car parking, access roads and significant soft landscaping scheme to enhance local ecology and biodiversity. The building will be mechanically ventilated. Space cooling, heating and hot water will be provided via an air source heat pump and photovoltaics are likely to be installed.

6.0 BREEAM PRE-ASSESSMENT METHODOLOGY

This BREEAM pre-assessment is based on the information supplied by the design team including drawings, reports, emails and verbal correspondence. The pre-assessment meeting with the project team was held on the 16th February 2021.

During the meeting, Ivan Blazevic, the licensed BREEAM assessor and BREEAM Accredited Professional (AP), introduced relevant BREEAM credits / issues and together with the project team evaluated the likelihood of their achievement alongside associated cost and effort. Each credit was classified as either 'likely', 'potential' or 'unlikely' to achieve.

BREEAM UK New Construction 2018 standard was used to carry out this pre-assessment. Appendix A provides further details about the BREEAM standard.

The following project team members attended the pre-assessment meeting and took part in follow-up communications:

Tony Coke (TC), Client, Primary Health Properties Primary Care Developments Ltd
Dave Edwards (DE), Project Manager, Chawton Hill Associated Ltd
Rory Walsh (RW) Building Services, Mecserve Ltd
Paul Westcott (PW), Civils and Structural, Calcinotto
David Simpson (DS), Architect, Simpson Hilder
Mark Robinson (MR), Architect, Simpson Hilder
Tereza Trovada (TT), Architect, Simpson Hilder
Tim Willment (TW), Architect, Simpson Hilder
Coral Dunwell (CD), Architect, Simpson Hilder
Zeb Hoffman (ZH), , Landscape Architect, Indigo Landscape Architects
David McMurtary (DM), Transport Engineer, Motion
Helen Butt (HB), Ecologist, Ecost

7.0 RESULTS and CONCLUSIONS

Table 1 on page 7 shows that under current proposals and with a relatively low additional effort and/or cost, the development is likely to achieve a score of 77.48% and the targeted BREEAM rating of 'Excellent'. It also shows a potential for the development to achieve further 15.04%, bringing the total score to 92.52% and a BREEAM rating of 'Outstanding'. The likely and potential scores demonstrate that the project is firmly on course towards achieving the targeted rating with sufficient contingency should any of the likely credits not be achieved going forward.

Table 1 on page 7 provides a summary of all BREEAM issues and identifies project team members responsible for their implementation during RIBA Stages 2, 3 and 4.

Table 2 on page 8 summarises BREEAM issues, and corresponding requirements, classified as 'potential'.

Table 3 on page 9 provides detailed requirements related to each BREEAM issue identified as 'likely' or 'potential.' These detailed requirements should be incorporated within design proposals and tender documents.

Table 1 – Credit summary and responsibility table

BREEAM Section	Credit Title	Credit ref.	Credits Available	Likely	Potential	Responsible
Management Credit Value: 0.52%	Project brief and design	Man 01	4	4	4	MR/TC/DE
	Life cycle cost	Man 02	4	4	4	IB
	Responsible construction	Man 03	6	6	6	DE/TC
	Commissioning and handover	Man 04	4	3	4	RW
	Aftercare	Man 05	3	3	3	RW/DE/TC
Section Credit Total			21	20	21	
Weighted Section Total			11.00%	10.48%	11.00%	
Health & Wellbeing Credit Value: 0.78%	Visual comfort	Hea 01	5	4	5	IB/MR/RW
	Internal air quality	Hea 02	4	2	4	RW/MR/IB
	Thermal Comfort	Hea 04	3	3	3	IB/RW
	Acoustic Performance	Hea 05	3	0	3	TC/DE
	Security	Hea 06	1	0	1	TC/DE
	Safe and Healthy Surroundings	Hea 07	2	1	1	MR
Section Credit Total			18	10	17	
Weighted Section Total			14.00%	7.78%	13.22%	
Energy Credit Value: 0.70%	Energy use & carbon emissions	Ene 01	13	9	9	IB/RW
	Energy monitoring	Ene 02	2	2	2	RW
	External lighting	Ene 03	1	1	1	RW
	Low carbon design	Ene 04	3	2	2	IB
	Energy efficient transportation systems	Ene 06	2	2	2	MR/DE
	Energy efficient equipment	Ene 08	2	2	2	RW
	Section Credit Total			23	18	18
Weighted Section Total			16.00%	12.52	12.52	
Transport Credit Value: 0.83%	Transport assessment and travel plan	Tra 01	2	2	2	DM
	Sustainable transport measures	Tra 02	10	4	6	DM/DE/TC
Section Credit Total			12	6	8	
Weighted Section Total			10.00%	5.00%	6.67%	
Water Credit Value: 0.88%	Water consumption	Wat 01	5	3	3	MR
	Water monitoring	Wat 02	1	1	1	RW
	Water leak detection and prevention	Wat 03	2	2	2	RW
Section Credit Total			8	6	6	
Weighted Section Total			7.00%	5.25%	5.25%	
Materials Credit value: 1.07%	Environmental impacts – LCA	Mat 01	7	7	7	IB/AF/CR
	Environmental impacts - EPD	Mat 02	1	1	1	IB/MR
	Responsible sourcing of materials	Mat 03	4	2	3	DE/MR/TW
	Designing for durability and resilience	Mat 05	1	1	1	MR
	Material efficiency	Mat 06	1	0	0	N/A
	Section Credit Total			14	11	12
Weighted Section Total			15.00%	11.79%	12.86%	
Waste Credit Value: 0.67%	Construction Waste Management	Wst 01	4	2	4	DE/TC
	Recycled & sustainably sourced aggregates	Wst 02	1	0	1	DE/TC
	Operational waste	Wst 03	1	1	1	MR
	Adaptation to climate change	Wst 05	1	1	1	IB
	Design for disassembly and adaptability	Wst 06	2	2	2	MR
	Section Credit Total			9	6	9
Weighted Section Total			6.00%	4.00%	6.00%	
Land use & Ecology Credit Value: 1.00%	Site selection	LE 01	2	0	0	N/A
	Risks and opportunities for the project	LE 02	2	2	2	HB
	Managing negative impacts on ecology	LE 03	3	3	3	HB
	Change & enhancement of ecological value	LE 04	4	2	3	HB
	Long term ecology management and maintenance	LE 05	2	2	2	HB
Section Credit Total			13	9	10	
Weighted Section Total			13.00%	9.00%	10.00%	
Pollution Credit Value 0.75%	Impact of refrigerants	Pol 01	3	2	3	RW
	Local air quality	Pol 02	2	2	2	RW
	Flood and surface water management	Pol 03	5	4	5	PW
	Reduction of night time light pollution	Pol 04	1	1	1	RW
	Reduction of noise pollution	Pol 05	1	1	1	DE/TC
Section Credit Total			12	10	12	
Weighted Section Total			8.00%	6.67%	8.00%	
Innovations: Early, CNF1, % MAT1 = 0%, Potential MAT2 = 1%, WST5 = 0%			10.00%	5.00%	7.00%	
TOTALS:			110%	77.48%	92.52%	

Table 2 – Summary of credits classified as potential due to uncertainty or additional cost

Credit Title	Credit Requirement Summary (for a full set of requirements refer to Table 3 below)	Potential % - worth
Man 03 - Responsible construction practices	Principal contract should achieve all items listed in Table 4.1 within Appendix B, in addition to all of the other credit criteria, for one innovation credit.	1.00
Man 04 – Commissioning	Commission post-construction testing and inspection of the building fabric (i.e. thermographic survey in addition to air-pressure testing)	0.52
Hea 01 – Visual Comfort	One additional credit for daylighting is subject to the results of daylighting analysis	0.78
Hea 02 - Indoor Air Quality	Specify products with low VOCs and formaldehyde emission levels and commit to measuring air quality pre-occupancy.	1.56
Hea 05 – Acoustic Performance	Expand the scope of current acoustician's services to include testing and other additional BREEAM requirements	2.33
Hea 06 - Security	Commission a Suitably Qualified Security Specialist to conduct an evidence-based Security Needs Assessment	0.78
Tra 02 – Sustainable transport measures	Confirm whether car sharing scheme will be implemented and provide priority parking spaces for car sharers within the staff car park; Confirm whether routes to amenities can be judged as safe.	1.66
Mat 03 - Responsible Sourcing of Materials	Consider providing detailed information on quantities of different material categories that make building elements to enable a more in-depth analysis of the credit.	1.07
Wst 01 - Construction waste management	Liaise with the preferred principal contractor and estimate likely quantities of waste (in m ³ or tonnes) per 100m ² of gross floor area and percentage of waste to be diverted from landfill.	1.33
Wst 02 - Recycled aggregates	Liaise with the preferred principal contractor to establish the type of aggregates that will be used and the locations from where they are likely to be sourced.	0.67
LE 04 - Change & enhancement of ecological value	Confirm the degree of likely ecological enhancement.	1.00
Pol 01 – Impact of refrigerants	Confirm whether relevant systems using refrigerants are hermetically sealed OR if not hermetically sealed have adequate refrigerant leak detection installed.	0.67
Pol 03 - Flood and surface water management	Drainage engineer needs to liaise with the landscape architect to determine whether appropriate level of pollution prevention treatment will be provided.	0.67

Table 3 - BREEAM Pre-Assessment – Credit Details

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Management Section					
Man 01 - Project brief and design - Consultation	One credit – Stakeholder consultation (project delivery) 1. Prior to completion of the Concept Design (RIBA Stage 2 or equivalent), the project delivery stakeholders (i.e. client, building occupier, design team and principal contractor) have met to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery. 2. In defining the roles and responsibilities for each key phase of the project, the following must be considered: a. End user requirements b. Aims of the design and design strategy c. Particular installation and construction requirements/limitations d. Occupiers budget and technical expertise in maintaining any proposed systems e. Maintainability and adaptability of the proposals f. Operational energy g. Requirements for the production of project and end user documentation h. Requirements for commissioning, training and aftercare support. 3. The project team demonstrate how the project delivery stakeholder contributions and the outcomes of the consultation process have influenced or changed the Initial Project Brief, including if appropriate, Project Execution Plan, Communication Strategy, and Concept Design. One credit - Stakeholder consultation (interested parties) 4. Prior to completion of the Concept Design stage, all relevant third-party stakeholders have been consulted by the design team and this covers the minimum consultation content (see Appendix B – MAN 01) 5. Demonstrate how the stakeholder contributions and consultation exercise outcomes influence the Initial Project Brief and Concept Design. 6 Prior to completion of the detailed design (RIBA Stage 4, Technical Design or equivalent), all interested parties give and receive consultation feedback. 7. An independent party (i.e. independent of the design process) carries out the consultation exercise. The Design Quality Indicator (DQI) and the Achieving Excellence Design Evaluation Toolkit (AEDET) could be used as methods to assess the design quality of buildings.	2	2	2	Consultations among project delivery stakeholders are ongoing. The project team needs to collate relevant evidence that shows how each of the items 2a to 2h have been addressed. Consultations with a potential contractor (Westridge Construction Ltd) are ongoing and will address relevant issues as 2c or 2h across. It was confirmed that third-party stakeholders will be consulted online and that regular stakeholder meetings are held every Friday. An independent party has not officially been appointed but it was confirmed that Simpson Hilder will provide an independent party to coordinate the consultation exercise. Two credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Man 01 - Project brief and design – BREEAM Accredited Professional	Prerequisite for BREEAM Advisory Professional credits (Concept & Developed Design) 8. The project team, including the client, formally agree strategic performance targets early in the design process, with the support of the BREEAM AP where appointed. One credit - BREEAM AP (Concept Design) – Targeted 9. Involve a BREEAM AP in the project at an appropriate time and level to: 9.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. 9.b Monitor progress against the performance targets agreed under criterion 8 above throughout all stages after their appointment where decisions critically impact BREEAM performance. 9.c Proactively identify risks and opportunities related to the achievement of the targets agreed under criterion 8 above. 9.d Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 9.e Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team. One credit - BREEAM AP (Developed Design) – Potential 10. Criteria 8 and 9 above are achieved. 11. Involve the BREEAM AP in the project at an appropriate time and level to: 11.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. 11.b Monitor progress against the performance targets agreed under criterion 8 above throughout all stages where decisions critically impact the specification and tendering process and the BREEAM performance. 11.c Proactively identify risks and opportunities related to the achievement of the targets agreed under criterion 8 above. 11.d Provide feedback to the project team as appropriate, to support them in taking corrective actions and achieving their agreed performance targets. 11.e Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team.	2	2	2	IB has been appointed to provide BREEAM AP services during RIBA Stages 2 to 4. Both credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Man 02 Life cycle cost and service life planning	Two credits - Elemental LCC 1. A competent person 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(6). 2. The elemental LCC plan: 2.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); 2.b Includes service life, maintenance and operation cost estimates. 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. One credit - Component level LCC options appraisal 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): 4.a Envelope, e.g. cladding, windows, or roofing 4.b Services, e.g. heat source, cooling source, or controls 4.c Finishes, e.g. walls, floors or ceilings 4.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. 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. One credit - Capital cost reporting 6. Report the capital cost for the building in pounds per square metre of gross internal floor area (£k/m²) as part of the submission to BRE	4	4	4	LCC has been commissioned prior to planning. All four credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Man 03 Responsible construction practices	Prerequisite - Legal and sustainable timber 1. All timber and timber-based products used during the construction process of the project are legal and sustainable timber. Prerequisite - For Healthcare NHS buildings only: 2. To award any of the available credits for this issue, any party who at any stage manages the construction site (e.g. the principal contractor, the demolition contractor) needs to operate an Environmental Management System (EMS) (see requirements of criterion 3 below). Achievement of one MAN 03 credit is a minimum standard for Excellent rating One credit – Environmental management 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: 3.a Be third party certified, to ISO 14001: 2015, EMAS (EU Eco-Management and Audit Scheme) or equivalent standard; OR 3.b In compliance with BS 8555: 2016 have: 3.b.i Appropriate structure 3.b.ii Reached implementation stage phase four 'implementation and operation of the environmental management system' 3.b.iii Completed defined phase audits one to four. 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 Prerequisite for the BREEAM AP credit 5. The client and the contractor formally agree performance targets. One credit – BREEAM AP (site) 6. Involve a BREEAM AP in the project at an appropriate time and level to: 6.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. 6.b Monitor construction progress against the performance targets agreed under criterion 5 above throughout all stages where decisions critically impact BREEAM performance. 6.c Proactively identify risks and opportunities related to the procurement and construction process and the achievement of the targets agreed under criterion 5 above 6.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. 6.e Monitor and, where relevant, coordinate the generation of appropriate evidence by the project team and the provision to the assessor.	2	2	2	Principal contractor has not been selected but it is understood that the preferred contractor is ISO14001 certified and has performed well against MAN 03 criteria on previous similar projects. It is likely that a provisional sum will be added to contract documents to allow the appointment of a BREEAM AP for the construction stage of the project. One credit for environmental management is likely. One credit for appointment of BREEAM AP during construction is also likely.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Man 03 Responsible construction practices (continued)	Up to two credits - Responsible construction management 7. For one credit achieve items listed as required for one credit in Table 4.1 (see Appendix B – MAN 03). 8. For two credits, achieve criterion 7 above and 9. Achieve six additional items listed in Table 4.1. (note achievement of all of the additional items would result in an additional exemplary level credit being achieved) Up to two credits - Monitoring of construction site impacts 10. Assign responsibility to an individual for monitoring, recording and reporting energy use, water consumption and transportation data resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme. First monitoring credit - Utility consumption 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 kgCO₂/project value) from the construction process Water consumption 15. Achieve criterion 10. 16. Set targets for the potable water consumption (m³) 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 (m³) Second monitoring credit - 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: 20.a transportation of materials from the point of supply to the building site, including any transport, intermediate storage and point of supply. Monitor as a minimum: 20.a.i Materials used in major building elements 20.a.ii Ground works and landscaping materials. 20.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 above. 22 Using the collated data, report separately for materials and waste, the total transport-related carbon dioxide emissions (kgCO₂-eq), plus total distance travelled (km)	4	4	4	Project team confirmed that the relevant requirements are likely to be achieved. These credits are likely to be achieved. An additional innovation credit (worth 1% of the overall score) may potentially be achieved subject to achievement of all of the additional items in Table 4.1 in Appendix B)

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Man 04 Commissioning and handover	One credit - Commissioning - testing schedule and responsibilities 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: Current Building Regulations, BSRIA guidelines, CIBSE guidelines and Other appropriate standards 3. Where a building management system (BMS) is specified: 3.a Carry out commissioning of air and water systems when all control devices are installed, wired and functional 3.b Include physical measurements of room temperatures, off-coil temperatures and other key parameters, as appropriate, in commissioning results 3.c The BMS or controls installation should be running in auto with satisfactory internal conditions prior to handover 3.d All BMS schematics and graphics (if BMS is present) are fully installed and functional to user interface prior to handover 3.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. One credit - 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: 7.a Undertaking design reviews and giving advice on suitability for ease of commissioning. 7.b Providing commissioning management input to construction programming and during installation stages. 7.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.	2	2	2	Project team confirmed that these credits are likely to be achieved and that the relevant text (i.e. credit criteria) will be added to the M&E specifications that will form part of tender documents. These credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Man 04 Commissioning and handover (continued)	One credit - 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 professionals undertake the survey and testing in accordance with the appropriate standards*. 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 * Airtightness testing: by professionals with membership of Air Tightness Testing and Measurement Association (ATTMA) or Independent Air Tightness Testing Scheme (IATS) attained at organisational level. Thermographic survey: by professionals holding a valid Category 2, e.g. PCN (Personnel Certification in Non-Destructive Testing) or QCF (Ofqual's Qualification and Credit Framework) or RQF (Regulated Qualifications Framework) Level 4, e.g. ABBE (Awarding Body for the Built Environment), certificate in thermography (as defined by the UKTA (UK Thermography Authority) website). Where a Category 2 or Level 4 thermographer is not available, the survey may be undertaken by a Category 1 thermographer and then the images interpreted by a Category 2 or Level 4 thermographer. One credit – Handover (BUGs development mandatory for Very Good rating) 11. Prior to handover, develop two building user guides (BUGs) for the following users: 11.a A non-technical user guide for distribution to the building occupiers. 11.b A technical user guide for the premises facilities managers. A draft copy is developed and discussed with users first (where the building occupants are known) to ensure the guide is most appropriate and useful to potential users. 12. Prepare two training schedules timed appropriately around handover and proposed occupation plans for the following users: 12.a A non-technical training schedule for the building occupiers. 12.b A technical training schedule for the premises facilities managers.	2	1	2	The credit related to testing and inspection of the building fabric is currently uncertain as thermographic imaging would not be performed as standard. Project team confirmed that requirements regarding the Handover credit will be included in the M&E Specification. One credit may be achieved subject to additional cost associated with the thermographic survey. One credit is likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Man 05 - Aftercare	One credit - Aftercare support 1. Provide aftercare support to the building occupiers through having in place operational infrastructure and resources. This includes as a minimum: 1.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: 1.a.i Introduce the aftercare support available, including the content of the building user guide (where it exists) and training schedule. 1.a.ii Present key information about features of the building including the design intent and how to use the building to ensure it operates as efficiently and effectively as possible. 1.b On-site facilities management training including: 1.b.i a walkabout of the building AND 1.b.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. 1.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 1.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. 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.	1	1	1	Project team confirmed that specific credit requirements will be added to the M&E specification. This credit is likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Man 05 – Aftercare (continued)	One credit - Commissioning – implementation (Mandatory for Excellent rating) 3. Complete the following commissioning activities over a minimum 12-month period, once the building becomes substantially occupied: 3.a Complex systems: The specialist commissioning manager will: 3.a.i Identify changes made by the owner or operator that might have caused impaired or improved performance. 3.a.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). 3.a.iii Where applicable, carry out testing during periods of extreme (high or low) occupancy. 3.a.iv Interview building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems. 3.a.v Produce monthly reports comparing sub-metered energy performance to the predicted one 3.a.vi Identify inefficiencies and areas in need of improvement. 3.a.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. 3.b Simple systems (naturally ventilated): The external consultant, aftercare team or facilities manager will: 3.b.i Review thermal comfort, ventilation, and lighting, at three, six and nine month intervals after initial occupation, either by measurement or occupant feedback. 3.b.ii Identify deficiencies and areas in need of improvement. 3.b.iii Re-commission systems and incorporate any relevant revisions in operating procedures into the O&M manuals. One credit - Post-occupancy evaluation (POE) 4. The client or building occupier commits to carry out a POE exercise one year after the building is substantially occupied. This gains comprehensive in-use performance feedback 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. 5. An independent party carries out the POE covering: 5.a A review of the design intent and construction process (review of design, procurement, construction and handover processes). 5.b Feedback from a wide range of building users including facilities management on the design and environmental conditions of the building covering: 5.b.i Internal environmental conditions (light, noise, temperature, air quality) 5.b.ii Control, operation and maintenance 5.b.iii Facilities and amenities 5.b.iv Access and layout 5.b.v Energy and water consumption 5.b.vi Other relevant issues, where appropriate 6. The independent party provides a report with lessons learned to the client and building occupiers. 7. The client or building occupier commits funds to pay for the POE in advance.	2	2	2	Project team confirmed that specific credit requirements will be added to the M&E specification. TC confirmed that a provisional sum for carrying out a POE 12-months post occupancy will likely be added to contract documents. Two credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Health & Wellbeing Section					
Hea 01 Visual comfort – Daylighting and, Glare and View Out	One credit - Control of glare from sunlight 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. 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. 3. The glare control strategy does not increase energy consumption used for lighting. This is achieved by: 3.a Maximising daylight levels in all weather, cloudy or sunny AND 3.b Ensuring the use or location of shading does not conflict with the operation of lighting control systems. Up to two credits - Daylighting 4.a For one credit 2% average daylight factor (ADF) for 80% of staff and public areas AND occupied patient areas and consulting rooms; For two credits achieve 3% ADF in 80% of occupied patient areas and consulting rooms 4.b Uniformity ratio of at least 0.3 or a minimum point daylight factor of at least 0.3 times ADF under criterion 4a or 0.6% (for 1 credit) or 0.9% in occupied patient areas (for 2 credits). OR 4c. View of the sky and room depth criterion are met One credit - View out 5. 95% of the floor area in 95% of spaces for each relevant building area provides an adequate view out 6. For patient-occupied spaces, e.g. wards and dayrooms the distance between the wall with the window or opening and nearest external solid object (e.g. buildings, screens, walls or fences) is $\geq 10\text{m}$. One credit - Internal and external lighting levels, zoning and control Internal lighting 7. Internal lighting 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. 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. 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. Zoning and occupant control 10. Internal lighting is zoned to allow for occupant control.	5	4	5	Project team confirmed that credits for glare control, view out and lighting specification are likely to be achieved. Daylight analysis has been commissioned and will be carried out during RIBA Stage 3. For the purposes of this pre-assessment a conservative estimate that one daylighting credit out of two will be achieved has been made. The requirements related to internal and external lighting should be added to the M&E specification. Four credits are likely to be achieved. One additional credit for daylighting may be achieved subject to daylight analysis results.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Hea 02 Indoor Air Quality	Prerequisite - Indoor air quality (IAQ) plan 1 A site-specific indoor air quality plan has been produced and implemented. 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: 1.a Removal of contaminant sources 1.b Dilution and control of contaminant sources: 1.b.i Where present, consideration is given to the air quality requirements of specialist areas such as laboratories 1.c Procedures for pre-occupancy flush out 1.d Third party testing and analysis 1.e Maintaining good indoor air quality in-use. One credit - Ventilation 2 The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building as follows: 2.a Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation 2.b Ventilation pathways are designed to minimise the ingress and build-up of air pollutants inside the building 2.c Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 16798-3:2017. The specified filters should achieve supply air classification of at least SUP 2. 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: Up to two credits - 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 within Appendix B – HEA 02 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. Two Credits 4 All of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.11.	3	1	2	IAQ plan will be developed during RIBA stage 3. Ventilation credit is unlikely to be achieved due to proximity (i.e. within 10m) of openable windows to access roads and car parks. Emission levels from products are likely to meet criteria for one credit and may meet criteria for two credits. One credit for meeting emission levels from construction products is likely to be achieved. Second credit for meeting emission levels from construction products is currently uncertain and is subject to detailed product specification.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Hea 02 Indoor Air Quality (continued)	One credit - Post-construction indoor air quality measurement 5. The formaldehyde concentration in indoor air is measured post construction (but pre-occupancy) and does not exceed 100µg/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 500µg/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	1	Commissioning of relevant post-construction measurements and any associated remedial actions is currently uncertain and may be carried out at an additional cost. This credit is currently uncertain.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Hea 04 Thermal comfort	One credit - Thermal modelling 1. Thermal modelling has been carried out using software in accordance with CIBSE AM11 Building Energy and Performance Modelling. 2 The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. 3 The modelling demonstrates that: 3.a For air-conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with Health Technical Memorandum 03-01 Specialised ventilation for healthcare premises. Thermal comfort levels in patient and clinical areas must be in accordance with the temperature ranges set out in HTM 03-01, Appendix 2. Furthermore, internal summer temperatures must not exceed 28 °C dry bulb for more than 50 hours per year (as defined in HTM 03-01, paragraph 2.15). Other occupied spaces not covered in HTM 03-01 Appendix 2 should be in accordance with CIBSE Guide A Environmental Design. 3.b For naturally ventilated buildings: 3.b.i Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in Health Technical Memorandum 03-01 Specialised ventilation for healthcare premises where appropriate. 3.b.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. 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. One credit - Design for future thermal comfort One credit - Design for future thermal comfort 5. Criteria 1 to 4 are achieved. 6 The thermal modelling demonstrates that the relevant requirements set out in criterion 3 page are achieved for a projected climate change environment (see Appendix B – HEA 04 for further guidance). 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. 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.	2	2	2	Thermal comfort analysis will be carried out during RIBA Stage 2 and the relevant criteria is likely to be met. These credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Hea 04 – Thermal Comfort (continued)	One credit - Thermal zoning and controls 9. Criteria 1 to 4 on the previous page are achieved. 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. 11 The strategy for proposed heating or cooling systems demonstrates that it has addressed the following: 11.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. 11.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: 11.b.i User knowledge of building services. 11.b.ii Occupancy type, patterns and room functions (and therefore appropriate level of control required). 11.b.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. 11.b.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). 11.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. 11.d The need or otherwise for an accessible building user actuated manual override for any automatic systems.	1	1	1	It is likely that thermal zoning and controls will meet the requirements. This credit is likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Hea 05 Acoustic performance	Up to three credits - Acoustic performance First credit – Sound insulation 1. Achieve the airborne sound insulation performance standards set out in Section 2 of HTM 08-01: Acoustic design requirements, 2013 determined according to the privacy requirements using both Table 3 and Table 4 from HTM 08-01. The weighted standardised impact sound pressure level (L_{nT,w}) must not exceed 65 dB for floors over noise-sensitive rooms, following the guidance in HTM 08-01 2. Carry out a programme of pre-completion acoustic testing by a compliant test body in accordance with the requirements of Section 7 of HTM 08-01. Second credit – Indoor ambient noise levels 3. The indoor ambient noise requirements for noise intrusion from external sources in Table 1 of HTM 08-01 are not exceeded. The values for internal noise from mechanical and electrical services in Table 2 of HTM 08-01 are not exceeded. 4. Carry out a programme of pre-completion acoustic testing by a compliant test body in accordance with the Section 7 of HTM 08-01:Acoustics. Third credit – Room acoustics 5. Acoustic environment (Control of reverberation and sound absorption): Achieve the requirements relating to sound absorption set out in Section 2 of HTM 08-01. Installation of a specification compliant with the HTM08-01 criteria demonstrates compliance. A site inspection by the developer or Suitably Qualified Acoustician (SQA) is required to confirm that a compliant specification has been installed.	3	0	3	Acoustic Associates Sussex Ltd have provided a quote for carrying out some of the BREEAM relevant acoustic works. IB has commented on the quote on 17/02/21 outlining additional BREEAM activities. It is currently uncertain whether the client will commission the additional works. These credits are currently uncertain.
Hea 06 Security	One credit - Security of site and building 1. A Suitably Qualified Security Specialist (SQSS – see definition in Appendix B – HEA 06) 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. 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. 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.	1	0	1	Project team confirmed that SQSS may be contacted to provide a quote for carrying out an SNA. This credit is currently uncertain.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Hea 07 Safe and healthy surroundings	One credit - Safe access 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: 2.a The site entrance to the building entrance 2.b Car parks (where present) to the building entrance 2.c The building to outdoor space 2.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: 4.a pedestrian and cyclist paths 4.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. One credit - Outside space 7. There is an outside space providing building users with an external amenity area.	2	1	1	Project team confirmed that all of the safe access criteria are unlikely to be met, particularly criterion 1. Outside space will be provided with benches and 'no smoking' signs. One credit is likely to be achieved for provision of outside space.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Energy Section					
Ene 01 Reduction of energy use and carbon emissions	Up to nine credits - Energy performance 1. Calculate an Energy Performance Ratio for New Constructions (EPR_{Nc}) using BREEAM's Ene 01 calculator and compare with the following: 1 credit = 0.1 EPR_{Nc} 2 = 0.2 3 = 0.3 4 = 0.4 Minimum requirement for Excellent rating or 4 credits for Prediction of operational energy consumption (where operational energy performance has been substantially improved) 5 = 0.5 6 = 0.6 7 = 0.7 8 = 0.8 9 = 0.9 AND aero net regulated CO₂eq emissions Four credits - Prediction of operational energy consumption 2. Involve relevant members of the design team in an energy design workshop focusing on operational energy performance. 3. Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures. 4. Report predicted energy consumption targets by end use, design assumptions and input data (with justifications). 5. Carry out a risk assessment to highlight any significant design, technical, and process risks that should be monitored and managed throughout the construction and commissioning process. Exemplary level criteria Up to two credits - Beyond zero net regulated carbon – not targeted Three credits - Carbon negative – not targeted Two credits – Post-occupancy stage 6. Achieve maximum available credits in Ene 02 Energy monitoring. 7. The client or building occupier commits funds to appoint an assessor to report on the actual energy consumption compared with the targets set in criterion 4 above. 8. The energy model (criterion 3) is submitted to BRE and retained by the building owner.	13	9	9	Based on design stage SBEM calculations and subject to installation of a recommended PV array, it is likely that the building will achieve five out of nine credits related to EPR_{Nc}. The client has commissioned prediction of operational energy consumption work and it is assumed that the practice will commit to sharing post-occupancy energy consumption data. Five credits related to SBEM calculations are likely to be achieved. Further four credits and two innovation credits (worth 4.8% of the overall score) are likely to be achieved for prediction of operational energy consumption and commitment to report operational consumption to BRE.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Ene 02 – Energy monitoring	One credit - Sub-metering of end-use categories <i>(Mandatory for Very Good rating)</i> 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 (i.e. space heating, hot water, lighting and small power) 2. Meter the energy consumption by end-use category with an appropriate energy monitoring and management system OR (in smaller buildings with total area of less than 1,000m²) with separate accessible energy sub-meters with pulsed or other open protocol communication outputs for future connection to an energy monitoring and management system 3. Building users can identify the energy consuming end uses, for example through labelling or data outputs. One credit - Sub-metering of high energy load and tenancy areas 4. Monitor a significant majority of the energy supply (90%) with separate accessible energy sub-meters with pulsed or other open protocol communication outputs for future connection to an energy monitoring and management system for: 4.b.i tenanted areas or 4.b.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.	2	2	2	Project team confirmed that adequate and compliant energy sub-meters will be provided. Project team confirmed that the building is single occupancy (i.e. without tenanted areas) except for the shell-only pharmacy which will be separately metered. Sub-metering by floor plate will be provided. Achievement of both credits is a pre-requisite for achieving two post-occupancy ENE 01 credits above. These credits are likely to be achieved.
Ene 03 – External Lighting	One credit 1. External light fittings within the construction zone with: a Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt b Automatic control to prevent operation during daylight hours c Presence detection in areas of intermittent pedestrian traffic.	1	1	1	Project team confirmed that external lighting is likely to meet these requirements. BREEAM requirements should be added to the M&E specification. This credit is likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Ene 04 Low carbon design	One credit - Passive design analysis 1. Achieve the first credit Hea 04 Thermal comfort: One credit - Thermal modelling 2. The project team analyses the proposed building design and development during Concept Design to identify opportunities for the implementation of passive design measures 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. 4. Quantify the reduced total energy demand and carbon dioxide (CO_{2-eq}) emissions resulting from the passive design measures. One credit - Free cooling 5. Achieve the passive design analysis credit. 6. Include a free cooling analysis in the passive design analysis carried out under criterion 2. 7. Identify opportunities for the implementation of free cooling solutions. 8. The building is naturally ventilated or uses any combination of the free cooling strategies listed in Free cooling analysis. One credit - Low and zero carbon feasibility study 9. An energy specialist completes a feasibility study by the end of Concept Design. 10. Establish the most appropriate recognised local (on-site or near-site) low and zero carbon (LZC) energy sources for the building or development, 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-eq}) emissions resulting from the feasibility study.	3	2	2	The client has commissioned pre-planning passive design analysis and LZC feasibility study. Photovoltaics and air source heat pumps are likely to be specified. Free-cooling credit will not be targeted as the building will be mechanically cooled. Two credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Ene 06 Energy efficient transportation systems	One credit - Energy consumption 1. For specified lifts, escalators or moving walks (transportation types): 1.a Analyse the transportation demand and usage patterns for the building to determine the optimum number and size of lifts, escalators or moving walks 1.b Calculate the energy consumption in accordance with BS EN ISO 25745 Part 2 or Part 3 for one of the following: 1.b.i At least two options for each transportation type (e.g. for lifts, hydraulic, traction or machine roomless (MRL) OR 1.b.ii At least two options considering different system arrangements and control strategies. 1.c Consider the use of regenerative drives, subject to the requirements in Regenerative drives 1.d Specify the transportation system with the lowest energy consumption. One credit – Energy Efficient Lifts 2. Achieve criterion 1 above. 3. Specify the following three energy efficient features for each lift: 3.a A standby condition for off-peak periods 3.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 3.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	2	2	2	Project team confirmed that these credits are likely to be achieved for lifts and that there are no other transportation systems in the building. Two credits are likely to be achieved.
Ene 08 Energy efficient equipment	Two credits 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. 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. Note that medical equipment is exempt from complying with the above criteria. However, the procurement of large-scale equipment and sets of electrical equipment (where numbering more than 50) should be informed and selected by life cycle costing analysis for at least two options in accordance with HTM07-02, Part B, Chapter 1. 'Large-scale equipment' includes commercial-scale catering and laundry equipment and all other equipment with connected electrical loads in excess of 10kW rated input power.	2	2	2	Project team confirmed that these credits are likely to be achieved subject to relevant analysis. These credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Transport Section					
Tra 01 Transport assessment and travel plan	Two credits – Transport assessment and Travel plan 1. No later than Concept Design stage, undertake a site-specific transport assessment (or develop a transport statement) and draft travel plan, which can demonstrably be used to influence the site layout and built form; 2. The site-specific travel assessment (or statement) shall cover as a minimum: 2.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. 2.b Predicted travel patterns and transport impact of future building or site users. 2.c Current local environment for pedestrians and cyclists, accounting for any age-related requirements of occupants and visitors. 2.d Reporting of the number and type of existing accessible amenities, within 500m of the site. 2.e Disabled access accounting for varying levels and types of disability, including visual impairment. 2.f Calculation of the existing public transport Accessibility Index (AI). 2.g Current facilities for cyclists. 3. Following a transport assessment (in accordance with the requirements set out in criteria 2), develop a site-specific travel plan that provides a long-term management strategy which encourages more sustainable travel. The travel plan includes measures to increase or improve more sustainable modes of transport and movement of people and goods during the building's operation. 4. If the occupier is known, involve them in the development of the travel plan. 5. Demonstrate that the travel plan will be implemented and supported by the building's management in operation.	2	2	2	DM confirmed that a transport statement and travel plan will be developed pre-planning and in line with BREEAM criteria. Two credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Tra 02 Sustainable transport measures	Prerequisite 1 Achieve criteria 3-5 in the Tra 01 Transport assessment and travel plan credit. 10 credits – Transport options implementation 2. Identify the sustainable transport measures, see Table 7.4 within Appendix B – TRA 02. 3. Award credits according to the existing Accessible Index (AI) of the project, and the total number of points achieved for the options implemented, see Table 7.3 within Appendix B – TRA 02.	10	4	6	DM confirmed that compliant cycle storage will be provided alongside a shower and lockers. Eastergate post office and convenience store as well as a cricket ground appear to be within 500m from the proposed main entrance of the new building. Compliance with BREEAM safe pedestrian route criteria is currently uncertain. The development will result in provision of two additional amenities including a pharmacy and an outdoor area. DM confirmed that it is unlikely that the 10% of car parking spaces will be provided with electric vehicle charging stations. Project team will check with practice staff whether a car sharing scheme will be set up. A total of 5% of car parking spaces dedicated to staff will need to be marked as priority spaces for car sharers. Public transport frequency is likely to be low. For the purposes of this pre-assessment it is estimated that four credits are likely to be achieved with further 2 as potential.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Water Section					
Wat 01 – Water consumption	Up to five credits (1 credit Mandatory for Good rating) 1. Use the BREEAM Wat 01 calculator to assess the efficiency of the following domestic water-consuming components (where specified) and determine number of credits achieved. – WCs – Urinals – Taps (wash-hand basins and, where specified, kitchen taps and waste disposal unit) – Showers – Baths – Dishwashers (domestic and commercial-sized) – Washing machines (domestic and commercial or industrial sized). The flushing control for each WC or urinal must be suitable for operation by patients with frail or infirm hands or activated by electronic sensors Components in clinical areas may be omitted. Clinical areas refer to all areas with a scrub-up trough, clinical sink or clinical basin. This is not an exhaustive list and guidance should always be sought from the appropriate professional, to ascertain areas of exemption specific to infection control and other considerations. Appropriate professionals could include a health authorities infection control officer or a client infection control representative or equivalent. Although exempt, HTM 07-04 contains guidance on water savings from medical-related activities. Furthermore, in some cases, the use of water efficient fittings and appliances may not be appropriate to the needs of the patient, and inappropriate specification may adversely affect the incidence and propagation of infections. In such instances, the assessor will need to confirm with BRE Global whether components from the relevant building areas are exempt. The design team should also consult NHS guidelines concerning appropriate selection of sanitary fittings and fixtures and the control of legionella, including HTM 04-01 In cases where none of the water components and fittings can be assessed on the basis of clinical requirements, the minimum standard is not applicable.	5	3	3	For the purposes of this pre-assessment it is estimated that 3 out of 5 credits are likely to be achieved. An example specification that would meet requirements for three credits on this project would include: - All WCs with 4 litres effective flush volumes - Wash-hand basin taps – 4 litres per minute flow rate - Shower - 6 litres per minute flow rate - Kitchen tap(s) – 5 litres per minute flow rate Three credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Wat 02 Water monitoring	One credit 1. Specify a water meter on the mains water supply to the building. <i>(Mandatory for Good Rating)</i> 2. For water-consuming plant or building areas consuming 10% or more of the building's total water demand: 2.a Fit easily accessible sub-meters OR 2.b Install water monitoring equipment integral to the plant or area. 3. For each meter (main and sub): 3.a Install a pulsed or other open protocol communication output AND 3.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.	1	1	1	Project team confirmed that a compliant water meter is likely to be specified. A relevant requirement should be added to the M&E specification. This credit is likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Wat 03 - Water leak detection	One credit - Leak detection system 1. Install a leak detection system capable of detecting a major water leak: 1.a On the utilities water supply within the buildings, to detect any major leaks within the buildings AND 1.b Between the buildings and the utilities water supply, to detect any major leaks between the utilities supply and the buildings under assessment. 2. The leak detection system is: 2.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 2.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 2.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. 2.d Programmable to suit the owner's or occupier's water consumption criteria 2.e Where applicable, designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers. One credit - Flow control devices 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. Note. This	2	2	2	RW confirmed that both leak detection system and flow control devices are likely to be specified. The requirement to install these systems should be added to the M&E specification. Two credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Materials Section					
Mat 01 Environmental Impacts from construction products – Building LCA	Up to six credits – Superstructure appraisal Option appraisal during Concept Design 4 During Concept Design, identify opportunities for reducing environmental impacts as follows: 4.a Carry out building LCA options appraisal of 2 to 4 significantly different superstructure design options 4.b Use a BREEAM approved building LCA tool 4.c For each design option, fulfil the same functional requirements specified by the client and all statutory requirements (to ensure functional equivalency). 4.d Integrate the LCA options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document. 4.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. 4.f Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for Options appraisal during Technical Design 5. During Technical Design identify opportunities for reducing environmental impacts as follows: 5a. Carry out building LCA options appraisal of 2 to 3 significantly different superstructure design options 5b. Use a building LCA tool that is approved by BREEAM 5c. For each design option, fulfil the same functional requirements specified by the client and all statutory requirements (to ensure functional equivalency). 5d. Integrate the LCA options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document. 5e. 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. 5f. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Technical Design.	6	6	6	LCA has been commissioned and will commence during the Concept Design stage. These credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Mat 01 Environmental Impacts from construction products – Building LCA (continued)	One credit – Substructure and hard landscaping options appraisal during Concept Design 6. Criterion 4 above is achieved. 7. During Concept Design identify opportunities for reducing environmental impacts as follows: 7.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). 7.b As criteria 4.c to 4.f above. One Innovation credit – Core building services options appraisal during Concept Design 8. Criterion 4 is achieved. 9. During Concept Design identify opportunities for reducing environmental impacts as follows: 9.a Carry out building LCA options appraisal of at least 3 significantly different core building services design options. 9.b As criteria 4.c to 4.f above. Second Innovation Credit – LCA and LCC Alignment 10. Achieve criteria 4 and 5. 11. Achieve Man 02 Life cycle cost and service life planning credits 12. Include design options appraised for criterion 4 (and 6 to 7 and 8 to 9, if pursued) during Concept Design in the elemental LCC plan 13. Include the design options appraised for criterion 5 during Technical Design in the 'Component level LCC option appraisal' 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'. Third Innovation Credit – Third party verification 15. Criteria 4 to 7 are achieved. 16 A suitably qualified third party either carries out the building LCA work or verifies the building LCA work (if by others) 17 For each LCA option, itemise in the report the checks made by the suitably qualified third party including	1	1	1	The scope of LCA will include substructure and landscaping options as well as the requirements for the three innovation credits. One credit and three innovation credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Mat 02 Environmental Impacts from construction products - EPDs	One credit - 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 outlined within the BREEAM Technical Manual. 2 Enter the details of each EPD into the Mat 01/02 Results Submission Tool, including the material category classification. The Mat 01/02 Results Submission Tool will verify the EPD points score and credit award.	1	1	1	For the purposes of this pre-assessment it is assumed that the majority of construction products will have EPD certification. One credit is likely to be achieved.
Mat 03 Responsible sourcing of materials	Prerequisite - Legally harvested and traded timber 1. All timber and timber-based products used on the project are legally harvested and traded timber as per the UK Government's Timber Procurement Policy (TPP) <i>Compliance with criterion 1 is a minimum requirement for achieving any BREEAM rating.</i> One credit - 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: - Be in place before Concept Design. - Include sustainability aims, objectives and strategic targets to guide procurement activities. - Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. - Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. In addition, if the plan is applied to several sites or adopted at an organisational level it must: - Identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO 20400:2017 Up to three credits - 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.	4	2	3	It is assumed that a sustainable procurement plan will be developed during the concept design stage and implemented during construction. It is assumed that a significant proportion of materials is likely to be procured from manufacturers and suppliers that are BES 6001, ISO14001, FSC and similarly certified. Two credits are likely to be achieved. One credit may be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Mat 05 Designing for durability and resilience	One credit - Protecting vulnerable parts of the building from damage. 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: a Negative impacts of high user numbers in relevant areas of the building (e.g. corridors, lifts, stairs, doors etc.). b Damage from any vehicle or trolley movements within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. c External building fabric damage by a vehicle. 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. d Potential malicious damage to building materials and finishes, in public and common areas where appropriate. Protecting exposed parts of the building from material degradation 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: a The element or product achieving an appropriate quality or durability standard or design guide OR b A detailed assessment of the element's resilience when exposed to the applicable material degradation and environmental factors. 3 Include convenient access to the roof and façade for cost-effective cleaning, replacement and repair in the building's design. 4 Design the roof and façade to prevent water damage, ingress and detrimental ponding.	1	1	1	Project team confirmed that appropriate measures such as edge protection, raised kerbs and hard-wearing internal surfaces will be specified. The external envelope will incorporate appropriate measures to limit material degradation due to environmental factors. This credit is likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Mat 06 Material efficiency	One credit 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. a Preparation and Brief b Concept Design c Developed Design d Technical Design e Construction. 2. Develop and record the implementation of material efficiency during: a Developed Design b Technical Design c Construction. 3. Report the targets and actual material efficiencies achieved.	1	0	0	This credit is unlikely to be achieved as the materials efficiency strategy was not developed at the project preparation and brief stage. This credit is unlikely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments																								
Waste																													
Wst 01 Construction waste management	Up to three credits - Construction resource efficiency 4. Prepare a compliant Resource Management Plan (RMP) covering: 4.a Non-hazardous waste materials (from on-site construction and dedicated off-site manufacture or fabrication, including demolition and excavation waste 4.b Accurate data records on waste arisings and waste management routes. 5. Meet or improve upon the following benchmarks: Amount of waste generated per 100m ² (gross internal floor area) m ³ tonnes One credit≤ 13.3≤ 11.1 Two credits≤ 7.5≤ 6.5 Three credits≤ 3.4≤ 3.2 Exemplary level≤ 1.6≤ 1.9	4	2	4	For the purposes of this pre-assessment it is estimated that one out of three credits for resource efficiency would be achieved and one credit for diversion of waste from landfill. Two credits are likely to be achieved. Two credits may potentially be achieved.																								
	One credit - Diversion of resources from landfill 6. Meet, where applicable, the diversion from landfill benchmarks shown below for non-hazardous construction waste and demolition and excavation waste generated. 7. Sort waste materials into separate key waste groups as per Table 10.3 on page 265, either on-site or through a licensed contractor for recovery.																												
	<table><tr><td></td><td>Type of waste</td><td>Volume</td><td>Tonnage</td></tr><tr><td rowspan="3">One Credit</td><td>Non-demolition</td><td>70%</td><td>80%</td></tr><tr><td>Demolition</td><td>80%</td><td>90%</td></tr><tr><td>Excavation</td><td>N/A</td><td>N/A</td></tr><tr><td rowspan="3">Exemplary level</td><td>Non-demolition</td><td>85%</td><td>90%</td></tr><tr><td>Demolition</td><td>85%</td><td>95%</td></tr><tr><td>Excavation</td><td>95%</td><td>95%</td></tr></table>						Type of waste	Volume	Tonnage	One Credit	Non-demolition	70%	80%	Demolition	80%	90%	Excavation	N/A	N/A	Exemplary level	Non-demolition	85%	90%	Demolition	85%	95%	Excavation	95%	95%
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Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Wst 02 Recycled aggregates	One credit - Project Sustainable Aggregate Points 2. Identify all aggregate uses and types on the project 3. Determine the quantity in tonnes for each identified use and aggregate type. 4. Identify the region in which the aggregate source is located. 5. Calculate the distance in kilometres travelled by all aggregates by transport type. 6. Enter the information into the BREEAM Wst 02 calculator to calculate the Project Sustainable Aggregate points.	1	0	1	The information related to the type of aggregates that will be used, quantities and their location is currently uncertain. This credit may potentially be achieved.
Wst 03 Operational waste	One credit - Operational waste 1 Provide a dedicated space for the segregation and storage of operational recyclable waste generated. The space is: 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. 2 For consistent and large amounts of operational waste generated, provide: 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. 3. The specified or installed operational waste facilities are compliant with the relevant NHS guidelines for that part of the UK. * A minimum of 10m² AND additional 10m² where catering is provided	1	1	1	Project team confirmed that stated requirements are likely to be met. This credit is likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Wst 05 Adaptation to climate change	One credit - Resilience of structure, fabric, building services and renewables installation 1 Conduct a climate change adaptation strategy appraisal using: 1.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 1.a.i Hazard identification 1.a.ii Hazard assessment 1.a.iii Risk estimation 1.a.iv Risk evaluation 1.a.v Risk management. 2. Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during Concept Design, that aim to mitigate the identified impact. 3. Provide an update during Technical Design demonstrating how the recommendations or solutions proposed at Concept Design have been implemented where practical and cost effective. Omissions have been justified in writing by the assessor.	1	1	1	A climate adaptation strategy will be developed during the concept design stage. This credit is likely to be achieved.
Wst 06 Design for disassembly and adaptability	One credit - Design for disassembly and functional adaptability - recommendations 1. Conduct a study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design. 2. Develop recommendations or solutions based on the study during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation. One credit - Disassembly and functional adaptability – implementation 3 Achieve criteria 1 and 2 4 Provide an update, during Technical Design, on: 4.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. 4.b Changes to the recommendations and solutions during the development of the Technical Design. 5 Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.	2	2	2	Project team confirmed that adequate study is likely to be developed. These credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Land Use & Ecology					
LE 01 Site selection	One credit - Previously occupied land 1. At least 75% of the proposed development is on previously occupied land One credit - Contaminated land 2. A contaminated land professional undertakes a site investigation, risk assessment and appraisal, which deems that land within the development footprint to be affected by contamination. This report identifies: a. The degree of contamination b. The contaminant sources/types c. The options for remediating sources of contamination which present an unacceptable risk. 3. The client or principal contractor confirms that a remediation strategy will be implemented, in line with the report.	2	0	0	The development is on a greenfield site. These credits are unlikely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
LE 02 Identifying and understanding the risks and opportunities for the project	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. Survey and evaluation 3. A Suitably Qualified Ecologist (SQE) carries out a survey and evaluation for the site early enough to influence site preparation works, layout and, where necessary, strategic planning decisions (typically Preparation and brief stage) 4 The SQE's survey and evaluation determines the site's ecological baseline (see Definitions), including: 4.a Current and potential ecological value and condition of the site and related areas within the Zone of Influence. 4.b Direct and indirect risks to current ecological value from the project. 4.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). Determining ecological outcomes 6. Criteria 3–5 above 7 The project team liaise and collaborate with representative stakeholders early enough to influence key planning decisions (typically Concept Design stage), to: 7.a Identify the optimal ecological outcomes for the site. 7.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 (i.e. 1. Avoidance 2. Protection 3. Reduction or limitation of negative impacts 4. On site compensation and 5. Enhancement, considering the capacity and feasibility within the site, or where viable, off-site.) Exemplary level criteria - Wider site sustainability 8. Achieve criterion 7 above. 9. Wider sustainability related activities and potential ecosystem service benefits are considered (e.g. landscape design, green infrastructure, heritage, recreational space, air-quality, climate change mitigation etc.) as part of determining the optimal ecological outcomes for the site (criterion 7). 10. Achieve the credits of the assessment issues outlined below: 10.a Hea 07 Safe and healthy surroundings - Both credits 10.b Pol 03 Flood and surface water management - Achieve credits for 'Surface water run-off' and 'Minimising watercourse pollution' 10.c Pol 05 Reduction of noise pollution	2	2	2	Preliminary ecological appraisal has been carried out by Ecosa. The report provides a good foundation for achieving BREEAM credits but additional input from the ecologist as well as the project team is needed. Ecosa has quoted for additional services aimed at maximising the BREEAM score and this pre-assessment assumes that the majority of relevant credits are likely to be achieved. These credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
LE 03 Managing impacts on ecology	Prerequisite – Ecological risks and opportunities 1. LE 02's 'Survey and evaluation and Determining ecological outcomes' criteria have been achieved One credit – Planning and measures on-site 2. Further planning to avoid and manage negative ecological impacts on-site is carried out early enough to influence the concept design and design brief as well as site preparation planning. 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) 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 Up to two credits – Managing negative impacts of the project 7. Criteria 2-4 have been 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 and, either: 8.a No overall loss of ecological value has occurred (two credits). OR where criterion 8.a is not possible: 8.b The loss of ecological value has been minimised (one credit)	3	3	3	Given the client's commitment to commission additional ecological consultancy these credits are likely to be achieved. These credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
LE 04 Change and enhancement of ecological value	Prerequisite - Managing negative impacts on ecology 1. Criterion 8 in LE 03 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. One credit - Ecological enhancement 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 LE 02. Measures are implemented in the following order: 4.a On site, and where this is not feasible, 4.b Off site within the Zone of Influence. 5. Data collated are analysed and where potentially valuable, provided to the local environmental records centres nearest to, or relevant for, the site. Up to three credits - Change and enhancement of ecology 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 2¹. Credits are awarded in line with the Reward Scale table in GN36 where there are no residual impacts on protected sites or irreplaceable habitats. Exemplary Level criteria To achieve one exemplary performance credit: 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.	4	2	3	At this early pre-assessment stage and prior to advice by SQE, two credits are estimated to be likely and one additional credit as potential. Two credits are likely to be achieved. One additional credit may be achieved.

¹ <https://www.breeam.com/wp-content/uploads/sites/3/2018/06/GN36-v0.0-BREEAM-CEEQUAL-HQM-Ecology-Calculation-Methodology-Route-2.pdf>

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
LE 05 Long term ecological management and maintenance	Prerequisite - 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. Criterion 8 in LE 03 has been achieved, and at least one credit under LE04 for 'Change and Enhancement of Ecology' has been awarded. One credit - Management and maintenance throughout the project 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. 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. 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. 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. One credit - Landscape and ecology management plan 5. A Landscape and Ecology Management Plan, or equivalent, has been developed in accordance with BS42020:2013 Section 11.1 covering at least the first five years after project completion as a minimum and including: 5.a Actions and responsibilities of relevant individuals prior to handover 5.b The ecological value and condition of the site at handover and how this is expected to develop and change over time 5.c Identification of opportunities for ongoing alignment with activities beyond the development project, which support the aims of BREEAM's Strategic Ecology Framework 5.d Identification and guidance to trigger appropriate remedial actions to address previously unforeseen impacts 5.e Clearly defined and allocated roles and responsibilities for delivering the plan 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)	2	2	2	Project team confirmed that long-term ecological management and maintenance is likely to be addressed. These credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Pollution Section					
Pol 01 Impact of refrigerants	Prerequisite 2. All systems with electric compressors comply with the requirements of BS EN 378:2016(207) (parts 2 and 3). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration systems code of practice. Impact of refrigerants Two credits 3. The direct effect life cycle CO₂ equivalent emissions (DELCO) of ≤100 CO₂-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. OR 4. All refrigerants used have a global warming potential (GWP) ≤10. OR One credit 5. Systems using refrigerants have a DELCO of ≤1000kgCO₂-eq/kW cooling and heating capacity. One credit - Leak detection 6. All systems are hermetically sealed or only use environmentally benign refrigerants OR 7. Where the systems are not hermetically sealed: 7.a Systems have: 7.a.i A permanent automated refrigerant leak detection system, that is robust and tested, and capable of continuously monitoring for leaks. OR 7.a.ii An inbuilt automated diagnostic procedure for detecting leakage is enabled. 7.b In the event of a leak, the system must be capable of automatically responding and managing the remaining refrigerant charge to limit loss of refrigerant	3	2	3	RW has provided initial DELCO calculations and a GWP of 46 has been calculated which should relate to two BREEAM credits. Confirmation regarding leak detection requirements is still outstanding. Two credits are likely to be achieved. One credit for leak detection may be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Pol 02 Local air quality	Up to two credits 1 All heating and hot water is supplied by non-combustion systems. For example, only powered by electricity. OR alternatively; 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 within BREEAM Technical Manual	2	2	2	Project team confirmed that all heating and hot water systems will be powered by electricity. Both credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Pol 03 Flood and surface water management	Prerequisite 1. An appropriate consultant is appointed to carry out and demonstrate the development's compliance with all criteria. Up to two credits - 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 One credit - Medium or high flood risk N/A Two credits - Surface water run-off Prerequisite for surface water run-off credits 5. Surface water run-off design solutions must be bespoke, i.e. they must take account of the specific site requirements and natural or man-made environment of and surrounding the site. The priority levels below must be followed, with justification given by the appropriate consultant where water is allowed to leave the site. – Priority Level 1 Water is collected for use in the development (e.g. rainwater harvesting) – Priority Level 2 Water is infiltrated into the ground – Priority Level 3 Water is discharged to surface water body – Priority Level 4 Water is discharged to the drainage system – Priority Level 5 Water is discharged to a combined sewer One credit - 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 predeveloped site. This should comply at the 1-year and 100-year return period events. ~~(N/A)~~ 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	3	3	3	The site is in a low flood risk zone and a site-specific FRA will be carried out. PW confirmed that all of the surface water run-off will be infiltrated into ground through SuDS as there are no surface water bodies or surface water drains near the site. Rainwater harvesting is unlikely to be used as it cannot guarantee storm water control (e.g. the storage capacity may be limited due to a recent storm) Three credits are likely to be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Pol 03 Flood and surface water management (continued)	One credit - 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 15). 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: 14.a The pre-development one-year peak flow rate 14.b The mean annual flow rate (Qbar) 14.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. One credit - Minimising watercourse pollution 17. There is no discharge from the developed site for rainfall up to 5 mm 18. Areas with a low risk source of watercourse pollution, an appropriate level of pollution prevention treatment is provided, using appropriate SuDS techniques. 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. 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. 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. 22. A comprehensive and up to date drainage plan of the site will be made available for the building or site occupiers. 23. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place. 24. All external storage and delivery areas are designed and detailed in accordance with the current best practice planning guidance.	2	1	2	PW confirmed that the run-off volume will not be greater post development. Drainage engineer needs to liaise with the landscape architect to determine whether appropriate level of pollution prevention treatment will be provided. One credit is likely to be achieved. One credit may potentially be achieved.

Credit title	Detailed Credit Requirements	Credits Available	Likely Credits	Potential Credits	Comments
Pol 04 Reduction of night time light pollution	One credit 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. 3. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. 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. 5. Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements	1	1	1	Project team confirmed that external lighting will be designed to minimise night time light pollution. Credit requirements should be added to the M&E specification. This credit is likely to be achieved.
Pol 05 Reduction of noise pollution	One credit 1 There are no noise-sensitive areas within the assessed building or within 800 m radius of the assessed site. OR 2 Where there are noise-sensitive areas within the assessed building or noise-sensitive areas within 800 m radius of the assessed site, a noise impact assessment compliant with BS 4142:2014(223) is commissioned. Noise levels must be measured or determined for: 2.a Existing background noise levels: 2.a.i at the nearest or most exposed noise-sensitive development to the proposed assessed site 2.a.ii including existing plant on a building, where the assessed development is an extension to the building 2.b Noise rating level from the assessed building. 3. The noise impact assessment must be carried out by a suitably qualified acoustic consultant. 4. The noise level from the assessed building, 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. 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.	1	1	1	Project team confirmed that this credit will be targeted. IB has provided comments on 17/02/21 related to a proposal from Acoustic Associates Sussex Ltd and additional actions needed. This credit is likely to be achieved.

APPENDIX A: About BREEAM Standard

BREEAM is the world's leading and most widely used environmental assessment method for buildings. It sets the standard for best practice in sustainable design and has become the de facto measure used to describe a building's environmental performance.

The aims and objectives of BREEAM are:

Aims of BREEAM

- To mitigate the impacts of buildings on the environment
- To enable buildings to be recognised according to their environmental benefits
- To provide a credible, environmental label for buildings
- To stimulate demand for sustainable buildings

Objectives of BREEAM

- To provide market recognition to low environmental impact buildings
- To ensure best environmental practice is incorporated in buildings
- To set criteria and standards surpassing those required by regulations and challenge the market to provide innovative solutions that minimise the environmental impact of buildings
- To raise the awareness of owners, occupants, designers and operators of the benefits of buildings with a reduced impact on the environment
- To allow organisations to demonstrate progress towards corporate environmental objectives

Building projects are assessed at the design and post-construction stages using a system of environmental issues grouped within the following categories:

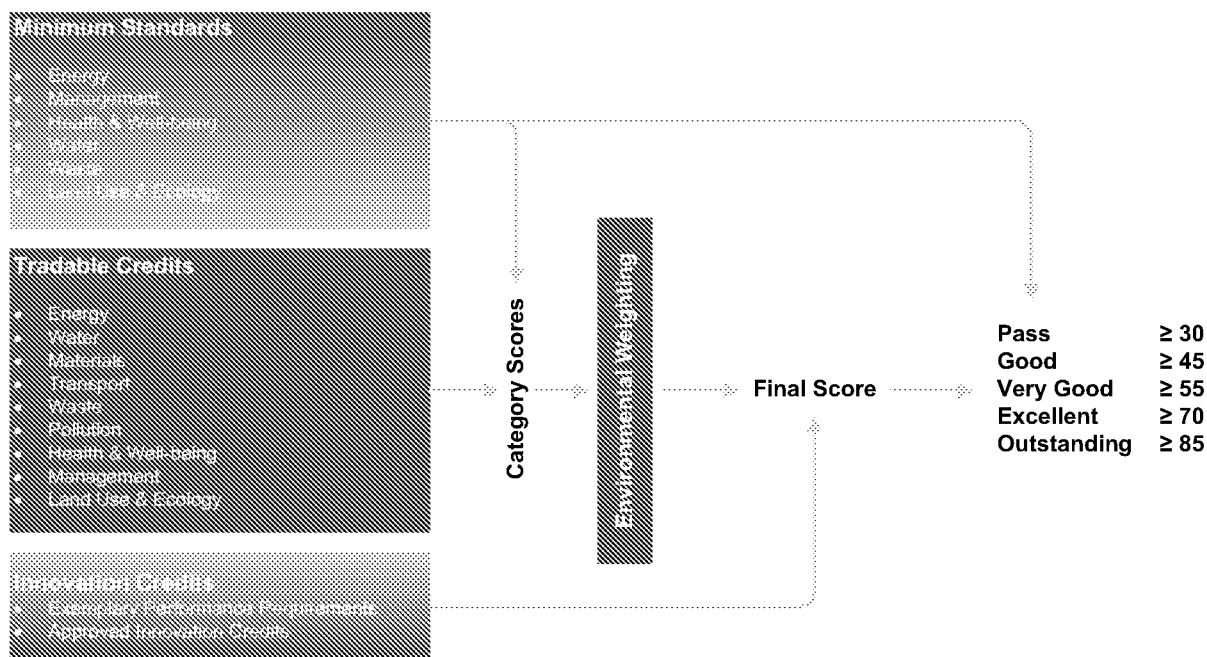
- | | |
|------------------------|----------------------|
| • Management | • Materials |
| • Health and Wellbeing | • Waste |
| • Energy | • Land Use & Ecology |
| • Transport | • Pollution |
| • Water | • Innovation |

The assessment of the building results in a final report and BRE Global BREEAM certificate detailing the performance of the assessed building against the environmental issues covered by Standard. The building's performance is expressed as a BREEAM rating of PASS, GOOD, VERY GOOD, EXCELLENT or OUTSTANDING.

BREEAM is developed, operated and maintained by BRE Global Ltd and the operation and direction of the method is overseen by an independent Sustainability Board, representing a wide cross-section of construction industry stakeholders. Further information about BREEAM, including copies of the BREEAM standards, can be found at www.breeam.org

BREEAM Scoring & Rating

The diagram and text below describes how BREEAM scores and rates an assessed building:



The BREEAM categories contain a number of environmental issues, which reflect the options available when designing, procuring and constructing a building.

BREEAM issues and credits

Tradable BREEAM issues

Each environmental issue has a set number of 'credits' available and these credits can be awarded where the building demonstrates that it complies with the requirements of that issue.

Minimum BREEAM standards

A number of issues within a category have set minimum standards, i.e. a minimum number of credits that must be achieved in order for a particular BREEAM rating level to be met.

Innovation credits

Innovation credits provide additional recognition for a building that innovates in the field of sustainable performance, above and beyond the level that is currently recognised and rewarded by standard BREEAM issues. Innovation credits are awarded for either complying with pre-defined BREEAM issue exemplary level requirements or through the appointment of a BREEAM Accredited Professional or Suitably Qualified Assessor or via application to BRE Global to have a particular building feature, system or process approved as 'Innovative'.

Environmental weightings, final score and BREEAM Rating

Once each BREEAM issue has been assessed the category percentage scores are determined (based on the number of credits achieved over those available within a category), and an environmental weighting applied (as shown below).

The weighted category scores are then totalled to give an overall score, and any additional score for innovation is added to give the final BREEAM score which is used to determine the BREEAM rating.

The environmental weightings are as follows:

Issue Category	Issue Weighting
Management	11%
Health and Wellbeing	14%
Energy	16%
Transport	10%
Water	7%
Materials	15%
Waste	6%
Land Use and Ecology	13%
Pollution	8%
Innovation	10%

The weighting factors have been derived from consensus based research with various groups such as government, material suppliers and lobbyists. This research was carried out by BRE to establish the relative importance of each environmental issue.

APPENDIX B: Further Guidance**MAN 01 – Stakeholder Consultation (interested parties) Minimum Consultation Content**

1. Functionality, build quality and impact (including aesthetics).
2. Provision of appropriate internal and external facilities (for future building occupants and visitors or users).
3. Management and operational implications.
4. Maintenance resources implications.
5. Impacts on the local community, e.g. local traffic or transportation impact.
6. Opportunities for shared use of facilities and infrastructure with the community or appropriate stakeholders.
7. Compliance with statutory (national or local) consultation requirements.
8. Energy use and sustainability measures.
9. Implementing principles and processes that deliver an inclusive and accessible design.

In the case of building types containing technical areas or functions, e.g. laboratories, workshops etc., minimum content also includes:

10. The end users' broad requirements for such facilities, including appropriate sizing, optimisation and integration of equipment and systems.

MAN 03 - Table 4.1 from BREEAM Technical Manual

Table 4.1 Responsible construction management items

Item	Requirement	Provision for compliance
Responsible construction management		
The principal contractor evaluates the risks (on site and off site), plans and implements actions to minimise the identified risks, covering the following, where appropriate:		
Vehicle movement		
a	Manage the construction site entrance to minimise the impacts (e.g. safety, disruption) arising from vehicles approaching and leaving the development footprint.	✓
b	Ensure the development footprint is accessible for delivery vehicles fitted with safety features (e.g. side under run protection) to remove or limit the need for on-street loading or unloading. Where on-street loading is unavoidable, this should be appropriately managed.	
c	Identify access routes to the development footprint, including for heavy vehicles to minimise traffic disruption and safety risks to others.	
Pollution management		
d	Minimise the risk of air, land and water pollution.	✓
e	Minimise the risks of nuisance from vibration, light and noise pollution.	
Tidiness		
f	Practices ensure the development footprint is safe, clean and organised at all times. This includes, but is not limited to, facilities, materials and waste storage.	✓
g	Ensure clear and safe access in and around the buildings at the point of handover.	✓
Health and wellbeing		
h	Provide processes and equipment required to respond to medical emergencies.	✓

Item	Requirement	Provision for compliance
i	The principal contractor identifies and implements initiatives to promote and maintain the health and wellbeing of all site operatives within the development footprint. This can be via site facilities, site management arrangements, staff policies etc.	
j	Establish management practices and facilities encouraging equality, fair treatment and respect of all site operatives.	✓
k	Provide secure, clean and organised facilities (e.g. changing and storage facilities) for site operatives within the development footprint.	
Security processes		
l	Minimise risks of the site becoming a focus for antisocial behaviour in the local community (e.g. robust perimeter fencing, CCTV, avoid creating dark corners etc.)	
Local community and environment		
See Definition on page 56. The principal contractor is responsible for ensuring:		
m	Aspects of the construction process that might impact the community are communicated regularly, ensuring that nuisance and intrusion are minimised.	
n	Ensure ongoing training is provided, and up to date, for personnel and visitors (covering items a to l, as appropriate.)	✓
o	The principal contractor ensures that site operatives are trained for the tasks they are undertaking (including any site-specific considerations).	✓
p	The fleet operators (see Definition on page 56), undertakes driver training and awareness to promote safety within the development footprint and off site.	
Visitor management		
The principal contractor ensures:		
q	The fleet operators, captures and investigates any road accidents, incidents and near misses and reports them back to the principal contractor. The principal contractor analyses these items.	
r	All visitor, workforce and community accidents, incidents and near misses are recorded and action is taken to reduce the likelihood of them reoccurring.	✓
s	Processes are in place to facilitate collecting and recording feedback from the community and to address any concerns related to the development footprint.	

HEA 02 – Indoor Air Quality - Table 5.11 from BREEAM Technical Manual

Table 5.11 : Emission criteria by product type

Product type	Formaldehyde Emission Classified Emissions (mg/m ²)	Category A (≤ 0.05) or Category B (≤ 0.08)	Testing method(s)	Additional comments
Paints and surface treatments				
≤ 0.06 mg/m ²	≤ 1.0 mg/m ²	≤ 0.001 mg/m ²	EN 16402 (47) or ISO 16000-9 (48) or EN 16516 (49) or CDPH Standard Method v1.1 (50)	Meet TVOC content limits (See Table 5.13 on page 97) Paints used in wet areas (e.g. bathrooms, kitchens, utility rooms) should protect against mould growth (See Methodology on page 95).
Formaldehyde emitting products (excluding paints)				
≤ 0.06 mg/m ² (Non-MDF) ≤ 0.08 mg/m ² (MDF)	≤ 1.0 mg/m ²	≤ 0.001 mg/m ²	ISO 16000-9 or EN 16516 or CDPH Standard Method v1.1 or EN 717-1 (formaldehyde emissions only) (51)	N/A
Forming and casting and filling (non-wood) compounds and materials (formal)				
≤ 0.06 mg/m ²	≤ 1.0 mg/m ²	≤ 0.001 mg/m ²	ISO 16500 (52) or ISO 16000-9 or EN 16516 or CDPH Standard Method v1.1	N/A
Glazing and laminated glass and window frames and seals				
≤ 0.06 mg/m ²	≤ 1.0 mg/m ²	≤ 0.001 mg/m ²	ISO 16000-9 or EN 16516 or CDPH Standard Method v1.1	N/A
Acoustic ceiling tiles (acoustic tiles) and acoustic panels				
≤ 0.06 mg/m ²	≤ 1.0 mg/m ²	≤ 0.001 mg/m ²	EN 13959 (Parts 1-4) (53) (54) (55) (56) or ISO 16000-9 or EN 16516 or CDPH Standard Method v1.1	N/A

* The emission limits in this table apply to the finished product, i.e. after any coating or other treatment process has been applied.

* Compliance with emission limits shall be demonstrated after 28 days in an emission test chamber or earlier as stipulated by the relevant testing requirements standard. The emission rate obtained from the chamber test method must be extrapolated to predict what the concentration would be in the air of the theoretical model or reference room (as detailed in the respective testing standard) and this extrapolated concentration compared with the emission limit in this table.

* Where test results for a product exceed the TVOC emission limit, compliance with the above requirements can still be achieved where the test results demonstrate an R-value ≤ 1 after 20 days.

HEA 04 – Thermal Comfort – Design for Future Comfort - Projected climate change environment

Dynamic thermal simulation software packages provide the facility for building designs to be assessed under external climatic conditions specific to geographic location. Industry standard weather data for the UK is available in the form of Test Reference Years (TRYs) and Design Summer Years (DSYs) provided by CIBSE (2016) (<https://www.cibse.org/weatherdata>). This weather data enables thermal analysis of building designs under current climatic conditions, yet no account is taken of the projected variations in weather data that will occur during the building's life cycle as a result of climate change. The following probabilistic DSY weather data files should be used to establish the projected climate change environment against which the design is evaluated:

Naturally ventilated buildings

- Time period: 2050s
- Emissions scenario: Medium (A1B)
- 50th percentile DSY 2 and DSY 3

Mechanically ventilated or mixed mode buildings

- Time period: 2020s
- Emissions scenario: High (A1F1)
- 50th percentile DSY 2 and DSY 3

The above weather files represent the minimum requirements to perform thermal modelling under a climate change scenario and subsequently demonstrate compliance. Where design teams feel that added consideration of building occupant risk or sensitivity to overheating is necessary, weather files can be used that exceed the minimum requirements outlined above. The time periods indicated above have been selected to represent the building services life cycle likely to be present in each building services strategy type. A shorter time period is chosen for mechanically ventilated or mixed mode building types due to consideration of mechanical servicing equipment life span (before major upgrade or replacement is required), and to avoid over-specification of plant which could lead to inefficient operation.

TRA 02 – Sustainable Transport Measures

Table 7.4 Sustainable public, private and active transport measures

Sustainable transport measures			
Assessment option	Public transport measures	Applicable building types	Points
1	1. The existing AI calculated in Tra 01 achieves the following: 2.4 for prison or MOD sites, rural location sensitive buildings, and other building group 3 2.8 for all other building types	All	1
2	2. Demonstrate an increase over the existing Accessibility Index through negotiation with local bus, train or tram	All	2
Sustainable transport measures			
	companies to increase the frequency of the local service provision for the development; OR 3. Demonstrate an increase over the existing Accessibility Index. This could be through provision of a diverted bus route, a new or enhanced bus stop, or other similar solutions. OR 4. Provide a dedicated service, such as a bus route or service (See Definitions).		3
3	5. Provide a public transport information system in a publicly accessible area, to allow building users access to up-to-date information on the available public transport and transport infrastructure. This may include signposting to public transport, cycling, walking infrastructure or local amenities.	All	1
Assessment option	Private transport measures	Applicable building types	Points
4	6. Provide electric recharging stations of a minimum of 3kW for at least 10% of the total car parking capacity for the development.	All	1
5	7. Set up a car sharing group or facility to facilitate and encourage building users to car share. 8. Raise awareness of the sharing scheme with marketing and communication materials. 9. Provide priority spaces for car sharers for at least 5% of the total car parking capacity for the development. 10. Locate priority parking spaces nearest the development entrance used by the sharing scheme participants.	All	1

Assessment option	Active travel measures	Applicable building types	Points
6	11. During preparation of the brief, the design team consults with the local authority (LA) on the state of the local cycling network and public accessible pedestrian routes, to focus on whichever the LA deems most relevant to the project, and how to improve it. 12. Agree and implement one proposition chosen with the local authority. The proposition supported by the development is additional to existing local plans and has a significant impact on the local cycling network or on pedestrian routes open to the public.	All	2
7	13. Install compliant cycle storage spaces to meet the minimum levels set out in Table 7.5 on the facing page.	All	1
8	14. Option 7 has been achieved. 15. Provide at least two compliant cyclists' facilities for the building users, (including pupils where appropriate to the building type) – see Definitions on page 194 for the scope of each compliant facility: – Showers – Changing facilities – Lockers – Drying spaces.	All	1

Sustainable Transport Measures			
9	Existing amenities: 16. At least three existing accessible amenities are present, see Table 7.6 on page 191, where relevant for a Building Group.	All	1
10	Enhanced amenities: 17. Ensure a minimum of one new accessible amenity, in accordance with Table 7.6 on page 191, for the relevant Building Group, is provided. OR 18. Ensure more than one new accessible amenity, in accordance with Table 7.6 on page 191 for the relevant Building Group, is provided.		2
			3
Assessment option	Alternative Transport Measures	Applicable building types	Points
11	19. Implement one site-specific improvement measure, not covered by the options already listed in this issue, in line with the recommendations of the travel plan. Submit this for review by BPE.	All	1-3

Table 7.3 Credits available relating to the A1 of the site and the number of points achieved

A1 0-25 points	A1 25-40 points	A1 40-45 points	Credit
1	1		1
2		1	2
3	2		3
4		2	4
5	3		5
6	4	3	6
7	5		7
8	6	4	8
9	7	5	9
10	8	6	10