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BREEAM 2018 Pre-assessment

Reading Community Church - 553 Oxford Road

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Newark (Head) Office:

Newark Beacon, Beacon Hill Office Park,
Cafferata Way, Newark, Notts, NG24 2TN.
Tel: 01636 653 055

London Office:

344-354 Gray's Inn Road, King's Cross,
London WC1X 8BP.
Tel: 0207 033 3757

Birmingham Office:

2nd Floor Quayside Tower, 252-260 Broad St,
Birmingham B1 2HF.
Tel: 0121 285 2785

info@mesbuildingsolutions.co.uk | www.mesbuildingsolutions.co.uk

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About MES Building Solutions

MES Building Solutions is an established consultancy practice specialising in providing building solutions throughout the UK.

We offer a full range of services for both residential and commercial buildings from small individual properties through to highly complex mixed use developments.

We are an industry leader in delivering a professional, accredited and certified service to a wide range of clients including architects, developers, builders, housing associations, the public sector and private householders.

Employing highly qualified staff, our team comes from a variety of backgrounds within the construction industry with combined knowledge of building design, engineering, assessment, construction, development, research and surveying.

We are renowned for our creative thinking and provide a high quality, honest and diligent service.

MES Building Solutions maintains its position at the forefront of changes in planning, building regulations and neighbourly matters, as well as technological advances. Our clients, large or small are therefore assured of a cost effective, cohesive and fully integrated professional service.

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SECTION 1- What is BREEAM?

BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's leading and most widely used environmental assessment method for buildings, with over 115,000 buildings certified and nearly 700,000 registered. 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. Credits are awarded in ten categories according to performance. These credits are then added together to produce a single overall score on a scale of Pass, Good, Very Good, Excellent and Outstanding. The operation of BREEAM is overseen by an independent Sustainability Board, representing a wide cross-section of construction industry stakeholders.

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

SECTION 2- Scope

Non-domestic BREEAM schemes can be used to assess the environmental impacts of a building in accordance with this scope document in England, Scotland, Wales and Northern Ireland. Assessments using UK BREEAM schemes can also be carried out in the Republic of Ireland, but it must be recognised that BREEAM is tailored to the UK's construction sector. No concessions are made in the schemes where the Republic of Ireland building standards and design and procurement practices differ from those in the UK.

The BREEAM New Construction scheme can be used to assess the environmental life cycle impacts of new non-domestic buildings at the design and construction stages. 'New Construction' is defined as development that results in a new standalone structure, or new extension to an existing structure, which will come into operation/use for the first time upon completion of the works. This BREEAM 2018 New Construction scheme is applicable to new non-domestic buildings in the United Kingdom only.

In terms of the application of the New Construction scheme, non-domestic buildings are defined in BREEAM as either standard or non-standard types. The standard type category includes buildings listed above against the commercial, public (non-housing) and multi-residential sectors. These are building types which BREEAM New Construction is specifically designed to assess and the assessment criteria tailored for. This standard category includes building types that in the past would have had their own stand-alone BREEAM scheme document, such as Offices, Retail, Industrial, Education, Healthcare, Multi-residential and so on.

Non-standard building types are those listed against the 'other buildings' sector and includes many types of building that, under previous version of BREEAM, would have been classified and assessed using the BREEAM Bespoke scheme. The non-standard building types listed against the 'other buildings' category now fall within the scope of the BREEAM 2018 New Construction scheme and therefore do not require separate tailored assessment criteria.

The BREEAM UK New Construction 2018 version can be applied to both complex and less complex building projects. This section provides guidance to assessors and project teams on the application of BREEAM to less complex i.e. simple building projects.

A Simple Building is defined as one where the building services are predominantly of limited capacity and local in their delivery, largely independent of other systems in the building fabric and avoid complex control systems.

Where the building includes complex services, systems or functions/facilities including, but not limited to those listed below, it cannot be defined or assessed as a Simple Building and a full BREEAM UK New Construction 2018 assessment should be carried out:

- Air-conditioning (with the exception of local split cooling systems, see Building Services section).
- Full mechanical ventilation, displacement ventilation, and complex passive ventilation (see Building Services section for guidance on permitted systems).
- Renewable energy sources, with the exception of on-site micro-generation technologies¹ or connection to existing community / district heating or cooling systems.

- Laboratories and buildings that contain either fume cupboards and/or safety cabinets and/or containment areas.
- Major water-consuming plant or functions such as swimming/hydrotherapy/research pools and/or vehicle wash/irrigation systems.
- Cold storage plant and enclosures, with the exception of domestic scale refrigeration
- Escalators and/or travelling walkways.

The list above is not exhaustive, but serves to indicate the types of services and systems that describe a more complex building solution and therefore would not be present within a simple building. Examples of buildings which could fall under the BREEAM UK New Construction definition of Simple Building (depending on the remit of the works) include: offices, educational and community buildings, GP surgeries, basic industrial units, and extensions to existing buildings.

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SECTION 3- Scoring & Rating

There are a number of elements that determine the BREEAM rating; these are as follows:

- BREEAM rating benchmarks
- BREEAM environmental weightings
- Minimum BREEAM standards
- BREEAM credits for Innovation

Each of these elements is described in the BREEAM 2018 new Construction Assessor manual; this includes guidance and examples describing how a BREEAM rating is calculated.

In addition, there are sections describing the conditions that must be met in order to award an assessed building a 'BREEAM Outstanding' rating, the highest achievable BREEAM rating.

Rating Benchmarks

The rating benchmarks for the 2018 version of BREEAM are outlined in table 2 below:

Table 2 BREEAM 2018 rating benchmarks

BREEAM RATING	% SCORE
UNCLASSIFIED	<30
PASS	≥30
GOOD	≥45
V GOOD	≥55
EXCELLENT	≥70
OUTSTANDING*	≥85

* Please note: there are additional criteria for achieving a BREEAM Outstanding rating. Please refer to the guidance below.

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 for a Simple Building are as follows:

Section	Available	
	Credits	Percent
Management	12	7.5%
Health and Wellbeing	16	16.5%
Energy	15	11.5%
Transport	12	11.5%
Water	8	7.5%
Materials	14	17.5%
Waste	10	7%
Land Use and Ecology	13	15%
Pollution	8	6%
Innovation	10	10%
Total	118	110.00%

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.

The following section describes some of the additional features a Simple Building may have. These descriptions can be used to support the classification of a building for the purpose of a BREEAM Simple Building Assessment.

SECTION 4- BREEAM Pre Assessment

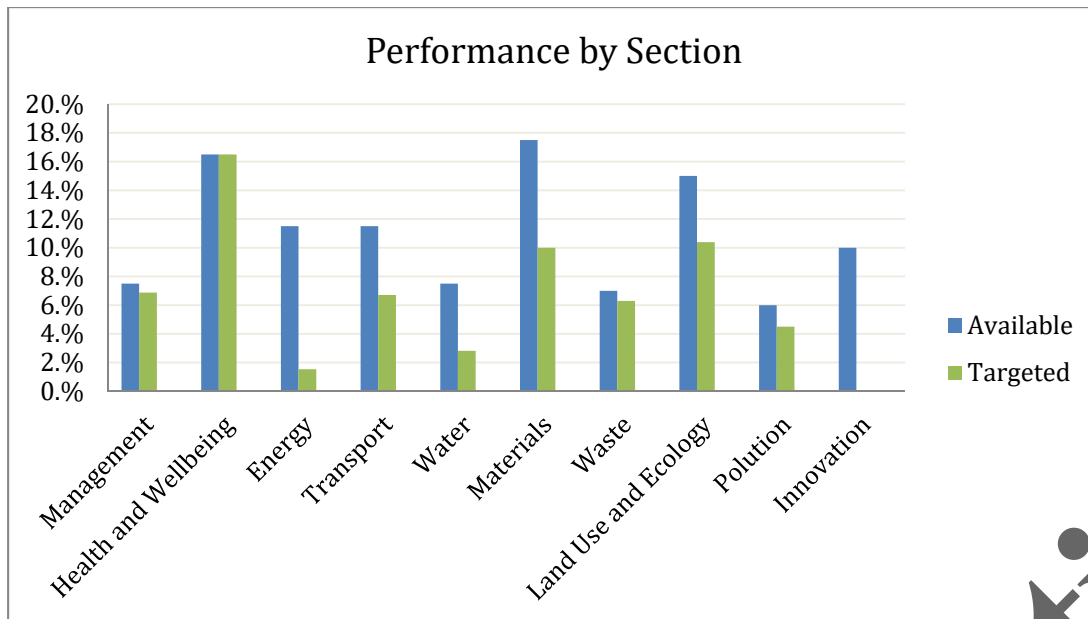
A BREEAM New Construction 2018 credit assessment has been completed by a licenced BREEAM Assessor on behalf of MES Building Solutions. The results suggest that a score of 65.61% (Very Good) is achievable with the current assumed specification and design.

The Pre-Assessment score summary can be seen below:

Overall Building Performance

Project name	The Gate, 553 Oxford Road
BREEAM Scheme	New Construction 2018 (Simple Buildings)
Assessment Type	Fully Fitted
BREEAM rating	Very Good
Total score	65.61%
Min. standards level achieved	Very Good Level

Section	Available		Targeted		Potential	
	Credits	Percent	Credits	Percent	Credits	Percent
Management	12	7.5%	11	6.88%	0	0%
Health and Wellbeing	16	16.5%	16	16.5%	0	0%
Energy	15	11.5%	2	1.53%	0	0%
Transport	12	11.5%	7	6.71%	0	0%
Water	8	7.5%	3	2.81%	0	0%
Materials	14	17.5%	8	10.00%	0	0%
Waste	10	7.0%	9	6.3%	0	0%
Land Use and Ecology	13	15.0%	9	10.38%	0	0%
Pollution	8	6.0%	6	4.5%	0	0%
Innovation	10	10%	0	0%	0	0%
Total	118	110.00%	71	65.61%	0	0.0%



A breakdown of the credits assessed as being achievable can be seen in the table on the following pages.

Credits assumed as achieved are shown in column 4, while those assessed as being potential additional credits are shown in **green** in column 5.

The relevant BREEAM 2018 New Construction Manual (Issue 1.0) page reference numbers are shown in the column 6 on the right.

Pre- Assessment Estimation				
Issue	Description	Credits		
		Available	Targeted	Potential
Man1	Project Brief & Design	2	2	0
Man 2	Life cycle costing & life cycle planning	1	1	0
Man 3	Responsible construction practices	4	3	0
Man 4	Commissioning & Handover	2	2	0
Man 5	Aftercare	3	3	0
Management Total		12	11	0

Hea 1	Visual comfort	4	4	0
Hea 2	Indoor air quality	3	3	0
Hea 3	Safe containment of laboratories	N/A	N/A	N/A
Hea 4	Thermal comfort	3	3	0
Hea 5	Acoustic performance	3	3	0
Hea 6	Security	1	1	0
Hea 7	Safe and healthy surroundings	2	2	0
Health & Wellbeing Total		12	11	0
Ene 1	Reduction in energy use and CO ₂ Emissions	9	0	0
Ene 2	Energy monitoring	2	1	0
Ene 3	External Lighting	1	1	0
Ene 4	Low Zero Carbon design	3	0	1
Ene 5	Energy efficient cold storage	N/A	N/A	N/A
Ene 6	Energy efficient transportation system	N/A	N/A	N/A
Ene 7	Energy efficient laboratory systems	N/A	N/A	N/A
Ene 8	Energy efficient equipment	N/A	N/A	N/A
Ene 9	Drying space	N/A	N/A	N/A
Energy Total		15	2	0
Tra 1	Transport assessment and travel plan	2	2	0
Tra 2	Sustainable transport measures	10	5	0
Transport Total		12	7	0

Wat 1	Water consumption	5	2	0
Wat 2	Water monitoring	1	0	0
Wat 3	Water leak detection & prevention	2	1	0
Wat 4	Water efficient equipment	N/A	N/A	N/A
Water Total		8	3	0
Mat 1	Environmental impacts from construction products	7	2	0
Mat 2	Environmental impacts from construction products EPD	1	1	0
Mat 3	Responsible Sourcing	4	3	0
Mat 4	Insulation	N/A	N/A	N/A
Mat 5	Designing for durability & resilience	1	1	0
Mat 6	Material efficiency	1	1	0
Materials Total		14	8	0
Wst 1	Construction waste management	5	4	0
Wst 2	Recycled and sustainably sourced aggregates	1	1	0
Wst 3	Operational waste	1	1	0
Wst 4	Speculative floor & ceiling finishes	N/A	N/A	N/A
Wst 5	Adaption to climate change	1	1	0
Wst 6	Design for disassembly and adaptability	2	2	0
Waste Total		10	9	0

Le 1	Site selection	2	1	0
Le 2	Identifying and understanding the risks and opportunities for the project	2	2	0
Le 3	Managing negative impacts on ecology	3	2	0
Le 4	Change and enhancement of ecological value	4	2	1
Le 5	Long term ecology management and maintenance	2	2	0
Land Use & Ecology Total		13	9	0
Pol 1	Impact of refrigerants	N/A	N/A	N/A
Pol 2	Local air quality	2	1	0
Pol 3	Flood and surface water management	5	4	0
Pol 4	Reduction of night time light pollution	1	1	0
Pol 5	Reduction of noise pollution	N/A	N/A	N/A
Pollution Total		8	6	0
Innovation Total		10	0	0

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Appendix:

BREEAM Calculator Tool Output

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Criteria Summary

Project:	20180821 - 553 Oxford Road Gospel Hall
Report:	Pre-Assessment Stage
Design Target:	Very Good - 65.61%

Management	Compliance Requirements	Available		Targeted	
		Credits	Percent	Credits	Percent
Man 01: Project brief and design > 1. Project delivery planning	One credit - Project delivery planning 1. Prior to completion of the Concept Design, the project delivery stakeholders (see Definitions) meet to identify and define for each key phase of project delivery: a. Roles b. Responsibilities c. Contributions. 2. Consider each one of the following items when defining roles, responsibilities and contributions for each key phase of the project: a. End user requirements b. Aims of the design and design strategy c. Particular installation and construction requirements or limitations d. Occupiers' budget and technical expertise in maintaining any proposed systems e. Maintainability and adaptability of the proposals f. Operational energy (see Assessment scope) g. Requirements for the production of project and end user documentation h. Requirements for commissioning, training and aftercare support. Where the building occupants are not known, the list of considerations above still applies. The appropriate project delivery stakeholder considers each item, based on likely scenarios of building occupancy. 3. The project team demonstrates how the project delivery stakeholders' contributions and the consultation process outcomes influence the following: a. Initial Project Brief b. Project Execution Plan (see Definitions) c. Communication Strategy (see Definitions) d. Concept Design.				
		1	0.63%	1	0.63%

Man 01: Project brief and design > 2. Stakeholder consultation	One credit - Stakeholder consultation (interested parties) 4. Prior to completion of the Concept Design, the design team consult with all interested parties (see Definitions) on matters that cover the minimum consultation content (see Methodology). 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 (see Definitions) give and receive consultation feedback. Additionally for Education, Healthcare, Law courts and Major transportation hub building types only: 7. An independent party (see Definitions) 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. Prerequisite for BREEAM Advisory Professional credits (Concept and Developed Design) 8. The project team, including the client, formally agree strategic performance targets (see Definitions) early in the design process, see Definitions, (with the support of the BREEAM AP where appointed).	1	0.63%	1	0.63%
Man 02: Life cycle cost and service life planning > 3. Capital cost reporting	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. See also Methodology below and Additional information.	1	0.63%	1	0.63%
Man 03: Responsible construction practices > 1. Pre-requisite: Legally harvested and traded timber	1. All timber and timber-based products used during the construction process of the project are 'legally harvested and traded timber' (see Definitions). For other materials there are no prerequisite requirements at this stage.	0	0%	0	0%
Man 03: Responsible construction practices > 3. Environmental management	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	1	0.63%	1	0.63%

	main operations. The EMS must: a. Be third party certified, to ISO 14001: 2015, EMAS (EU Eco-Management and Audit Scheme) or equivalent standard; OR b. In compliance with BS 8555: 2016 have: i. Appropriate structure ii. Reached implementation stage phase four 'implementation and operation of the environmental management system' 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.				
Man 03: Responsible construction practices > 5. Responsible construction management	One credit 7. Achieve items listed as required for one credit in Table 4.1 Responsible construction management items Two credits 8. Achieve criterion 7. 9. Achieve six additional items in table 4.1 Exemplary level criteria: one credit To achieve an exemplary performance credit: 23. Achieve all items in Table 4.1.	2	1.25%	1	0.63%
Man 03: Responsible construction practices > 6. Monitoring of construction site impacts : Pre-requisite	10. Assign responsibility to an individual for monitoring, recording and reporting energy use, water consumption and transportation data (where measured) resulting from all on-site construction processes (and dedicated off-site manufacturing) throughout the build programme. To ensure the robust collection of information, this individual must have the appropriate authority and responsibility to request and access the data required. Where appointed, the BREEAM AP could perform this role.	0	0%	0	0%
Man 03: Responsible construction practices > 6. Monitoring of construction site impacts : Utility consumption	One credit - Utility consumption Energy Consumption 11. Achieve criterion 10. 12. Set targets for the site	1	0.63%	1	0.63%

	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 via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking). Water consumption 15. Achieve criterion 10. 16. Set targets for the potable water consumption (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), i.e. consumption minus any recycled water use from the construction process via BREEAM Projects (for the purposes of potential future BREEAM performance benchmarking).				
Man 04: Commissioning and handover > 1. Commissioning testing schedule and responsibilities	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: a. Current Building Regulations b. BSRIA guidelines c. CIBSE guidelines d. Other appropriate standards (see Methodology) Exclude from the assessment any process or manufacture-related equipment specified as part of the project. However, include such equipment in cases where they form an integral part of the building HVAC services, such as some heat recovery systems.	1	0.63%	1	0.63%

	3. Where a building management system (BMS) is specified: a. Carry out commissioning of air and water systems when all control devices are installed, wired and functional b. Include physical measurements of room temperatures, off-coil temperatures and other key parameters, as appropriate, in commissioning results c. The BMS or controls installation should be running in auto with satisfactory internal conditions prior to handover d. All BMS schematics and graphics (if BMS is present) are fully installed and functional to user interface prior to handover e. Fully train the occupier or facilities team in the operation of the system. 4. Appoint an appropriate project team member to monitor and programme pre-commissioning, commissioning and testing. Where necessary include re-commissioning activities on behalf of the client. 5. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and the main programme of works. Allow the required time to complete all commissioning and testing activities prior to handover.				
Man 04: Commissioning and handover > 4. Handover	One credit - Handover 11. Prior to handover, develop two building user guides (see Methodology) for the following users: a. A non-technical user guide for distribution to the building occupiers. b. A technical user guide for the premises facilities managers. A draft copy is developed and discussed with users first (where the building occupants are known) to ensure the guide is most appropriate and useful to potential users. 12. Prepare two training schedules timed appropriately around handover and proposed occupation plans for the following users: a. A non-technical training	1	0.63%	1	0.63%

	schedule for the building occupiers. b. A technical training schedule for the premises facilities managers.				
Man 05: Aftercare > 1. Aftercare support	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: 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: i. Introduce the aftercare support available, including the content of the building user guide (where it exists) and training schedule and their content. ii. Present key information on the building including the design intent and how to use the building to ensure it operates as efficiently and effectively as possible. b. On-site facilities management training including: i. a walkabout of the building AND 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. c. Provide initial aftercare support for at least the first month of building occupation, e.g. weekly attendance on-site, to support building users and management (the level of frequency will depend on the complexity of the building and building operations). d. Provide longer term aftercare support for occupiers for at least the first 12 months from occupation, e.g. a helpline, nominated	1	0.63%	1	0.63%

	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.				
Man 05: Aftercare > 2. Commissioning - implementation	One credit - Commissioning - implementation 3. Complete the following commissioning activities over a minimum 12-month period, once the building becomes substantially occupied: a. Complex systems: The specialist commissioning manager will: i. Identify changes made by the owner or operator that might have caused impaired or improved performance. 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). iii. Where applicable, carry out testing during periods of extreme (high or low) occupancy. iv. Interview building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems. v. Produce monthly reports comparing sub-metered energy performance to the predicted one (see Ene 01 Reduction of energy use and carbon emissions). vi. Identify inefficiencies and areas in need of improvement. vii. Re-commission	1	0.63%	1	0.63%

	systems (following any work needed to serve revised loads), and incorporate any revisions in operating procedures into the operations and maintenance (O&M) manuals. b. Simple systems (naturally ventilated): The external consultant, aftercare team or facilities manager will: i. Review thermal comfort, ventilation, and lighting, at three, six and nine month intervals after initial occupation, either by measurement or occupant feedback. ii. Identify deficiencies and areas in need of improvement. iii. Re-commission systems and incorporate any relevant revisions in operating procedures into the O&M manuals.				
Man 05: Aftercare > 3. Post Occupancy Evaluation (POE)	One credit - Post-occupancy evaluation (POE) 4. The client or building occupier commits to carry out a POE exercise (see Definitions) one year after the building is substantially occupied. This gains comprehensive in-use performance feedback (see criterion 5.b.v below) 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 (see Definitions) carries out the POE covering: a. A review of the design intent and construction process (review of design, procurement, construction and handover processes). b. Feedback from a wide range of building users including facilities management on the design and environmental conditions of the building covering: i. Internal environmental conditions (light, noise, temperature, air quality)	1	0.63%	1	0.63%

	ii. Control, operation and maintenance iii. Facilities and amenities iv. Access and layout v. Energy and water consumption (see criterion 2 and Methodology) vi. Other relevant issues, where appropriate (see Definitions) 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. This requires an independent party to be appointed to carry out the POE as described in criterion 5. Evidence of the appointment of the independent party and schedule of responsibilities which fulfils the BREEAM criteria are acceptable to demonstrate compliance.				
Management Totals		12	7.50%	11	6.88%

Health and Wellbeing	Compliance Requirements	Available		Targeted	
		Credits	Percent	Credits	Percent
Hea 01: Visual comfort > 1. Control of glare from sunlight control	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. A glare control strategy designs out potential glare in all relevant building areas where risk has been identified. This should be achieved through building form and layout or building design measures. 3. The glare control strategy does not increase energy consumption used for lighting. This is achieved by: a. Maximising daylight levels in all weather, cloudy or sunny AND b. Ensuring the use or location of shading does not conflict with the operation of lighting control systems.	1	1.03%	1	1.03%
Hea 01: Visual comfort > 2. Daylighting	Up to two credits - Daylighting (building type dependent) 4. Daylighting criteria have been met using either of the following options: a. The relevant building areas meet good practice daylight factors and other	1	1.03%	1	1.03%

	criterion as outlined in Table 5.1 and Table 5.2 OR b. The relevant building areas meet good practice average and minimum point daylight illuminance criteria as outlined in Table 5.3. Additional alternative route for healthcare building types only: c. The relevant building areas meet the median daylight factors and minimum daylight factors in Table 5.4 (see Methodology). Exemplary level criteria To achieve an exemplary performance credit for daylighting: 15. Daylighting criteria have been met using either of the following options: a. Relevant building areas meet exemplary daylight factors and the relevant criteria in Table 5.8. b. Relevant building areas meet exemplary average and minimum point daylight illuminance criteria in Table 5.9.				
Hea 01: Visual comfort > 3. View out	One credit (or two credits healthcare buildings with inpatient areas) - View out 5. 95% of the floor area in 95% of spaces for each relevant building area is within 8m of an external wall. The external wall has a window or permanent opening that provides an adequate view out. 6. The window or opening must be $\geq 20\%$ of the surrounding wall area (refer to Definitions). Where the room depth is greater than 8m, compliance is only possible where the percentage of window or opening is the same as, or greater than, the values in Table 1.0 of BS 8206: part 2. 7. In addition, the building type criteria in Table 5.6 are applicable to view out criteria.	1	1.03%	1	1.03%
Hea 01: Visual comfort > 4. Internal and external lighting	One credit - Internal and external lighting levels, zoning and control Internal lighting 8. Internal lighting in all relevant areas of the building is designed to provide illuminance (lux) levels and colouring rendering index in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. Internal lighting should be appropriate to the tasks undertaken,	1	1.03%	1	1.03%

	accounting for building user concentration and comfort levels. 9. For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 7 sections 2.4, 2.13 to 2.15, 2.20, and 6.10 to 6.20. This gives recommendations highlighting: a. Limits to the luminance of the luminaires to avoid screen reflections. (Manufacturers' data for the luminaires should be sought to confirm this.) b. Any area where a surface is used to reflect light in to a space, such as uplighting, the recommendations refer to the luminance of the lit ceiling rather than the luminaire; a design team calculation is usually required to demonstrate this. c. Recommendations for direct lighting, ceiling illuminance, and average wall illuminance. External lighting 10. All external lighting located within the construction zone is specified in accordance with BS 5489-1:2013 Code for the practice for the design of road lighting. Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places. External lighting should provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. 11. Where no external light fittings are specified (either separate from or mounted on the external building façade or roof), the criteria relating to external lighting do not apply and the credit can be awarded on the basis of compliance with criteria 8 – 9.c above. Zoning and occupant control 12. Internal lighting is zoned to allow for occupant control. Zoning is in accordance with the criteria below for relevant areas present within the building: a. In office areas, zones of no more than four workplaces b. Workstations adjacent to windows or atria and other building areas separately zoned and controlled				
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	c. Seminar and lecture rooms: zoned for presentation and audience areas d. Library spaces: separate zoning of stacks, reading and counter areas e. Teaching space or demonstration area f. Whiteboard or display screen g. Auditoria: zoning of seating areas, circulation space and lectern area h. Dining, restaurant, café areas: separate zoning of servery and seating or dining areas i. Retail: separate zoning of display and counter areas j. Bar areas: separate zoning of bar and seating areas k. Wards or bedded areas: zoned lighting control for individual bed spaces and control for staff over groups of bed spaces l. Treatment areas, dayrooms, waiting areas: zoning of seating and activity areas and circulation space with controls accessible to staff. 13. Areas used for teaching, seminar or lecture purposes have lighting controls provided in accordance with CIBSE Lighting Guide 5. 14. In addition the building type criteria in Table 5.7 (where relevant). Exemplary level criteria To achieve an exemplary performance credit for Internal and external lighting levels, zoning and control: 16. Lighting in each zone can be manually dimmed by occupants down to 20% of the maximum light output using dimmer switches positioned in accessible locations. Dimming and control gear should avoid flicker and noise.				
Hea 02: Indoor air quality > 1. Pre-requisite	Pre-requisite - Indoor air quality (IAQ) plan 1. A site-specific indoor air quality plan has been produced and implemented in accordance with the guidance in Guidance Note GN06. The plan must be produced no later than the end of Concept Design. The objective of the plan is to facilitate a process that leads to design, specification and installation decisions and actions	0	0%	0	0%

	that minimise indoor air pollution during occupation of the building. The indoor air quality plan must consider the following: a. Removal of contaminant sources b. Dilution and control of contaminant sources: i. Where present, consideration is given to the air quality requirements of specialist areas such as laboratories c. Procedures for pre-occupancy flush out d. Third party testing and analysis e. Maintaining good indoor air quality in-use				
Hea 02: Indoor air quality > 2. Ventilation	One credit - Ventilation 2. The building has been designed to minimise the indoor concentration and recirculation of pollutants in the building as follows: a. Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation. b. Ventilation pathways are designed to minimise the ingress and build-up of air pollutants inside the building (see Methodology). c. Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 13779:2007 Annex A3. The specified filters should achieve a minimum Indoor Air Quality of IDA2. d. Areas of the building subject to large and unpredictable or variable occupancy patterns have carbon dioxide (CO2) or air quality sensors specified and: i. In mechanically ventilated buildings or spaces: sensors are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space. ii. In naturally ventilated buildings or spaces: sensors either have the ability to alert the building owner or manager when CO2	1	1.03%	1	1.03%

	levels exceed the recommended set point, or are linked to controls with the ability to adjust the quantity of fresh air, i.e. automatic opening windows or roof vents. e. For naturally ventilated or mixed mode buildings, the design demonstrates that the ventilation strategy provides adequate cross flow of air to maintain the required thermal comfort conditions and ventilation rates in accordance with CIBSE AM10.				
Hea 02: Indoor air quality > 3. Emissions from construction products	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. 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: Emission criteria byproduct type Exemplary level criteria To achieve one exemplary performance credit: 11. Three of the product types listed meet the emission limits, testing requirements and any additional requirements listed in Table 5.12. Where wood-based products are not one of the three selected product types, all wood-based products used for internal fixtures and fittings must be tested and classified as formaldehyde E1 class as a minimum	2	2.06%	2	2.06%
Hea 04: Thermal comfort > 1. Thermal modelling	One credit - Thermal modelling 1. Thermal modelling has been carried out using software in accordance with CIBSE AM11(71) Building Energy and Performance Modelling. 2. The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. For smaller and more basic building designs with less	1	1.03%	1	1.03%

	complex heating or cooling systems, an alternative less complex means of analysis may be appropriate (such methodologies must still be in accordance with CIBSE AM11). 3. The modelling demonstrates that: a. For air-conditioned buildings, summer and winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5; or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type). b. For naturally ventilated buildings: i. Winter operative temperature ranges in occupied spaces are in accordance with the criteria set out in CIBSE Guide A Environmental design, Table 1.5. Or other appropriate industry standard (where this sets a higher or more appropriate requirement or level for the building type). 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.				
Hea 04: Thermal comfort > 2. Design for future thermal	One credit - Design for future thermal comfort	1	1.03%	1	1.03%

comfort	5. Criteria 1 to 4 are achieved. 6. The thermal modelling demonstrates that the relevant requirements set out in criterion 3 above are achieved for a projected climate change environment (see Definitions). 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.				
Hea 04: Thermal comfort > 3. Thermal zoning and controls	One credit - Thermal zoning and controls 9. Criteria 1 to 4 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: 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. 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: i. User knowledge of building services ii. Occupancy type, patterns and room functions (and therefore appropriate level of control required) iii. How the user is likely to operate or interact with the systems, e.g. are they likely to open windows, access	1	1.03%	1	1.03%

	thermostatic radiator valves (TRV) on radiators, change air-conditioning settings etc. 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). 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. d. The need or otherwise for an accessible building user actuated manual override for any automatic systems.				
Hea 05: Acoustic performance 1. Sound insulation	Up to three credits - Acoustic performance for all building type except Residential institutions (short term and long term stay) 1. The building meets the appropriate acoustic performance standards and testing requirements defined in the relevant table below. These tables define criteria for the acoustic principles of: a. Sound insulation b. Indoor ambient noise level c. Room acoustics. OR 2. A suitably qualified acoustician (SQA) is appointed to define a bespoke set of performance requirements for all function areas in the building. The bespoke performance requirements use the three acoustic principles defined in criterion Hea 05 Acoustic performance - Criterion 1 above, setting out the performance requirements for each and the testing regime required. Up to four credits - Acoustic performance for Residential institutions (short term and long term stay) 3. The building meets the appropriate acoustic performance standards and testing requirements defined in	1	1.03%	1	1.03%

	the relevant table below. These tables define criteria for the acoustic principles of: a. Sound insulation b. Indoor ambient noise level c. Room acoustics.				
Hea 05: Acoustic performance > 2. Indoor ambient noise level	Up to three credits - Acoustic performance for all building type except Residential institutions (short term and long term stay) 1. The building meets the appropriate acoustic performance standards and testing requirements defined in the relevant table below. These tables define criteria for the acoustic principles of: a. Sound insulation b. Indoor ambient noise level c. Reverberation times. OR 2. A suitably qualified acoustician (SQA) is appointed to define a bespoke set of performance requirements for all function areas in the building. The bespoke performance requirements use the three acoustic principles defined in criterion Hea 05 Acoustic performance - Criterion 1 above, setting out the performance requirements for each and the testing regime required. Up to four credits - Acoustic performance for Residential institutions (short term and long term stay) 3. The building meets the appropriate acoustic performance standards and testing requirements defined in the relevant table below. These tables define criteria for the acoustic principles of: a. Sound insulation b. Indoor ambient noise level c. Reverberation times.	1	1.03%	1	1.03%
Hea 05: Acoustic performance > 3. Reverberation times	Up to three credits - Acoustic performance for all building type except Residential institutions (short term and long term stay) 1. The building meets the appropriate acoustic performance standards and testing requirements defined in the relevant table below. These tables define criteria for the acoustic principles of: a. Sound insulation b. Indoor ambient noise level c. Reverberation times. OR	1	1.03%	1	1.03%

	2. A suitably qualified acoustician (SQA) is appointed to define a bespoke set of performance requirements for all function areas in the building. The bespoke performance requirements use the three acoustic principles defined in criterion Hea 05 Acoustic performance - Criterion 1 above, setting out the performance requirements for each and the testing regime required. Up to four credits - Acoustic performance for Residential institutions (short term and long term stay) 3. The building meets the appropriate acoustic performance standards and testing requirements defined in the relevant table below. These tables define criteria for the acoustic principles of: a. Sound insulation b. Indoor ambient noise level c. Reverberation times.				
Hea 06: Security	One credit - Security of site and building 1. A Suitably Qualified Security Specialist (SQSS) conducts an evidence based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent). 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 in to 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. Exemplary level criteria To achieve an exemplary performance credit: 4. A compliant risk based security rating scheme has been used. The performance against the scheme has been confirmed by independent assessment and verification.	1	1.03%	1	1.03%
Hea 07: Safe and healthy	One credit - Safe access	1	1.03%	1	1.03%

surroundings > 1. Safe access	Where external site areas form part of the assessed development the following apply: 1. Dedicated and safe cycle paths are provided from the site entrance to any cycle storage, and connect to offsite cycle paths where applicable. 2. Dedicated and safe footpaths are provided on and around the site providing suitable links for the following: a. The site entrance to the building entrance, b. Car parks (where present) to the building entrance c. The building to outdoor space, and d. Connecting to off-site paths where applicable. 3. Pedestrian drop-off areas are designed off of, or adjoining to, the access road and should provide direct access to other footpaths. Where vehicle delivery access and drop-off areas form part of the assessed development, the following apply: 4. Delivery areas are not accessed through general parking areas and do not cross or share the following: a. pedestrian and cyclist paths b. outside amenity areas accessible to building users and general public. 5. There is a dedicated parking or waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff and visitor car parking. 6. Parking and turning areas are designed for simple manoeuvring according to the type of delivery vehicle likely to access the site, thus avoiding the need for repeated shunting.				
Hea 07: Safe and healthy surroundings > 2. Outside space	One credit - Outside space 7. There is an outside space providing building users with an external amenity area.	1	1.03%	1	1.03%
Health and Wellbeing Totals		16	16.50%	16	16.50%

Energy	Compliance Requirements	Available		Targeted	
		Credits	Percent	Credits	Percent
Ene 01: Reduction of energy use and carbon emissions > 1. Energy performance	Up to nine credits - Energy performance 1. Calculate an Energy Performance Ratio for New Constructions (EPR_{NC}). Compare the EPR_{NC} achieved with the benchmarks in Table 6.1 and award the corresponding number of	9	6.9%	0	0%

	BREEAM credits. Exemplary level criteria Up to two credits - Beyond zero net regulated carbon 6. The building achieves an EPR $NC \geq 0.9$ and zero net regulated CO₂ emissions (see Definitions). 7. Energy generation from on-site and near-site LZC sources is sufficient to offset carbon emissions from regulated energy use plus a percentage of emissions from unregulated energy use. 8. Award the exemplary credits based on the percentage of additional emissions from unregulated energy that are offset by LZC sources (see Table 6.2). Three credits - Carbon negative 9. The building is deemed carbon negative where > 100% (see Table 6.2) of carbon emissions from unregulated (and regulated) energy use are offset by energy generated from on-site and near-site LZC sources (see Definitions).				
Ene 02: Energy monitoring > 1. Sub-metering of end use categories	One credit - Sub-metering of end-use categories 1. Install energy metering systems so that at least 90% of the estimated annual energy consumption of each fuel is assigned to the end-use categories (see Methodology). 2. Meter the energy consumption in buildings according to the total useful floor area: a. If the area is greater than 1,000m², by end-use category with an appropriate energy monitoring and management system. b. If the area is less than 1,000m², use either: i. an energy monitoring and management system or ii. separate accessible energy sub-meters with pulsed or other open protocol communication outputs, for future connection to an energy monitoring and management system (see Definitions). 3. Building users can identify the energy consuming end uses, for example through labelling or data outputs.	1	0.77%	1	0.77%

Ene 02: Energy monitoring > 2. Sub-metering of high energy load and tenancy areas	One credit - Sub-metering of high energy load and tenancy areas 4. Monitor a significant majority of the energy supply with: a. An accessible energy monitoring and management system for: i. tenanted areas or ii. relevant function areas or departments in single occupancy buildings. OR b. Separate accessible energy sub-meters with pulsed or other open protocol communication outputs for future connection to an energy monitoring and management system for: i. tenanted areas or ii. relevant function areas or departments in single occupancy buildings. 5. Sub-meter per floor plate in large single occupancy or single tenancy buildings with one homogeneous function, for example hotel bedrooms, offices.	1	0.77%	0	0%
Ene 03: External lighting	One credit 1. No external lighting (which includes lighting on the building, at entrances and signs). OR 2. External light fittings within the construction zone with: a. Average initial luminous efficacy of no 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	0.77%	1	0.77%
Ene 04: Low carbon design > 1. Passive design : Passive design analysis	One credit - Passive design analysis 1. Achieve the first credit Hea 04 - One credit - Thermal modelling to demonstrate that the building design delivers appropriate thermal comfort levels in occupied spaces. 2. The project team analyses the proposed building design and development during Concept Design to identify opportunities for the implementation of passive design measures (see Passive design analysis). 3. Implement passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and	1	0.77%	0	0%

	energy consumption in line with the passive design analysis findings. 4. Quantify the reduced total energy demand and carbon dioxide (CO2) emissions resulting from the passive design measures.				
Ene 04: Low carbon design > 1. Passive design : Free cooling	One credit - Free cooling 5. Achieve the passive design analysis credit. 6. Include a free cooling analysis (see 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 the Free cooling analysis list.	1	0.77%	0	0%
Ene 04: Low carbon design > 2. Low or zero carbon technologies	One credit - Low zero carbon feasibility study 9. An energy specialist (see Definitions) completes a feasibility study (see Low and zero carbon feasibility study) by the end of the Concept Design. 10. Establish the most appropriate recognised local (on site or near site) low or zero carbon (LZC) energy sources for the building or development, (see Scope of LZC systems and how they are assessed), based on the feasibility study. 11. Specify local LZC technologies for the building or development in line with the feasibility study recommendations. 12. Quantify the reduced regulated carbon dioxide (CO2) emissions resulting from the feasibility study.	1	0.77%	0	0%
Energy Totals		15	11.50%	2	1.53%

Transport	Compliance Requirements	Available		Targeted	
		Credits	Percent	Credits	Percent
Tra 01: Transport assessment and travel plan	Two credits – Travel plan 1. During the feasibility and design stages, develop a travel plan based on a site-specific travel assessment or statement. 2. The site-specific travel assessment or statement covers as a minimum: a. Existing travel patterns and opinions of existing building or site users towards cycling and walking, identifying constraints and opportunities, if relevant b. Travel patterns and	2	1.92%	2	1.92%

	transport impact of future building users c. Current local environment for walkers and cyclists (accounting for visitors who may be accompanied by young children) d. Reporting of the number and type of existing accessible amenities, see Table 7.1 below, within 500m of the site. e. Disabled access (accounting for varying levels of disability and visual impairment). f. Calculation of the existing public transport Accessibility Index (AI), see Methodology on the next page g. Current facilities for cyclists 3. The travel plan includes proposals to increase or improve sustainable modes of transport and movement of people and goods during the building's operation and use, see Methodology on the next page. 4. If the occupier is known, involve them in the development of the travel plan. 5. Demonstrate that the travel plan will be implemented post construction and be supported by the building's management in operation.				
Tra 02: Sustainable transport measures	Pre-requisite 1. Achieve the Tra 01 Transport assessment and travel plan credits. Ten credits – Transport options implementation 2. Identify the sustainable transport measures, see Table 7.4. 3. Award credits according to the Accessible Index (AI) of the project, and the total number of points achieved for the options implemented, see Table 7.3.	10	9.58%	5	4.79%
Transport Totals		12	11.50%	7	6.71%

Water	Compliance Requirements	Available		Targeted	
		Credits	Percent	Credits	Percent
Wat 01: Water consumption	Up to five credits 1. Use the BREEAM Wat 01 calculator to assess the efficiency of the domestic water-consuming components. 2. Use the standard Wat 01 method (see Methodology on the facing page) to compare the water consumption (litres/person/day) for the assessed building against a	5	4.69%	2	1.88%

	baseline performance. Award BREEAM credits based upon Table 8.1. Where it is not possible to use the standard method, complete the assessment using the alternative Wat 01 method. 3. If a greywater or rainwater system (see Definitions) is specified, use its yield in L/person/day to offset potable water demand from components. 4. If a greywater or rainwater system is specified and installed: a. Greywater systems in compliance with BS 8525-1:2010 Greywater Systems - Part 1 Code of Practice. b. Rainwater systems in compliance with BS 8515:2009+A1:2013 Rainwater Harvesting Systems - Code of practice. Achieve Wat 02 - Criterion 6, if you intend to pursue a post occupancy stage certification. Additionally for Healthcare building types only: 5. If applicable, 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 (see 2.0). Additionally for Prison building types only: 6. Sanitary components specified within a prison cell have a volume controller specified on the individual fittings or water supply to each cell (see Definitions). Exemplary level criteria To achieve an exemplary performance credit: 7. Achieve criteria 1 to 4 on the previous page (and if applicable 5 or 6 above). 8. The water consumption (litres/person/day) for the assessed building achieves the 65% improvement described as exemplary performance in Table 8.1.				
Wat 02: Water monitoring	One credit 1. Specify a water meter on the mains water supply to each building. This includes instances where water is supplied via a borehole or other private source. 2. For water-consuming plant or building areas consuming 10% or more of the building's total water demand: a. Fit easily accessible	1	0.94%	0	0%

	sub-meters OR b. Install water monitoring equipment integral to the plant or area. 3. For each meter (main and sub): a. Install a pulsed or other open protocol communication output AND b. Connect it to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption. If there is no BMS system in operation at Post-Construction stage, award credits provided that the system used enables connection when the BMS becomes operational. 4. In buildings with swimming pools, or large water tanks and aquariums, fit separate sub-meters on the water supply of the above and any associated changing facilities (toilets, showers etc.) irrespective of their water consumption levels. 5. In buildings containing laboratories, fit a separate water meter on the water supply to any process or cooling loop for 'plumbed-in' laboratory process equipment, irrespective of their water consumption levels. Additionally for those pursuing a post-occupancy stage certification: 6. The water monitoring strategy used enables the identification of all water consumption for sanitary uses as assessed under Wat 01 (litres/person/day), if a post occupancy stage certification is sought.				
Wat 03: Water leak detection > 1. Leak detection system	One credit - Leak detection system 1. Install a leak detection system capable of detecting a major water leak: a. On the utilities water supply within the buildings, to detect any major leaks within the buildings. AND 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:	1	0.94%	0	0%

	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. 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. 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. d. Programmable to suit the owner's or occupier's water consumption criteria. e. Where applicable, designed to avoid false alarms caused by normal operation of large water consuming plant such as chillers. Where there is physically no space for a leak detection system between the utilities water meter and the building, alternative solutions can be used, provided that a major leak can still be detected.				
Wat 03: Water leak detection > 2. Flow control devices	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.	1	0.94%	1	0.94%
Water Totals		8	7.50%	3	2.81%

Materials	Compliance Requirements	Available		Targeted	
		Credits	Percent	Credits	Percent
Mat 01: Environmental impacts from construction products - Building life cycle assessment (LCA) > 1. Superstructure	Up to six credits – Superstructure Comparison with the BREEAM benchmark during Concept Design (offices, industrial and retail buildings only) Superstructure (offices, industrial and retail buildings (except for Simple Buildings and where Notes 1.1 and 1.2 apply)) 1. During the Concept Design, demonstrate the environmental performance of the building as follows: a. Carry out a building LCA on of the superstructure design using either the BREEAM Simplified Building LCA tool or an IMPACT Compliant LCA tool according to the methodology (see Methodology). b. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for (that includes external material or product specifications).				
	Comparison with the BREEAM benchmark during Technical Design (offices, industrial and retail buildings only) 2. During Technical Design, demonstrate the environmental performance of the building as follows: a. As criterion 1.a b. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Technical Design. Where a project has not achieved criterion 1, criterion 2 may still be achieved. Option appraisal during Concept Design (all building types) 3. For offices, industrial and retail building types, achieve criterion 1 (except where Notes 1.0, 1.1 and 1.2 apply). 4. During Concept Design, identify opportunities for reducing environmental impacts as follows: a. Carry out building LCA options appraisal of 2 to 4 significantly different superstructure design options (applicable to the Concept Design stage, see Methodology). b. Use a building LCA tool	6	7.5%	2	2.5%

	that is recognised by BREEAM (as suitable for assessing superstructure during Concept Design) according to the methodology (see Methodology). c. For each design option, fulfil the same functional requirements specified by the client and all statutory requirements (to ensure functional equivalency). d. Integrate the LCA options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document. e. Record the following in the Mat 01/02 Results Submission Tool: The differences between the design options; the design option selected by the client to be progressed beyond Concept Design; the reasons for selecting it and the reasons for not selecting the other design options. f. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for (that includes external material or product specifications). If the building LCA tool recognised by BREEAM and used for criteria 3 to 5 (and 6 to 9, if pursued) is not an IMPACT Compliant LCA tool and criteria 1 to 2 are applicable, then the BREEAM Simplified Building LCA tool (or an IMPACT Compliant LCA tool) shall be used for criteria 1 to 2. Options appraisal during Technical Design (all building types) 5. During Technical Design identify opportunities for reducing environmental impacts as follows: a. Carry out building LCA options appraisal of 2 to 3 significantly different superstructure design options (based on the selected Concept Design option and as applicable to the Technical Design stage). b. Use a building LCA tool that is recognised by BREEAM (as suitable for assessing superstructure				
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	during Technical Design) according to the methodology. c. As criteria 4.c to 4.e above. Where an options appraisal summary document was produced during Concept Design, update it to include the Technical Design options. d. Submit the Mat 01/02 Results Submission Tool to BRE at the end of Technical Design. Where a project has not achieved criteria 3 and 4, criterion 5 may still be achieved. Exemplary level criteria To achieve exemplary performance credits One credit – Core building services options appraisal during Concept Design (all building types) 8. Criteria 3 to 4 are achieved. 9. During Concept Design identify opportunities for reducing environmental impacts as follows: a. Carry out building LCA options appraisal of at least 3 significantly different core building services design options. b. Use a building LCA tool that is recognized by BREEAM (as suitable for assessing core building services during Concept Design) according to the methodology. c. As criteria 4.c to 4.f. One credit – LCA and LCC alignment (all building types) 10. Achieve criteria 3 to 5. 11. Achieve Elemental LCC plan and Component Level LCC options appraisal credits (Man 02 Life cycle cost and service life planning). 12. Include design options appraised for criteria 3 to 4 (and 6 to 7 and 8 to 9, if pursued) during Concept Design in Assessment scope - The elemental LCC plan. 13. Include the design options appraised for criterion 5 during Concept Design in the 'Component level LCC option appraisal' (in Man 02 Life cycle cost and service life planning). 14. Integrate the aligned LCA and LCC options appraisal activity within the wider design decision-making process. Record this in an options appraisal summary document including the relevant cost				
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	information from the 'elemental LCC plan' and 'Component level LCC option appraisal'. One credit – Third party verification (all building types) 15. Criteria 1 to 7 (as applicable to the building type) are achieved. 16. A suitably qualified third party (see Definitions) carries out the building LCAs or produces a report verifying the building LCAs accurately represent the designs under consideration during Concept Design and Technical Design with reference to the requirements of criteria 1 to 7 (and 8 to 14 if pursued). 17. For each LCA option, itemise the findings of the verification checks made by the suitably qualified third party in the report including, as a minimum, the quality requirements show in Table 9.4. 18. Include details of the suitably qualified third party's relevant skills and experience and a declaration of their third party independence from the project client and design team in the report.				
Mat 01: Environmental impacts from construction products - Building life cycle assessment (LCA) > 2. Substructure	One credit – Substructure and hard landscaping options appraisal during Concept Design (all building types) 6. Criteria 3 and 4 are achieved. 7. During Concept Design identify opportunities for reducing environmental impacts as follows: a. Carry out building LCA options appraisal of a combined total of at least six significantly different substructure or hard landscaping design options (at least two shall be substructure and at least two shall be hard landscaping). b. Using a building LCA tool that is recognized by BREEAM (as suitable for assessing substructure and hard landscaping during Concept Design) according to the methodology. c. As criteria 4.c to 4.f	1	1.25%	0	0%
Mat 02: Environmental impacts from construction products - Environmental Product Declarations (EPD)	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.	1	1.25%	1	1.25%

	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.				
Mat 03: Responsible sourcing of construction products > 1. Pre-requisite	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) (see Definitions). Compliance with criterion 1 is a minimum requirement for achieving any BREEAM rating. There are no pre-requisite requirements for other materials.	0	0%	0	0%
Mat 03: Responsible sourcing of construction products > 2. Enabling sustainable procurement	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: a. Be in place before Concept Design. b. Include sustainability aims, objectives and strategic targets to guide procurement activities. Note: targets do not need to be achieved for the credit to be awarded but justification must be provided for targets that are not achieved. c. Include a requirement for assessing the potential to procure construction products locally. There must be a policy to procure construction products locally where possible. d. Include details of procedures in place to check and verify the effective implementation of the sustainable procurement plan. In addition, if the plan is applied to several sites or adopted at an organisational level it must: e. Identify the risks and opportunities of procurement against a broad range of social, environmental and economic issues following the process set out in BS ISO20400:2017.	1	1.25%	1	1.25%
Mat 03: Responsible sourcing of construction products > 3. Measuring responsible sourcing	Up to 3 credits - Measuring responsible sourcing 3. Use the Mat 03 calculator tool and methodology to determine the number of credits achieved	3	3.75%	2	2.5%

	for the construction products specified or procured. Credits are awarded in proportion to the scope of the assessment and the number of points achieved, as set out in Table 9.10.				
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, see Table 9.14. If none are available, use BS 7543:2015 as the default appropriate standard 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	1	1.25%	1	1.25%

	and repair in the building's design. 4. Design the roof and façade to prevent water damage, ingress and detrimental ponding. See Table 9.14 for an example list of relevant industry durability and quality standards.				
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. See Table 9.15 a. Preparation and Brief b. Concept Design c. Developed Design d. Technical Design e. Construction 2. Develop and record the implementation of material efficiency, see Table 9.15 below, during a. Developed Design b. Technical Design c. Construction 3. Report the targets and actual material efficiencies achieved.	1	1.25%	1	1.25%
Materials Totals		14	17.50%	8	10.00%

Waste	Compliance Requirements	Available		Targeted	
		Credits	Percent	Credits	Percent
Wst 01: Construction waste management > 1. Pre-demolition audit	One credit - Pre-demolition audit 1. Complete a pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolished. This must be used to determine whether refurbishment or reuse is feasible and, in the case of demolition, to maximise the recovery of material for subsequent high grade or value applications. The audit must cover the content of Pre-demolition audit scope and: a. Be carried out at Concept Design stage (RIBA Stage 2) by a competent person (see Definitions); prior to strip-out or demolition works; b. Guide the design, consider materials for reuse and set targets for waste management; c. Engage all contractors in the process of maximising high grade reuse and recycling opportunities. d. Compare actual waste arisings and waste management routes used	1	0.7%	1	0.7%

	with those forecast and investigate significant deviations from planned targets. 2. Make reference to the audit in the resource management plan (RMP) (see Definitions).				
Wst 01: Construction waste management > 3. Construction resource efficiency - Simple Buildings : Resource Management Plan	One credit - Simple buildings - Construction resource efficiency 12. Produce a Resource Management Plan (RMP) with the aim of minimising and monitoring waste.	1	0.7%	1	0.7%
Wst 01: Construction waste management > 3. Construction resource efficiency - Simple Buildings : RMP measurements and reporting	Two credits - Simple buildings - RMP measurements and reporting 13. Meet compliance with criterion 12. 14. Waste management procedures recorded in the RMP and implemented. Measure and report: a. Construction waste generated by the project in m³ or tonnes per 100m² gross internal floor area, excluding demolition and excavation waste. b. The proportion of construction waste diverted from landfill, i.e. reused, recycled or recovered. Exemplary level criteria - Simple buildings To achieve an exemplary performance credit: 16. Achieve the first three construction resource efficiency credits. 17. Record the source of the waste arisings of the non-hazardous construction waste measured or monitored by associating the waste with project work packages (see Methodology). 18. Meet or improve on the BREEAM exemplary level benchmark (Table 10.2) for the diversion from landfill of generated non-hazardous construction and demolition waste.	2	1.4%	2	1.4%
Wst 01: Construction waste management > 4. Diversion of resources from landfill	One credit - Diversion of resources from landfill 5. Meet, where applicable, the diversion from landfill benchmarks in Table 10.2 for non-hazardous construction waste and demolition and excavation waste generated. 6. Sort waste materials into separate key waste groups as per Table 10.3, either on-site or through a licensed contractor for recovery.	1	0.7%	0	0%
Wst 02: Use of recycled and sustainably sourced aggregates	Pre-requisite 1. If demolition occurs on site,	1	0.7%	1	0.7%

	to encourage the reuse of site-won material on site, when demolition occurs, complete a pre-demolition audit of any existing buildings, structures or hard surfaces to be demolished in accordance with Wst 01 Criterion 1 and Criterion 2. One credit - Project Sustainable Aggregate points 2. Identify all aggregates uses and type on the project Table 10.5 and Table 10.6. 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. Identify 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. The corresponding number of BREEAM credits will be awarded as shown in Table 10.4 Exemplary level criteria To achieve an exemplary performance credit: 7. The Project Sustainable Aggregate Points score meets or exceeds the exemplary level performance benchmark in Table 10.4.				
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	1	0.7%	1	0.7%

	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. Additionally for healthcare buildings only 3. The specified or installed operational waste facilities are compliant with the relevant NHS guidelines for that part of the UK. Additionally for multi-residential buildings with self-contained dwellings or bedsits only 4. Provide three internal storage containers for each dwelling or bedsit with: a. A minimum total capacity of 30 litres b. No individual container smaller than 7 litres c. All containers in a dedicated non-obstructive position d. Storage containers for recycling in addition to non-recyclable waste storage. 5. Provide home composting facilities and a home composting information leaflet within the kitchen area or communal space for each self-contained dwelling or bedsit. Additionally for multi-residential buildings with individual bedrooms and communal facilities only 6. Meet criteria 4.a and 4.b for self-contained dwellings or bedsits for every six bedrooms. 7. Locate recyclable storage in a dedicated, unobstructive position in communal kitchens or other appropriate communal space. 8. Provide home composting facilities and a home composting information leaflet within the kitchen area or communal space. 9. Provide a minimum of 10 litres of internal storage for compostable waste.				
Wst 05: Adaptation to climate change	One credit - Resilience of structure, fabric, building services and renewables installation	1	0.7%	1	0.7%

	1. Conduct a climate change adaptation strategy appraisal by the end of Concept Design using: a. A systematic risk assessment to identify the impact of expected extreme weather conditions arising from climate change on the building over its projected life cycle. The assessment covers the installation of building services and renewable systems, as well as structural and fabric resilience aspects and includes (see Methodology below): i. Hazard identification ii. Hazard assessment iii. Risk estimation iv. Risk evaluation v. Risk management. 2. Develop recommendations or solutions based on the climate change adaptation strategy appraisal, before or during or prior to 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. Exemplary level criteria – Responding to climate change Achievement of the following criteria demonstrates a holistic approach to the design and construction of the building's life cycle to mitigate against the impacts of climate change. To achieve an exemplary performance credit: 4. Meet criteria 1 to 3 above. 5. Meet the criteria or achieve credits of the assessment issues given in Table 10.11				
Wst 06: Design for disassembly and adaptability > 1. Recommendations	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 (see Methodology) by the end of Concept Design. 2. Develop recommendations or solutions (see Methodology) based on the study (criterion 1	1	0.7%	1	0.7%

	above), during or prior to Concept Design, that aim to enable and facilitate disassembly and functional adaptation.				
Wst 06: Design for disassembly and adaptability > 2. Implementation	One credit - Disassembly and functional adaptability – Implementation 3. Achieve criteria 1 and 2 4. Provide an update, during Technical Design, on: 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. b. Changes to the recommendations and solutions during the development of the Technical Design. 5. Produce a building adaptability and disassembly guide to communicate the characteristics allowing functional adaptability and disassembly to prospective tenants.	1	0.7%	1	0.7%
Waste Totals		10	7.00%	9	6.30%

Land Use and Ecology	Compliance Requirements	Available		Targeted	
		Credits	Percent	Credits	Percent
LE 01: Site selection > 1. Previously occupied land	One credit - Previously occupied land 1. At least 75% of the proposed development's footprint is on an area of land which has previously been occupied (see Definitions).	1	1.15%	1	1.15%
LE 01: Site selection > 2. Contaminated land	One credit - Contaminated land 2. A contaminated land professional's site investigation, risk assessment and appraisal has deemed land within the site to be affected by contamination. The site investigation, risk assessment and appraisal have identified: a. The degree of contamination b. The contaminant sources or types c. The options for remediating sources of contamination which present an unacceptable risk. 3. The client or principal contractor confirms that remediation of the site will be carried out in accordance with the remediation strategy and its implementation plan as	1	1.15%	0	0%

	recommended by the contaminated land professional (see Definitions).				
LE 02: Identifying and understanding the risks and opportunities for the project > 1. Assessment route selection	Pre-requisite - Assessment route selection 1. An assessment route (see Definitions) for the project has been determined using BREEAM Guidance Note GN34 BREEAM Ecological Risk Evaluation Checklist. 2. The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site.	0	0%	0	0%
LE 02: Identifying and understanding the risks and opportunities for the project > 2. Survey and evaluation	Survey and evaluation (Route 1) 3. Completion of the BREEAM Ecological Risk Evaluation Checklist indicates Assessment route 1 can be used as the assessment (See Methodology). Note: for Route 1, two credits are available overall for LE 02 but a maximum of one credit can be awarded where all criteria are met. Survey and evaluation (Route 2) 4. An appropriate individual is appointed at a project stage that ensures early involvement in site configuration and, where necessary, can influence strategic planning decisions. 5. Prior to the completion of the preparation and brief, an appropriate level of survey and evaluation (see Assessment route 2: For sites where complex ecological systems are likely to be present) has been carried out to determine the ecological baseline of the site taking account of the zone of influence, to establish: a. Current and potential ecological value and condition of the site, and related areas within the zone of influence. b. Direct and indirect risks to current ecological value c. Capacity and feasibility for enhancement of the ecological value of the site and, where relevant, areas within the zone of influence. 6. Data are collected and shared with project team to inform the site preparation, design or construction works.	1	1.15%	1	1.15%
LE 02: Identifying and understanding the risks and opportunities for the project > 3. Determining the ecological outcomes for the site	Determining the ecological outcomes for the site (Routes 1 and 2) 7. Survey and evaluation criteria (criteria 3-6) relevant to	1	1.15%	1	1.15%

	the chosen route have been achieved. 8. During Concept Design, the project team liaise and collaborate with representative stakeholders to identify and consider ecological outcome for the sites (appropriate to the scale and type of development) for the project 9. When determining the ecological outcome for the site, this must involve the identification, appraisal and selection of specific solutions and measures sufficiently early to influence key project planning decisions. This must be done in accordance with the following hierarchy of action: a. avoidance b. protection c. reduction or limitation of negative impacts d. on site compensation and, e. enhancement, considering the capacity and feasibility for enhancement within the site, or where viable, off-site. 10. Following this the optimal ecological outcome for the site is selected after liaising with representative stakeholders and the project team. Note: for Route 1, two credits are available overall for LE 02, but a maximum of one credit can be awarded where all criteria are met. Exemplary Level criteria To achieve one exemplary performance credit: 11. Achieve criteria 8 to 10. 12. When determining the optimal ecological outcome for the site consider, in addition to those outlined in criteria 8 to 10, the wider site sustainability-related activities and the potential for ecosystem service related benefits. See Methodology for a list of the minimum areas for consideration. 13. Achieve the credits of the assessment issues outlined below: a. Hea 07 - Both credits b. Pol 03 - Achieve credits for 'Surface water run-off' and 'Minimising watercourse pollution' c. Pol 05				
LE 03: Managing negative impacts on ecology > 1. Pre-requisite	Pre-requisite – Identification and understanding the risks and opportunities for the site 1. LE 02 has been achieved.	0	0%	0	0%

	2. The client or contractor has confirmed that compliance is monitored against all relevant UK, and EU or International legislation relating to the ecology of the site.				
LE 03: Managing negative impacts on ecology > 2. Planning, liaison, implementation and data	One credit – Planning, liaison and implementation 3. Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes at an early enough stage to influence the concept design or design brief. 4. Site preparation and construction works have been planned for and are implemented at an early project stage to optimise benefits and outputs. 5. The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented solutions, and measures have been selected (see Assessment scope), during site preparation and construction works.	1	1.15%	1	1.15%
LE 03: Managing negative impacts on ecology > 3. Managing negative impacts of the project	One credit - Managing negative impacts of the project (Route 1) 6. Negative impacts from site preparation and construction works have been managed accordingly to the hierarchy (see Methodology) and no net impact has resulted. Note: for Route 1, three credits are available overall for LE 03, but up to a maximum of two credits can be awarded where all criteria are met. Up to two credits – Managing negative impacts of the project (Route 2) 7. Negative impacts from site preparation and construction works have been managed according to the hierarchy (see Assessment route 2: For sites where complex ecological systems are likely to be present) and either: a. No overall loss of ecological value has occurred (2 credits) OR b. The loss of ecological value has been limited as far as possible (1 credit)	2	2.31%	1	1.15%
LE 04: Change and enhancement of ecological value > 1. Pre-requisite	Pre-requisite - Identifying and understanding the risks and opportunities for the project 1. LE 03 has been achieved. Including the following, specific to the aims of this issue:	0	0%	0	0%

	a. Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes b. Site preparation and construction works have been planned for and implemented at an early enough project stage to optimise benefits and outputs. 2. The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site.				
LE 04: Change and enhancement of ecological value > 2. Enhancement of ecology	One credit - Enhancement of ecology (Route 1) 3. The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented solutions and measures based on recommendations from recognised 'local' ecological expertise, specialist input and guidance to inform the adoption of locally relevant ecological solutions and measures which enhance the site. 4. Data collated is provided to the local environmental records centres nearest to, or relevant for, the site. Note: for Route 1, three credits are available overall for LE 04 but a maximum of one credit can be awarded where all criteria are met. Up to three credits - Enhancement of ecology (Route 2) 6. Credits are awarded on a scale of 1 to 3, based on the calculation of the change in ecological value occurring as a result of the project. This must be calculated in accordance with the process set out in either GN 35 - BREEAM, CEEQUAL, HQM Ecology Assessment Issues – Route 1 or GN 36 - BREEAM, CEEQUAL, HQM Ecology Assessment Issues – Route 2 (whichever is applicable to the project).	3	3.46%	1	1.15%
LE 04: Change and enhancement of ecological value > 3. Liaison, implementation and data collation	One credit - Liaison, implementation and data collation (Route 2) 5. The project team liaising and collaborating with representative stakeholders, taking into consideration data collated and shared, have implemented the solutions and	1	1.15%	1	1.15%

	measures selected in a way that enhances ecological value in the following order: a. On site, and where this is not feasible, b. Off site within the zone of influence.				
LE 05: Long term ecology management and maintenance > 1. Pre-requisite	Pre-requisite - Roles and responsibilities, implementation, statutory obligations 1. The client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. 2. Where pursued, LE 04 has been achieved, including the following specific aims of this issue: a. Roles and responsibilities have been clearly defined, allocated and implemented to support successful delivery of project outcomes. b. Site preparation and construction works have been planned for and implemented at a stage that is sufficiently early in the project to optimise benefits and outputs.	0	0%	0	0%
LE 05: Long term ecology management and maintenance > 2. Liaison, monitoring implementation, evolving management and maintenance solutions	One credit - Planning, liaison, data, monitoring and review management and maintenance 3. The project team liaise and collaborate with representative stakeholders, taking into consideration data collated and shared, on solutions and measures implemented to: a. monitor and review implementation and the effectiveness. b. develop and review management and maintenance solutions, actions or measures. 4. In support of the above and to help ensure their continued relevance over the period of the project the following should be considered: a. Monitoring and reporting of on the ecological outcomes for site implemented at the design and construction stage b. Monitoring and reporting of outcomes and successes from the project c. Arrangements for the ongoing management of landscape and habitat connected to the project (on and, where relevant,	1	1.15%	1	1.15%

	off site) d. Maintaining the ecological value of the site and its relationship or connection to its zone of influence e. Maintaining the site in line with the any sustainability linked activities, e.g. ecosystems benefits (LE 02). f. Remedial or other management actions are carried out which relate to those identified in LE 02, LE 03 and LE 04. 5. As part of the tenant or building owner information supplied, include a section on Ecology and Biodiversity to inform the owner or occupant of local ecological features, value and biodiversity on or near the site. Note: for Route 1, two credits are available overall for LE 05, but a maximum of one credit can be awarded where all criteria are met.				
LE 05: Long term ecology management and maintenance > 3. Landscape and ecology management plan (or similar) development	One credit - Landscape and ecology management plan (or similar) development 6. Landscape and ecology management plan, or similar, is developed in accordance with BS 42020:2013 covering as a minimum the first five years after project completion and includes: a. Actions and responsibilities, prior to handover, to give to relevant individuals b. The ecological value and condition of the site over the development life. c. Identification of opportunities for ongoing alignment with activities external to the development project and which supports the aims of BREEAM's Strategic Ecology Framework d. Identification and guidance s to trigger appropriate remedial actions to address previously unforeseen impacts e. Clearly defined and allocated roles and responsibilities. 7. The landscape and management plan or similar is updated as appropriate to support maintenance of the ecological value of the site. Note: for Route 1, two credits are available overall for LE 05,	1	1.15%	1	1.15%

	but a maximum of one credit can be awarded where all criteria are met.				
Land Use and Ecology Totals		13	15.00%	9	10.38%

Polution	Compliance Requirements	Available		Targeted	
		Credits	Percent	Credits	Percent
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. The measurements must be provided by manufacturers, following the labelling requirements of the European directive 2009/125/EC. No credits can be awarded for Pol 02 if any of the combustion appliances are not covered in Table 12.4 below and Table 12.5. 3. Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels set in Table 1.21 and Table 1.22	2	1.5%	1	0.75%
Pol 03: Flood and surface water management > 2. Flood resilience	Two credits - Low flood risk 2. A site-specific flood risk assessment (FRA) confirms the development is in a flood zone that is defined as having a low annual probability of flooding. The FRA takes all current and future sources of flooding into consideration (see Sources of flooding). One credit - Medium or high flood risk 3. A site-specific FRA confirms the development is in a flood zone that is defined as having a medium or high annual probability of flooding and is not in a functional floodplain. . The FRA must take all current and future sources of flooding into consideration (see Sources of flooding). For smaller sites refer to Level of detail required in the FRA for smaller sites, which overrides criterion 2 above. 4. To increase the resilience and resistance of the development to flooding, one of the following must be achieved: a. The ground level of the building and access to both the building and the site, are designed (or zoned) so they are at least 600mm above the design	2	1.5%	2	1.5%

	flood level of the site's flood zone (see 600mm threshold). b. The final design of the building and the wider site reflects the recommendations made by an appropriate consultant in accordance with the hierarchy approach outlined in section 5 of BS 8533:2011.				
Pol 03: Flood and surface water management > 4. Surface water run-off - Simple Buildings	For 'simple buildings', the criteria below should be applied to award one or two credits. Alternatively two credits and an Exemplary credit is awarded where criteria 5-15 are achieved. Two credits - Simple buildings - Surface water run-off 24. Either of the following criteria is met: a. There is a decrease in the impermeable area by 50% or more, from the pre-existing impermeable hard surfaces. b. All run-off from the roof, including new and existing parts of the building, has been managed on-site using source control methods. This must be achieved for rainfall depths up to 5mm. OR One credit - Simple buildings - Surface water run-off 25. Either of the following criteria is met: a. There is no increase in the impermeable surfaces as a result of the new construction; OR b. If there is an increase in the impermeable surface as a result of the new construction then the following must be met: i. Hard standing areas: additional (or equivalent area of) hardstanding must be permeable or be provided with on-site SuDS to allow full infiltration of the additional volume. The permeable hardstanding must include all pavements and public rights of way, car parks, driveways and nonadoptable roads. Small garden paths which will drain	2	1.5%	1	0.75%

	onto a naturally permeable surface can be excluded. ii. Building (new-build or extension): for an increase in building footprint, extending onto any previously permeable surfaces, the additional run-off caused by the area of the new construction must be managed on site using an appropriate SuDS technique for rainfall depths up to 5 mm.				
Pol 03: Flood and surface water management > 5. Minimising watercourse pollution	One credit - Minimising watercourse pollution 16. There is no discharge from the developed site for rainfall up to 5mm (confirmed by the appropriate consultant). 17. Areas with a low risk source of watercourse pollution have an appropriate level of pollution prevention treatment is provided, using appropriate SuDS techniques. 18. Areas with a high risk of contamination or spillage of substances such as petrol and oil, have separators (or an equivalent system) are installed in surface water drainage systems. 19. Chemical or liquid gas storage areas have a means of containment fitted to the site drainage system (i.e. shut-off valves). This is to prevent the escape of chemicals to natural watercourses in the event of a spillage or bunding failure. 20. All water pollution prevention systems have been designed and installed in accordance with the recommendations of documents such as the SuDS manual (227) 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. 21. A comprehensive and up to date drainage plan of the site will be made available for the building or site occupiers. 22. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS must be in place. 23. All external storage and delivery areas are designed and	1	0.75%	1	0.75%

	detailed in accordance with the current best practice planning guidance.				
Pol 04: Reduction of night time light pollution	One credit 1. External lighting pollution has been eliminated through effective design that removes the need for external lighting. This does not adversely affect the safety and security of the site and its users. OR alternatively, where the building does have external lighting, one credit can be awarded as follows: 2. The external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the Institute of Lighting Professionals (ILP) Guidance notes for the reduction of obtrusive light, 2011. Buildings 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	0.75%	1	0.75%
Pollution Totals		8	6.00%	6	4.50%

Innovation	Compliance Requirements	Available		Targeted	
		Credits	Percent	Credits	Percent
Inn 01: Innovation	Up to a maximum of 10 credits are available in aggregate from a combination of the following: Exemplary level of performance in existing BREEAM issues 1. Where the building demonstrates exemplary performance by meeting defined exemplary level performance criteria in one or more of following BREEAM assessment issues: a. Man 01 Project brief and design (Simple buildings only) b. Man 03 Responsible construction practices c. Hea 01 Visual comfort d. Hea 02 Indoor air quality e. Hea 06 Security f. Ene 01 Reduction of energy use and carbon	10	10%	0	0%

	emissions g. Wat 01 Water consumption h. Mat 01 Environmental impacts from construction products - Building life cycle assessment (LCA) i. Mat 03 Responsible sourcing of construction products j. Wst 01 Construction waste management k. Wst 02 Use of recycled and sustainably sourced aggregates l. Wst 05 Adaptation to climate change m. LE 02 Identifying and understanding the risks and opportunities for the site n. Pol 03 Flood and surface water management (Simple buildings only). Please refer to the relevant BREEAM issue within this scheme document for details of the exemplary level performance assessment criteria. Approved innovations 2. One innovation credit can be awarded for each innovation application approved by BRE Global, where the building complies with the criteria defined within an approved innovation application form.				
Man 01: Project brief and design > 1. BREEAM Advisory Professional (Concept Design) - Simple Buildings	Assessment criteria See compliance requirements for Man 01	1	1%	0	0%
Man 01: Project brief and design > 2. BREEAM Advisory Professional (Developed Design) - Simple Buildings	Assessment criteria See compliance requirements for Man 01	1	1%	0	0%
Man 03: Responsible construction practices > 1. Responsible construction management	Assessment criteria See compliance requirements for Man 03	1	1%	0	0%
Man 03: Responsible construction practices > 2. Transportation of construction materials and waste - Simple Buildings	Assessment criteria See compliance requirements for Man 03	1	1%	0	0%
Hea 01: Visual comfort > 1. Daylighting	Assessment criteria See compliance requirements for Hea 01	1	1%	0	0%
Hea 01: Visual comfort > 2. Internal and external lighting	Assessment criteria See compliance requirements for Hea 01	1	1%	0	0%
Hea 02: Indoor air quality	Assessment criteria See compliance requirements for Hea 02	1	1%	0	0%
Hea 06: Security	Assessment criteria See compliance requirements for Wat 01	1	1%	0	0%
Ene 01: Reduction of energy use and carbon emissions > 1.	Assessment criteria See compliance requirements	3	3%	0	0%

Energy performance	for Ene 01				
Ene 01: Reduction of energy use and carbon emissions > 2. Prediction of operational energy consumption : Post-occupancy stage	Assessment criteria See compliance requirements for Ene 01	2	2%	0	0%
Ene 01: Reduction of energy use and carbon emissions > 2. Prediction of operational energy consumption : Energy modelling and reporting - Simple Buildings	Assessment criteria See compliance requirements for Ene 01	2	2%	0	0%
Wat 01: Water consumption	Assessment criteria See compliance requirements for Wat 01	1	1%	0	0%
Mat 01: Environmental impacts from construction products - Building life cycle assessment (LCA) > 1. Core building services options appraisal during Concept Design	Assessment criteria See compliance requirements for Mat 01	1	1%	0	0%
Mat 01: Environmental impacts from construction products - Building life cycle assessment (LCA) > 2. LCA and LCC alignment	Assessment criteria See compliance requirements for Mat 01	1	1%	0	0%
Mat 01: Environmental impacts from construction products - Building life cycle assessment (LCA) > 3. Third party verification	Assessment criteria See compliance requirements for Mat 01	1	1%	0	0%
Mat 03: Responsible sourcing of construction products	Assessment criteria See compliance requirements for Mat 03	1	1%	0	0%
Wst 01: Construction waste management > 2. Construction resource efficiency - Simple Buildings	Assessment criteria See compliance requirements for Mat 01	1	1%	0	0%
Wst 02: Use of recycled and sustainably sourced aggregates	Assessment criteria See compliance requirements for Wst 02	1	1%	0	0%
Wst 05: Adaptation to climate change	Assessment criteria See compliance requirements for Wst 05	1	1%	0	0%
LE 02: Identifying and understanding the risks and opportunities for the site	Assessment criteria See compliance requirements for LE 02	1	1%	0	0%
Pol 03: Flood and surface water management	Assessment criteria See compliance requirements for Pol 03	1	1%	0	0%
Innovation Totals (Up to a maximum of 10 credits)		10	10.00%	0	0.00%
Overall Totals		118	110.00 %	71	65.61 %