A2Dominion Developments Limited
156 West End Lane

BREEAM Pre-Assessment Report

28th September 2016

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BREEAM Pre-Assessment Report

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2	Final For Planning submission	YP	MH	28/09/2016

Disclaimer

Contents

Executive Summary

This report outlines the performance of the 156 West End Lane development as measured against the Building Research Establishment Environmental Assessment Method (BREEAM) 2014. This pre-assessment report is prepared to support the full planning application in response to the local, regional and national legislation.

The non-domestic elements of the development will not be fitted-out, thus the units are assessed as shell and core 'speculative' new buildings. The present document outlines the pre-assessment of the flexible non-residential space, (assumed use class A1) which is representative of the proposed development non-domestic elements of the development.

The BREEAM pre-assessment demonstrates that the flexible non-residential space unit, the new employment floor-space and the community meeting room of the proposed development could achieve an 'Excellent' rating with an indicative score of 70.34%, subject to the submission by the design team of a complete package of compliant evidence to the licensed BREEAM Assessor. Thus, the proposed development accords with the high standards of sustainability as prescribed by the London Plan (2015) and London Borough of Camden planning policies.

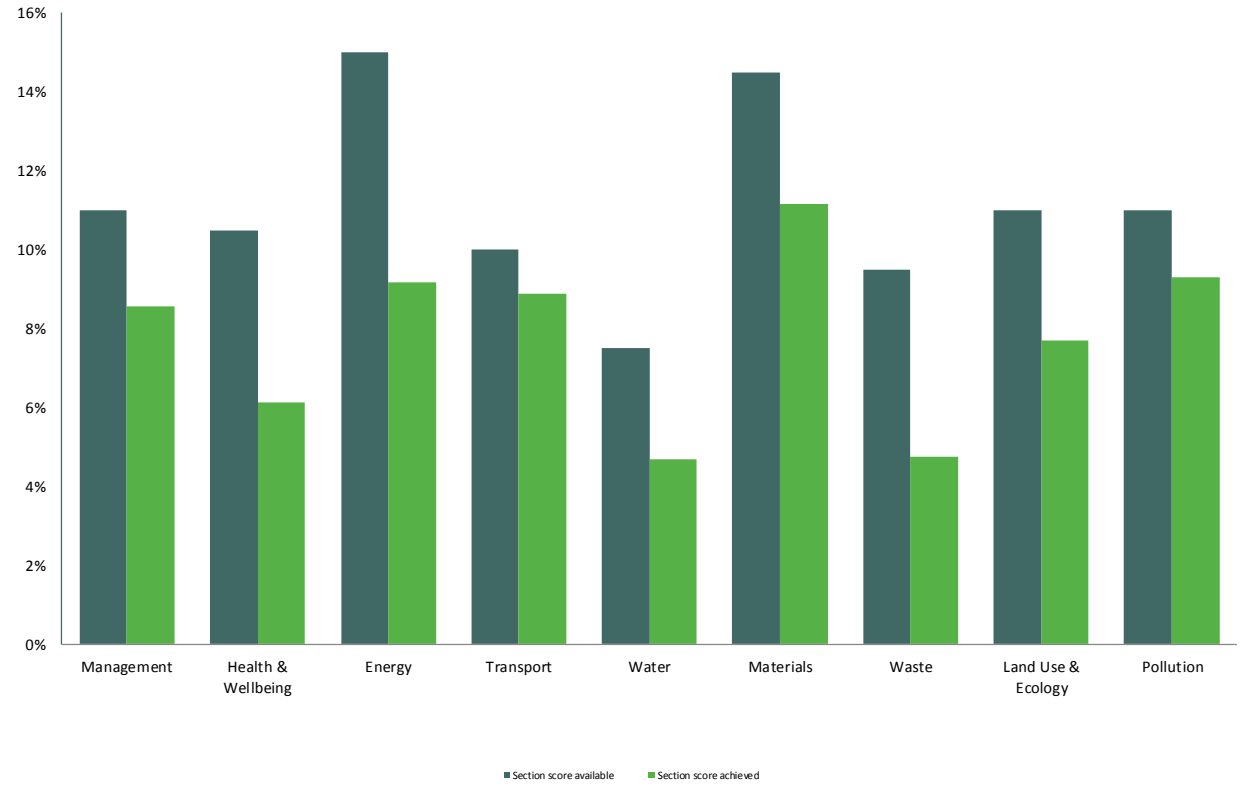
Building name	156 West End Lane
Indicative building score (%)	70.34%
Indicative BREEAM rating	Pre-Assessment result indicates potential for BREEAM 'Excellent' rating
Indicative minimum standards level achieved	Pre-Assessment result indicates the minimum standards for 'Excellent' level

The credits listed within this document are based on information received to date and include the design proposals set out alongside the Energy Strategy, the Design and Access Statement and other supplemental environmental reports submitted with the planning application

Please note that the actual credits targeted may be subject to change as detailed design progresses. Hence, this live document together with the BREEAM score is subject to alteration should the relevant criteria not be met or should further credits become achievable.

The relevant design team members should review and assess each of the credits that have been awarded to confirm and provide comments upon their validity.

Building Performance by Environment Section



Environmental Section	No. credits available	Indicative no. credits Achieved	% credits achieved	Section Weighting	Indicative Section Score
Management	18	14	77.8%	11.0%	8.6%
Health & Wellbeing	12	7	58.3%	10.5%	6.1%
Energy	18	11	61.1%	15.0%	9.2%
Transport	9	8	88.9%	10.0%	8.9%
Water	8	5	62.5%	7.5%	4.7%
Materials	13	10	76.9%	14.5%	11.2%
Waste	8	4	50.0%	9.5%	4.8%
Land Use & Ecology	10	7	70.0%	11.0%	7.7%
Pollution	13	11	84.6%	11.0%	9.3%
Innovation	10	0	0.0%	N/A	0

1. Introduction

1.1 Background

Silver has been instructed by A2Dominion Developments Limited (A2Dominion) to prepare a BREEAM Pre-assessment report focusing on the proposed sustainability strategy for the development of 156 West End Lane. The BREEAM pre-assessment report is prepared to support the planning application in response to the local, regional and national legislation and should be read.

The main aim of this report is to provide an assessment of the sustainability credentials for the proposed development against the BRE Environmental Assessment Methodology standards.

The information provided in this report should be treated as indicative at this stage of the development process and should be used to inform the planning application for the proposed development.

1.2 Description of the Development

The proposals are for demolition of all existing buildings and redevelopment of the site to provide 164 mixed-tenure homes (Use Class C3), new floor space for town centre uses (Use Classes A1, A2, A3, D1 or D2), new employment floor space (including four dedicated units for start-up businesses) (Use Class B1), a community meeting room and new and improved public open spaces, together with associated new landscaping, on-site access, servicing and disabled car parking.

The residential element proposes 164 mixed tenure units, with 50% of the residential floor area allocated for affordable housing, with a mix of affordable rent and shared ownership. The affordable rented element includes a high proportion of family units.

2. Planning Requirements

2.1 Local Policy – Camden Local Plan

2.1.1 Camden Planning Guidance 3 - Sustainability

Camden Council prepared the Camden Planning Guidance 3 to support the energy and sustainability policies in the Local Development Framework (LDF). This guidance forms a Supplementary Planning Document (SPD) which is an additional "material consideration" in planning decisions.

The Camden Planning Guidance covers a range of topics as well as sustainability (such as design, housing, amenity and planning obligations). This guidance provides information on ways to achieve carbon reductions and more sustainable developments. It also highlights the Council's requirements and guidelines which support the relevant Local Development Framework (LDF) policies:

- CS13 - Tackling climate change through promoting higher environmental standards
- DP22 - Promoting sustainable design and construction
- DP23 – Water

The Camden Planning Guidance 3 also suggests some minimum requirements standards for three BREEAM categories which are;

- Energy 60%
- Water 60%
- Materials 40%

2.1.2 Development Plan

Development Plan Policy DP22 - Promoting sustainable design and construction

The Council will require developments to incorporate sustainable design and construction measures. Schemes must:

- demonstrate how sustainable development principles have been incorporated into the design and proposed implementation; and
- incorporate green or brown roofs and green walls wherever suitable.

The Council will promote and measure sustainable design and construction by:

- expecting new build housing to meet Code for Sustainable Homes Level 3 by 2010 and Code Level 4 by 2013 and encouraging Code Level 6 (zero carbon) by 2016;
- expecting non-domestic developments of 500sqm of floor space or above to achieve "very good" in BREEAM assessments and "excellent" from 2016 and encouraging zero carbon from 2019.

The Council will require developments to be resilient to climate change by ensuring schemes include appropriate climate change adaptation measures, such as:

- summer shading and planting;
- limiting run-off;

- reducing water consumption;
- reducing air pollution; and
- not locating vulnerable uses in basements in flood-prone areas.

3. Sustainability Assessment Method and Objectives

3.1 BREEAM Assessment Method

BREEAM (Building Research Establishment's Environmental Assessment Method) is a standard assessment method established by the Building Research Establishment (BRE) and used to assess the environmental impact of non-domestic buildings.

Overall BREEAM covers a range of issues and credits which are awarded where a building achieves a benchmark performance. BREEAM is essentially a voluntary standard although central government and some planning authorities require compliance.

The design objective for the non-residential units is to achieve BREEAM 'Excellent' and fulfil other relevant sustainability policy requirements. The non-residential floor space will be developed as non-fitted flexible floor space for a range of uses and therefore, will be assessed as Shell and Core 'speculative' building project.

BREEAM assesses the sustainability rating of new non-residential developments against 10 categories/sections of sustainable design. The 10 categories of sustainability under the BREEAM include:

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

Each section includes a number of environmental issues (51 in total) which are assessed against performance targets and awarded one or more credits accordingly. The total number of percentage points establishes the level or rating for the building.

The BREEAM uses a scale of 'Pass', 'Good', 'Very Good', 'Excellent' and 'Outstanding' to assess the overall level of the environmental performance of new non-residential developments.

Table 3.1 BREEAM rating benchmarks

BREEAM Level	% Points Required
Outstanding	≥ 85
Excellent	≥ 70
Very Good	≥ 55

Good	≥ 45
Pass	≥ 30
Unclassified	< 30

At least 70 percentage BREEAM points will need to be achieved through sustainable design to achieve BREEAM 'Excellent' rating. The BREEAM points will need to be achieved by accomplishing mandatory and tradable credits (standards).

To maintain a flexible system BREEAM adopts a 'balanced score-card' approach to the assessment and rating of building performance. This means that, to achieve a particular level of performance the majority of BREEAM credits can be traded, i.e. non-compliance in one area can be off-set through compliance in another to achieve the target BREEAM rating.

However, to ensure that performance against fundamental environmental issues is not overlooked in pursuit of a particular rating, BREEAM sets minimum standards of performance in key areas. To achieve a BREEAM rating, the minimum percentage score must be achieved (Table 3.1) and the minimum standards (number of credits) applicable to that rating level, Table 3.2 below.

Table 3.2 Minimum BREEAM standards for Excellent rating level

BREEAM issue	Excellent
Man 03: Responsible construction practices	One credit (Considerate construction)
Man 04: Commissioning and handover	Criterion 10 (Building User Guide)
Man 5: Aftercare	One credit (Seasonal commissioning
Ene 01: Reduction of energy use and carbon emissions	Five credits
Ene 02: Energy monitoring	One credit (First sub-metering credit)
Wat 01: Water consumption	One credit
Wat 02: Water monitoring	Criterion 1 only
Mat 03: Responsible sourcing of materials	Criterion 1 only

Further credits are available on a tradable basis from other categories so that the developer may choose how to add performance credits to achieve the rating for which they are aiming.

Due to the nature of the development and the BRE assessment criteria it will be necessary to undertake three to four separate BREEAM assessments, one for flexible non-residential space, one for the flexible employment space, one for the community room and one for the four start-up units under the definition of '*Similar buildings (or units) on the same site',* Guidance Note GN10, subject to confirmation from BRE and the council.

Sample BREEAM pre-assessments have been carried out for the non-domestic units to show how many credits and points can be achieved at each category. A copy of a sample BREEAM pre-assessment, which is representative of all the non-domestic units is provided in Appendix A.

The proposed sustainability strategies and measures for the development which form the basis of the BREEAM pre-assessment are summarised in the following sections of this document.

A number of reports should be commissioned at specific stages of the design, to assure that the relevant BREEAM credits are achieved. Delaying or failing to carry out these reports signifies that relatively straightforward and cost effective credits may not be possible to be awarded. As a result the targeted outcome might in some circumstances not be possible to be attained.

The requirements for the indicative credits achieved should be reviewed from earliest stages, ensuring all requirements are passed on to subcontractors immediately as part of the procurement process.

4. BREEAM Pre-Assessment

The BREEAM UK New Construction 2014 (Technical Manual SD5076: 4.0 – 2014) criteria have been utilised to pre-assess the non-domestic units.

The credits listed within this document are based on information received to date and include the design proposals set out alongside the Energy Strategy, the Design and Access Statement and other supplemental environmental reports submitted with the planning application

Please note that the actual credits targeted may be subject to change as detailed design progresses. Hence, this live document together with the BREEAM score is subject to alteration should the relevant criteria not be met or should further credits become achievable.

The present pre-assessment will be submitted as part of the planning application. Thus, it is recommended that the client is satisfied with the assumptions and the approach established and finds them reasonable.

The BREEAM pre-assessment demonstrates that flexible non-residential space unit of the proposed development could achieve an 'Excellent' rating with an indicative score of 70.34%, subject to a complete package of compliant evidence being submitted by the design team to the licensed BREEAM Assessor (see Table 4.1, Figure 4.1). Thus, the proposed development accords with the high standards of sustainability as prescribed by the London Plan (2015) and London Borough of Camden planning policies.

Table 4.1 Indicative unit score and BREEAM rating

Building name	156 West End Lane
Indicative building score (%)	70.34%
Indicative BREEAM rating	Pre-Assessment result indicates potential for BREEAM 'Excellent' rating
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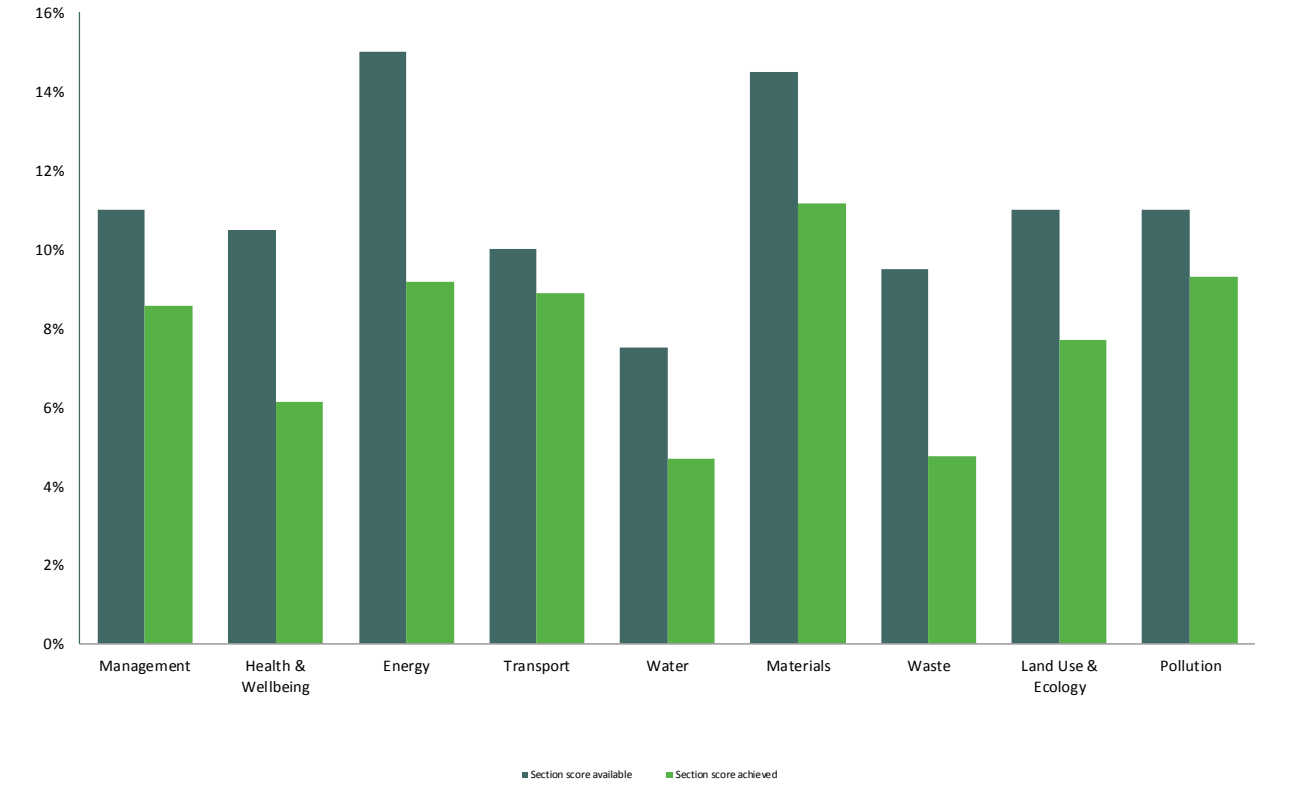
The requirements and description of the indicative credits assumed are presented in the following sections divided in the relevant categories.

Figure 4.1 Indicative unit performace by environmental sector



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Materials	13	10	76.9%	14.5%	11.2%
Waste	8	4	50.0%	9.5%	4.8%
Land Use & Ecology	10	7	70.0%	11.0%	7.7%
Pollution	13	11	84.6%	11.0%	9.3%
Innovation	10	0	0.0%	N/A	0

4.1 Management credits

4.1.1 Man01 – Project brief and design

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will stakeholder consultation (project delivery) take place?	Yes	1	1
Will stakeholder consultation (third party) take place?	No	1	0
Will a sustainability champion (design) be assigned?	No	1	0
Will a sustainability champion (monitoring progress) be assigned?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	0.61%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

Credit 1 – Stakeholder Consultation (project delivery)

1. Prior to completion of the Concept Design (RIBA Stage 2 or equivalent), the project delivery stakeholders have met to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery.

2. In defining the roles and responsibilities for each key phase of the project, the following must be considered:
   a. End user requirements
   b. Aims of the design and design strategy
   c. Particular installation and construction requirements/limitations
   d. Occupiers' budget and technical expertise in maintaining any proposed systems
   e. Maintainability and adaptability of the proposals
   f. Requirements for the production of project and end user documentation
   g. Requirements for commissioning, training and aftercare support.

3. The project team demonstrate how the project delivery stakeholder contributions and the outcomes of the consultation process have influenced or changed the Initial Project Brief, including if appropriate, the Project Execution Plan, Communication Strategy, and the Concept Design.

4.1.2 Man02 – Life cycle cost and service life planning

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an elemental life cycle cost (LCC)analyses be carried out?	Yes	2	2
Will a component level LCC plan be developed?	Yes	1	1
Will the predicted capital cost be reported?	Yes	1	1
Expected capital cost of the project (if available)		£/m^2	

Total BREEAM credits achieved	4
Total contribution to overall building score	2.44%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

Two credits - Elemental life cycle cost (LCC)

1. An outline, entire asset elemental life cycle cost (LCC) plan has been carried out at Process Stage 2 (equivalent to Concept Design - RIBA Stage 2) in line with 'Standardised method of life cycle costing for construction procurement' PD 156865:20081.

2. The elemental LCC plan:

a. Provides an indication of future replacement costs over a period of analysis as required by the client (e.g. 20, 30, 50 or 60 years);

b. Includes service life, maintenance and operation cost estimates.

3. Demonstrate, using appropriate examples provided by the design team, how the elemental LCC plan has been used to influence building and systems design/specification to minimise life cycle costs and maximise critical value.

One credit - Component level LCC option appraisal

4. A component level LCC option appraisal has been developed by the end of Process Stage 4 (equivalent to Technical Design – RIBA Stage 4) in line with PD 156865:2008 and includes the following component types (where present):

a. Envelope, e.g. cladding, windows, and/or roofing
b. Services, e.g. heat source cooling source, and/or controls
c. Finishes, e.g. walls, floors and/or ceilings
d. External spaces, e.g. alternative hard landscaping, boundary protection.

5. Demonstrate, using appropriate examples provided by the design team, how the component level LCC cycle appraisal has been used to influence building and systems design/specification to minimise life cycle costs and maximise critical value.

One credit - Capital cost reporting

6. Report the capital cost for the building in pounds per square metre (£k/m^2), via the BREEAM Assessment Scoring and Reporting tool, Assessment Issue Scoring tab, Management section.

4.1.3 Man03 – Responsible construction practices

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is all site timber used in the project 'legally harvested and traded timber'?	Yes		
Will/does the principal contractor operate a compliant Environmental Management System?	Yes	1	1
Will a construction stage sustainability champion be assigned?	No	1	0
Will a considerate construction scheme be used by the principal contractor? (One credit where 'compliance' has been achieved. Two credits where 'compliance' is significantly exceeded.)	2	2	2
Will construction site impacts be metered/monitored?	Yes		
Will site utility consumption be metered/monitored?	Yes	1	1
Will transport of construction materials and waste be metered/monitored?	Yes	1	1
Will exemplary level criteria be met?		1	0

Total BREEAM credits achieved	5
Total contribution to overall building score	3.06%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

It is assumed that the developer will achieve and provide evidence for:

Pre-requisite

1. All timber and timber-based products used on the project is 'Legally harvested and traded timber. Note: For other materials there are no pre-requisite requirements at this stage.

One credit – Environmental management

2. The principal contractor operates an environmental management system (EMS) covering their main operations. The EMS must be either:

a. Third party certified, to ISO 14001/EMAS or equivalent standard; or

b. Have a structure that is in compliance with BS 8555:2003 and has reached phase four of the implementation stage, 'implementation and operation of the environmental management system', and has completed phase audits one to four, as defined in BS 8555:2003.

3. The principal contractor implements best practice pollution prevention policies and procedures on-site in accordance with Pollution Prevention Guidelines, Working at construction and demolition-sites: PPG61.

4.1.4 Man04 – Commissioning and handover

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will commissioning schedule and responsibilities be developed & accounted for?	Yes	1	1
Will a commissioning manager be appointed?	Yes	1	1
Will the building fabric be commissioned?	Yes	1	1
Will a training schedule for building occupiers/managers at Handover?	Yes	1	1
Will a building user guide be developed prior to handover?	Yes		

Total BREEAM credits achieved	4
Total contribution to overall building score	2.44%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

It is assumed that the developer will achieve and provide evidence for:

One credit - Commissioning and testing schedule and responsibilities

1. A schedule of commissioning and testing that identifies and includes a suitable timescale for commissioning and re-commissioning of all complex and non-complex building services and control systems and testing and inspecting building fabric.

2. The schedule will identify the appropriate standards that all commissioning activities will be conducted in accordance with, such as current Building Regulations, BSRIA and CIBSE guidelines and/or other appropriate standards, where applicable. Where a building management system (BMS) is specified, refer to compliance note CN3.2 on BMS commissioning procedures.

3. An appropriate project team member(s) is appointed to monitor and programme pre-commissioning, commissioning, testing and, where necessary, re-commissioning activities on behalf of the client.

4. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their budget and main programme of works, allowing for the required time to complete all commissioning and testing activities prior to handover.

One credit - Commissioning building services

5. The commissioning and testing schedule and responsibilities credit is achieved.

6. For buildings with complex building services and systems, a specialist commissioning manager is appointed during the design stage (by either the client or the principal contractor) with responsibility for:

a. Undertaking design reviews and giving advice on suitability for ease of commissioning.

b. Providing commissioning management input to construction programming and during installation stages.

c. Management of commissioning, performance testing and handover/post-handover stages. Where there are simple building services, this role can be carried out by an appropriate project team member (see criterion 3), provided they are not involved in the general installation works for the building services system(s).

One credit - Testing and inspecting building fabric

7. The commissioning and testing schedule and responsibilities credit is achieved.

8. The integrity of the building fabric, including continuity of insulation, avoidance of thermal bridging and air leakage paths is quality assured through completion of post construction testing and inspection. Dependent on building type or construction, this can be demonstrated through the completion of a thermographic survey as well as an airtightness test and inspection (see compliance notes CN3.3 and CN3.4). The survey and testing is undertaken by a Suitably Qualified Professional in accordance with the appropriate standard.

9. Any defects identified in the thermographic survey or the airtightness testing reports are rectified prior to building handover and close out. Any remedial work must meet the required performance characteristics for the building/element.

One credit - Handover

10. A Building User Guide (BUG) is developed prior to handover, for distribution to the building occupiers and premises managers.

11. A training schedule is prepared for building occupiers/premises managers, timed appropriately around handover and proposed occupation plans, which includes the following content as a minimum:

c. The building's design intent

d. The available aftercare provision and aftercare team main contact(s), including any scheduled seasonal commissioning and post occupancy evaluation

e. Introduction to, and demonstration of, installed systems and key features, particularly building management systems, controls and their interfaces

f. Introduction to the Building User Guide and other relevant building documentation, e.g. design data, technical guides, maintenance strategy, operations and maintenance (O&M) manual, commissioning records, log book etc.

g. Maintenance requirements, including any maintenance contracts and regimes in place.

4.2 Health and Wellbeing credits

4.2.1 Hea01 – Visual Comfort

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the design provide adequate glare control for building users?	No	1	0
Will relevant building areas be designed to achieve appropriate daylight factor(s)?	1	2	1
Will the design provide adequate view out for building users?	No	1	0
Will internal/external lighting levels, zoning and controls be specified in accordance with the relevant CIBSE Guides/British Standards?	Yes	1	1
Will exemplary level criteria be met?	No	1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.75%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit – Daylighting

3. Daylighting criteria have been met using either of the following options:

   a. Daylighting calculations and/or modelling, Sales areas: Minimum area to comply - 35% having point daylight factors of 2% or more

OR

   b. At least 200 lux point daylight illuminances for 2650 hours per year or more.

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

Internal lighting

7. All fluorescent and compact fluorescent lamps are fitted with high frequency ballasts.

8. Internal lighting in all relevant areas of the building is designed to provide an illuminance (lux) level appropriate to the tasks undertaken, accounting for building user concentration and comfort levels. This can be demonstrated through a lighting design strategy that provides illuminance levels in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard.

9. For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 72 sections 3.3, 4.6, 4.7, 4.8 and 4.9. 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. For 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 designed to provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. To demonstrate this, external lighting provided is specified in accordance with BS 5489-1:2013

Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places.

Zoning and occupant control

11. Internal lighting is zoned to allow for occupant control 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/atria and other building areas separately zoned and controlled
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/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.

4.2.2 Hea02 – Indoor air quality

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an air quality plan be produced and building designed to minimise air pollution?			
Will building be designed to minimise the concentration and recirculation of pollutants in the building?	Yes	1	1
Will the relevant products be specified to meet the VOC testing and emission levels required?			
Will formaldehyde and total VOC levels be measured post construction?			
Will the building be designed to, or have the potential to provide, natural ventilation?	No	1	0
Will exemplary level VOCs (products)criteria be met?			

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit - Ventilation

The building has been designed to minimise the concentration and recirculation of pollutants in the building as follows:

2. Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation.

3. Design ventilation pathways to minimise the build-up of air pollutants in the building, as follows:

a. In air conditioned and mixed mode buildings/spaces:

i. The building's air intakes and exhausts are over 10m apart and intakes are over 20m from sources of external pollution;

OR

ii. The location of the building's air intakes and exhausts, in relation to each other and external sources of pollution, is designed in accordance with BS EN 13779:20071 Annex A2.

b. In naturally ventilated buildings/spaces: openable windows/ventilators are over 10m from sources of external pollution.

4. Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 13779:2007 Annex A3.

5. Areas of the building subject to large and unpredictable or variable occupancy patterns have carbon dioxide (CO_2) or air quality sensors specified and:

a. In mechanically ventilated buildings/spaces: sensor(s) are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space.

b. In naturally ventilated buildings/spaces: sensors either have the ability to alert the building owner or manager when CO_2 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/roof vents.

4.2.3 Hea04 – Thermal Comfort

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will thermal modelling of the design be carried out?	Yes	1	1
Will the building design be adapted for a projected climate change scenario?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit - Thermal modelling

1. Thermal modelling has been carried out using software in accordance with CIBSE AM11 Building Energy and Environmental 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 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/level for the building type).

b. For naturally ventilated/free running 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/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 CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings.

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.

4.2.4 Hea05 – Acoustic Performance

Assessment Criteria	Credits	Credits available	Credits achieved
Will the building meet the appropriate acoustic performance standards and testing requirements for: a. Sound insulation b. Indoor ambient noise level c. Reverberation times?	1	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit – Sound insulation and internal indoor ambient noise

All room functions:

Criteria: Internal indoor ambient noise levels: Indoor ambient noise levels comply with the design ranges given in BS 8233:2014 unless otherwise stated below. Where the room types below are present, the appropriate criteria for ambient noise levels, sound insulation and acoustic privacy must also be achieved.

Testing requirement: Internal indoor ambient noise levels: A programme of pre-completion acoustic testing is carried out by a compliant test body in accordance with the acoustic testing and measurement procedures outlined in the Additional information section of this BREEAM issue.

4.2.5 Hea06 - Safety and security

Assessment Criteria	Compliant?	Credits available	Credits achieved
Where external site areas are present, will safe access be designed for pedestrians and cyclists?	Yes	1	1
Will a suitably qualified security consultant be appointed and security considerations accounted for?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.75%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit - Safe access

Where external site areas form part of the assessed development the following apply:

1. Dedicated cycle paths provide direct access from the site entrance(s) to any cycle storage provided, without the need to deviate from the cycle path and, if relevant, connect to off-site cycle paths (or other appropriate safe route) where these run adjacent to the development's site boundary.

2. Footpaths on-site provide direct access from the site entrance(s) to the building entrance(s) and connect to public footpaths off-site (where existing), providing practical and convenient access to local transport nodes and other off-site amenities (where existing).

3. Where provided, drop-off areas are designed off/adjoining to the access road and provide direct access to pedestrian footpaths, therefore avoiding the need for the pedestrian to cross vehicle access routes.

4. Dedicated pedestrian crossings are provided where pedestrian routes cross vehicle access routes, and appropriate traffic calming measures are in place to slow traffic down at these crossing points.

5. For large developments with a high number of public users or visitors, pedestrian footpaths must be signposted to other local amenities and public transport nodes off-site (where existing).

6. The lighting for access roads, pedestrian routes and cycle lanes is compliant with the external lighting criteria defined in Hea01 Visual comfort, i.e. in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas.

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

7. Delivery areas are not directly accessed through general parking areas and do not cross or share pedestrian and cyclist routes and other outside amenity areas accessible to building users and general public.

8. There is a dedicated parking/waiting area for goods vehicles with appropriate separation from the manoeuvring area and staff and visitor car parking.

9. 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.

10. There is a dedicated space for the storage of refuse skips and pallets away from the delivery vehicle manoeuvring area and staff/visitor car parking (if appropriate given the building type/function).

One credit - Security of site and building

11. 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).

12. The SQSS develops a set of recommendations or solutions during or prior to Concept Design (RIBA Stage 2 or equivalent). These recommendations or solutions aim to ensure that the design of buildings, public and private car parks and public or amenity space are planned, designed and specified to address the issues identified in the preceding SNA.

13. The recommendations or solutions proposed by the SQSS are implemented (see CN3.6). Any deviation from those recommendations or solutions will need to be justified, documented and agreed in advance with a suitably qualified security specialist.

4.3 Energy

4.3.1 Ene01 – Reduction of energy use and carbon emissions

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits achieved
Select the target number of BREEAM credits for the Ene01 issue:	6

Total BREEAM credits achieved	6
Total contribution to overall building score	5.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Excellent level

It is assumed that the developer will achieve and provide evidence for:

Five credits – Energy performance

1. Calculate an Energy Performance Ratio for New Constructions (EPR_{NC}). Compare the EPR_{NC} achieved with the benchmarks in Table 25 (BREEAM Technical Manual, SD5076: Issue 4) and award the corresponding number of BREEAM credits.

BREEAM credits	EPR_{NC}	Rating
6	0.45	Excellent

A description of how the EPR_{NC} is calculated from a building's modelled operational energy performance, primary energy consumption and CO_2 emissions is provided in the Methodology section.

4.3.2 Ene02 – Energy monitoring

Assessment criteria	Compliant?	Credits available	Credits achieved
Will a BMS or sub-meters be specified to monitor energy use from major building services systems?	Yes	1	1
Will a BMS or sub-meters be specified to monitor energy use by tenant/building function areas?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

It is assumed that the developer will achieve and provide evidence for:

One credit - Sub-metering of major energy consuming systems

1. Energy metering systems are installed that enable at least 90% of the estimated annual energy consumption of each fuel to be assigned to the various end-use categories of energy consuming systems.

2. The energy consuming systems in buildings with a total useful floor area greater than 1,000m^2 are metered using an appropriate energy monitoring and management system.

3. The systems in smaller buildings are metered either with an energy monitoring and management system or with separate accessible energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an energy monitoring and management system.

4. The end energy consuming uses are identifiable to the building users, for example through labelling or data outputs.

One credit - Sub-metering of high energy load and tenancy areas

5. An accessible energy monitoring and management system or separate accessible energy sub-meters with pulsed or other open protocol communication outputs to enable future connection to an energy monitoring and management system are provided, covering a significant majority of the energy supply to tenanted areas or, in the case of single occupancy buildings, relevant function areas or departments within the building/unit.

4.3.3 Ene03 – External lighting

Assessment criteria	Compliant?	Credits available	Credits achieved
Will external light fittings and controls be specified in accordance with the BREEAM criteria?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.83%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit

1. The building has been designed to operate without the need for external lighting (which includes on the building, signs and at entrances).
OR
Alternatively, where the building does have external lighting, one credit can be awarded as follows:

2. The average initial luminous efficacy of the external light fittings within the construction zone is not less than 60 luminaire lumens per circuit Watt.

3. All external light fittings are automatically controlled for prevention of operation during daylight hours and presence detection in areas of intermittent pedestrian traffic.

4.3.4 Ene04 – Low carbon design

Assessment criteria	Compliant?	Credits available	Credits achieved
Will passive design measures be used in line with an analysis be carried out during concept design stage (RIBA stage 2 or equivalent)?	Yes	1	1
Will free cooling measures be implemented in the whole building in line with the passive design analysis?	No	1	0
Will a LZC technology be specified in line with a feasibility study carried out by the completion of the Concept Design stage (RIBA Stage 2 or equivalent)?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	0.83%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit - Passive design analysis

1. The first credit within issue Hea04 - Thermal comfort has been achieved to demonstrate the building design can deliver appropriate thermal comfort levels in occupied spaces.

2. The project team carries out an analysis of the proposed building design/development to influence decisions made during Concept Design stage (RIBA Stage 2 or equivalent) and identify opportunities for the implementation of passive design solutions that reduce demands for energy consuming building services (see compliance note CN3).

3. The building uses passive design measures to reduce the total heating, cooling, mechanical ventilation and lighting loads and energy consumption in line with the findings of the passive design analysis and the analysis demonstrates a meaningful reduction in the total energy demand as a result (see compliance note CN3.12).

4.4 Transport

4.4.1 Tra01 – Public transport accessibility

Building type category (for purpose of Tra01 issue assessment)	Retail

Assessment Criteria	Compliant	Credits available	Credits achieved
Indicative public transport accessibility index (AI):	18.00	5	5
Will the building have a dedicated bus service?			N/A

AI	Indicative Accessibility Index for pre-assessment
0	Poor or no public transport provision
1	A single BREEAM compliant public transport node available
2	Some BREEAM compliant public transport nodes/services available
4	A selection of BREEAM compliant public transport nodes/services available
8	Good provision of public transport i.e. small urban centre / suburban area
10	Very Good provision of public transport i.e. small/medium urban centre
12	Excellent provision of public transport, i.e. medium urban centre
18	Excellent provision of public transport, i.e. large urban/metropolitan city centre

Total BREEAM credits achieved	5
Total contribution to overall building score	5.56%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

Five credits - Accessibility Index

1. The public transport Accessibility Index (AI) for the assessed building is calculated and BREEAM credits awarded in accordance with the table of building types.

2. The Accessibility Index is determined by entering the following information in to the BREEAM Tra01 calculator:

a. The distance (m) from the main building entrance to each compliant public transport node

b. The public transport type(s) serving the compliant node e.g. bus or rail

c. The average number of services stopping per hour at each compliant node during the operating hours of the building for a typical day (see compliance notes and Table - 30 in the Additional Information section).

4.4.2 Tra02 – Proximity to amenities

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the building be in close proximity of and accessible to applicable amenities?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.11%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit

1. Where the building is located within close proximity of, and accessible to, local amenities which are likely to be frequently required and used by building occupants, as outlined in Table – 31, BREEAM Technical Manual, SD5076: Issue 4.

2. Where a building type is indicated to have core amenities ('C' in Table - 31) at least two of these must be provided as a part of the total number required. The remaining number of amenities required can be met using any other applicable amenities (including any remaining core amenities).

4.4.3 Tra03 – Cyclist facilities

Assessment Criteria	Compliant?	Credits available	Credits achieved
Cycle storage spaces	Yes	2	1
Cyclist facilities	No		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.11%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit - Cycle storage

1. Compliant cycle storage spaces that meet the minimum levels set out in Table - 32 are installed.

Building type	No. of spaces	Unit of measure	Notes
Retail	10	Total	The spaces must be publicly accessible within the proximity of a main building entrance. Compliant cyclist facilities are intended for staff only i.e. it is not a requirement of compliance to provide facilities for customers.

Compliant cycle storage spaces
Compliant cycle storage spaces are defined as those that meet the following:

1. Cycles can be secured within spaces in rack(s). They are covered overhead and the cycle racks are set in or fixed to a permanent structure (building or hardstanding). Alternatively the cycle storage may be located in a locked structure fixed to, or part of, a permanent structure with appropriate surveillance.

2. The distance between each cycle rack, and cycle racks and other obstructions, e.g. a wall, allows for appropriate access to the cycle storage space to enable bikes to be easily stored and accessed.

3. The storage facility or entrance to the facility is in a prominent site location that is viewable/overlooked from either an occupied building or a main access to a building.

4. The cycle storage facility has adequate lighting; this could be demonstrated with the lighting criteria defined in BREEAM issue Hea01 - Visual comfort. The lighting must be controlled to avoid out-of-hours use and operation during daylight hours, where there is sufficient daylight in or around the facility.

Compliance Note 3.1:
For sites where at least 50% of the available BREEAM credits for Public transport accessibility (Tra 01) have been awarded (rounded to the nearest whole credit), the number of compliant cycle spaces

required in Table - 1 can be reduced by 50%. This reduction will also reduce the requirement for compliant showers or lockers by the same margin for most building types by default, since the calculation is based on the number of cycle storage spaces. Building types where the number of required showers/lockers is not based on cycle storage provision can reduce the actual requirement for compliant showers/lockers by 50%.

4.4.4 Tra05 – Travel plan

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a transport plan based on site specific travel survey/assessment be developed?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.11%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit

1. A travel plan has been developed as part of the feasibility and design stages.

2. A site specific travel assessment/statement has been undertaken to ensure the travel plan is structured to meet the needs of the particular site and covers the following (as a minimum):

   a. Where relevant, existing travel patterns and opinions of existing building or site users towards cycling and walking so that constraints and opportunities can be identified.

   b. Travel patterns and 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. Disabled access (accounting for varying levels of disability and visual impairment).

   e. Public transport links serving the site.

   f. Current facilities for cyclists.

3. The travel plan includes a package of measures to encourage the use of sustainable modes of transport and movement of people and goods during the building's operation and use.

4. If the occupier is known, they must be involved in the development of the travel plan and they must confirm that the travel plan will be implemented post construction and be supported by the building's management in operation.

4.5 Water

4.5.1 Wat01 – Water consumption

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define a target % improvement over baseline sanitary fittings
What is the target for % reduction in potable water consumption for sanitary use in the building?	25% - two credits

Total BREEAM credits achieved	2
Total contribution to overall building score	1.88%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

It is assumed that the developer will achieve and provide evidence for:

Two credits

1. An assessment of the efficiency of the building's domestic water-consuming components is undertaken using the BREEAM Wat 01 calculator.

2. The water consumption (L/person/day) for the assessed building is compared against a baseline performance and BREEAM credits awarded based upon Table - 35.

3. The efficiency of the following 'domestic scale' water-consuming components must be included in the assessment (where specified):
a. WCs
b. Urinals
c. Taps (wash hand basins and where specified kitchen taps and waste disposal unit)
d. Showers
e. Baths
f. Dishwashers (domestic and commercial sized)
g. Washing machines (domestic and commercial or industrial sized).

The BREEAM Wat 01 calculator defines the building types and activity areas for which the above components must be assessed.

4. Where a greywater and/or rainwater system is specified, its yield (L/person/day) is used to off-set non-potable water demand from components that would otherwise be supplied using potable water.

5. Any greywater systems must be specified and installed in compliance with BS 8525-1:2010 Greywater Systems - Part 1 Code of Practice. Any rainwater systems must be specified and installed in compliance with BS 8515:2009+A1:2013 Rainwater Harvesting Systems - Code of practice.

4.5.2 Wat02 – Water monitoring

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will there be a water meter on the mains water supply to the building(s)?	Yes	1	1
Will metering/monitoring equipment be specified on the water supply to any relevant	Yes		
Will all specified water meters have a pulsed output?	Yes		
If the site/building has an existing BMS connection, will all pulsed meters be connected to the BMS?	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.94%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

It is assumed that the developer will achieve and provide evidence for:

One credit

1. The specification of 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. Water-consuming plant or building areas, consuming 10% or more of the building's total water demand, are either fitted with easily accessible sub-meters or have water monitoring equipment integral to the plant or area (see Compliance notes).

3. Each meter (main and sub) has a pulsed or other open protocol communication output to enable connection to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption.

4. If the site on which the building is located has an existing BMS, managed by the same occupier/owner (as the new building), the pulsed/digital water meter(s) for the new building must be connected to the existing BMS.

4.5.3 Wat03 – Water leak detection

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a mains water leak detection system be installed on the building's mains water supply?	Yes	1	1
Will flow control devices be installed in each sanitary area/facility?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit - Leak detection system

1. A leak detection system which is capable of detecting a major water leak on the mains water supply within the building and between the building and the utilities water meter is installed. The leak detection system must be:

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 is installed.

b. Activated when the flow of water passing through the water meter/data logger is at a flow rate above a pre-set maximum for a pre-set period of time.

c. Able to identify different flow and therefore leakage rates, e.g. continuous, high and/or low level, over set time periods.

d. Programmable to suit the owner/occupiers' water consumption criteria.

e. Where applicable, designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers.

One credit - Flow control devices

2. Flow control devices that regulate the supply of water to each WC area/facility according to demand are installed (and therefore minimise water leaks and wastage from sanitary fittings).

4.6 Materials

4.6.1 Mat01 – Life cycle impacts

Assessment Criteria	
Predicted total Mat01 credits achieved	3
Predicted total Mat01 points achieved	
Number of building elements assessed	
Green Guide exemplary level compliant?	No
Has IMPACT compliant software been used?	No

Total BREEAM credits achieved	3
Total contribution to overall building score	3.35%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

Three credits

1. BREEAM awards credits on the basis of the building's quantified environmental life cycle impact through assessment of the main building elements, as set out in Table - 38, BREEAM Technical Manual, SD5076: Issue 4.

2. Credits are awarded on the basis of the total number of points achieved, as set out in Table – 39, and calculated using the BREEAM Mat01 calculator. This point's score is based on the Green Guide rating(s) achieved for the specifications that make-up the main building elements (as in Table - 38).

Note: Where an independently verified third party Environmental Product Declaration (EPD), covering part of or the whole life cycle, is available for a material or product that forms part of an assessed building element, this can be used to increase the contribution of that element to the building's Mat01 performance.

3. Life cycle greenhouse gas emissions ($kgCO_2eq.$) for each element are also required to be reported based on a 60-year building life. Where specific data is not available for a product or element, generic data should be used. Generic data can be obtained from the online Green Guide for each element and must be entered in to the BREEAM Mat 01 calculator.

4.6.2 Mat02 – Hard landscaping and boundary protection

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will ≥80% of all external hard landscaping and boundary protection achieve a Green Guide A or A+ rating?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.12%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit

1. Where at least 80% of all external hard landscaping and 80% of all boundary protection (by area) in the construction zone achieves an A or A+ rating, as defined in the Green Guide to Specification.

4.6.3 Mat03 – Responsible sourcing of materials

Assessment Criteria	Compliant	Credits available	Credits achieved
All timber and timber based products are 'Legally harvested and trader timber'	Yes		
Is there a documented sustainable procurement plan?	Yes	1	1
Percentage of available responsible sourcing of materials points achieved	36.00%	3	2

Please confirm the route used to assess Mat03	Route 1: Lowest RSCS point score

Total BREEAM credits achieved	3
Total contribution to overall building score	3.35%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

It is assumed that the developer will achieve and provide evidence for:

Pre-requisite

1. All timber and timber-based products used on the project is legally harvested and traded timber

Note:

a. It is a minimum requirement for achieving a BREEAM rating (for any rating level) that compliance with criterion 1 is confirmed.

b. For other materials there are no pre-requisite requirements at this stage.

One credit - Sustainable procurement plan

2. The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan

Up to 3 credits - Responsible sourcing of materials (RSM)

3. The available RSM credits can be awarded where the applicable building materials are responsibly sourced in accordance with the BREEAM methodology, as defined in steps 1 to 2 in the Methodology Section.

RSM credits	% of available RSM points achieved
2	≥ 36%

4.6.4 Mat04 – Insulation

Assessment Criteria		Credits available	Credits achieved
What is the building's targeted insulating index?	2.50	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.12%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit - Embodied impact

1. Any new insulation specified for use within the following building elements must be assessed:

a. External walls
b. Ground floor
c. Roof
d. Building services.

2. The Insulation Index for the building fabric and services insulation is the same as or greater than 2.5.

4.6.5 Mat05 – Designing for durability and resilience

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will suitable durability/protection measures be specified and installed to vulnerable areas of the building?	Yes	1	1
Will suitable durability/protection measures be specified and installed to exposed parts of the building?	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.12%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit

Protecting vulnerable parts of the building from damage

1. The building incorporates suitable durability and protection measures or designed features/solutions to prevent damage to vulnerable parts of the internal and external building and landscaping elements. This must include, but is not necessarily limited to:

a. Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc.).

b. Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas.

c. Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building façade for all car parking areas and within 2m for all delivery areas.

Protecting exposed parts of the building from material degradation

2. The relevant building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors.

4.6.6 Mat06 – Material Efficiency

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will material efficiency measures be identified & implemented during all RIBA stages?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.12%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit

1. Opportunities have been identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life ,

2. The above is carried out by the design/construction team in consultation with the relevant parties (see CN3) at each of the following RIBA stages:

a. Preparation and Brief
b. Concept Design
c. Developed Design
d. Technical Design
e. Construction.

4.7 Waste

4.7.1 Wst01 – Construction waste management

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define a target number of BREEAM credits		
Select the number of BREEAM credits being targeted for issue Wst 01:	2	BREEAM Wst01 Innovation credits:	0

Total BREEAM credits achieved	2
Total contribution to overall building score	2.38%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

It is assumed that the developer will achieve and provide evidence for:

One or two credits - Construction resource efficiency

1. Where a Resource Management Plan (RMP) has been developed covering the non-hazardous waste related to on-site construction and dedicated off-site manufacture or fabrication (including demolition and excavation waste) generated by the building's design and construction (see CN3).

2. Where construction waste related to on-site construction and dedicated off-site manufacture/fabrication (excluding demolition and excavation waste) meets or is lower than the following:

BREEAM credits	Amount of waste generated per 100m^2 (gross internal floor area)	
	m^3	tonnes
1 credit	≤ 13.3	≤ 11.1
2 credit	≤ 7.5	≤ 6.5

3. Where existing buildings on the site will be demolished a pre-demolition audit of any existing buildings, structures or hard surfaces is completed to determine if, in the case of demolition, refurbishment/reuse is feasible and, if not, to maximise the recovery of material from demolition for subsequent high grade/value applications. The audit must be referenced in the RMP and cover:

a. Identification of the key refurbishment/demolition materials.

b. Potential applications and any related issues for the reuse and recycling of the key refurbishment and demolition materials in accordance with the waste hierarchy.

One credit - Diversion of resources from landfill

4. The following percentages of non-hazardous construction (on-site and off-site manufacture /fabrication in a dedicated facility), demolition and excavation waste (where applicable) generated by the project have been diverted from landfill:

BREEAM credits	Type of waste	Volume	Tonnage
1 credit	Non demolition	70%	80%
	Demolition	80%	90%
	Excavation	N/A	N/A

5. Waste materials will be sorted into separate key waste groups as per Table – 53 (according to the waste streams generated by the scope of the works) either on-site or through a licensed contractor for recovery.

4.7.2 Wst02 – Recycled aggregates

Assessment Criteria	Total
What is the target total % of high-grade aggregate that will be recycled/secondary aggregate?	25%

% of high-grade aggregate that is recycled/secondary aggregate - by application	
Structural frame	15%
Bitumen/hydraulically bound base, binder and surface courses	30%
Building foundations	20%
Concrete road surfaces	15%
Pipe bedding	100%
Granular fill and capping	100%

Total BREEAM credits achieved	1
Total contribution to overall building score	1.19%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit - Recycled aggregates

1. The percentage of high grade aggregate that is recycled or secondary aggregate, specified in each application (present) must meet the following minimum % levels (by weight or volume) to contribute to the total amount of recycled or secondary aggregate, as specified above.

2.The total amount of recycled or secondary aggregate specified, and meeting criterion 1, is greater than 25% (by weight or volume) of the total high grade aggregate specified for the project. Where the minimum level in criterion 1 is not met for an application, all the aggregate in that application must be considered as primary aggregate when calculating the total high grade aggregate specified.

3. The recycled or secondary aggregates are EITHER:

a. Construction, demolition and excavation waste obtained on-site or off-site;

OR

b. Secondary aggregates obtained from a non-construction post-consumer industrial by product source.

4.7.3 Wst03 – Operational waste

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will operational recyclable waste volumes be segregated and stored?	Yes	1	1
Will static waste compactor(s) or baler(s) be specified where appropriate?	N/A		
Will vessel(s) for composting suitable organic waste where appropriate?	N/A		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.19%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

It is assumed that the developer will achieve and provide evidence for:

One credit - Operational waste

1. Dedicated space(s) is provided for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities. This space must be:

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/weekly operational activities and occupancy rates.

2. Where the consistent generation in volume of the appropriate operational waste streams is likely to exist, e.g. large amounts of packaging or compostable waste generated by the building's use and operation, the following facilities are provided:

a. Static waste compactor(s) or baler(s); situated in a service area or dedicated waste management space.

b. Vessel(s) for composting suitable organic waste resulting from the building's daily operation and use; OR adequate space(s) for storing segregated food waste and compostable organic material prior to collection and delivery to an alternative composting facility.

c. Where organic waste is to be stored/composted on-site, a water outlet is provided adjacent to or within the facility for cleaning and hygiene purposes.

4.8 Land Use and Ecology

4.8.1 Le01 – Site selection

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will at least 75% of the proposed development's footprint be located on previously occupied land?	Yes	1	1
Is the site deemed to be significantly contaminated?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	1.10%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

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.

4.8.2 Le02 – Ecological value of site and protection of ecological values

Assessment Criteria	Compliant?	Credits available	Credits achieved
Can the land within the construction zone be defined as 'land of low ecological value'?	Yes	1	1
Will all features of ecological value surrounding the construction zone/site boundary be protected?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	2.20%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit - Ecological value of site

1. Land within the assessment zone is defined as 'land of low ecological value' using either:
    a. The BREEAM checklist for defining land of low ecological value (see Checklists and tables below);

    OR

    b. A Suitably Qualified Ecologist (SQE) who has identified the land as being of 'low ecological value' within an ecological assessment report, based on a site survey.

One credit - Protection of ecological features

2. All existing features of ecological value within the assessment zone are adequately protected from damage during clearance, site preparation and construction activities in line with BS42020: 2013.

3. In all cases, the principal contractor is required to construct ecological protection recommended by the Suitably Qualified Ecologist (SQE), prior to any preliminary site construction or preparation works (e.g. clearing of the site or erection of temporary site facilities).

4.8.3 Le03 – Minimising impact on existing site ecology

Assessment Criteria	
What is the likely change in ecological value as a result of the sites development?	≥0 species (i.e. no negative change)

Total BREEAM credits achieved	2
Total contribution to overall building score	2.20%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

It is assumed that the developer will achieve and provide evidence for:

Two credits - Change in ecological value

1. The change in ecological value of the site is equal to or greater than zero plant species, i.e. no negative change, using the methods outlined in either (a) or (b) below:

a. Determine the following information and input this data in to the BREEAM Le 03/Le 04 calculator:

i. The broad habitat type(s) that define the landscape of the assessed site in its existing pre-developed state and proposed state.

ii. Area (m^2) of the existing and proposed broad habitat types.

OR

b. Where a Suitably Qualified Ecologist (SQE) has been appointed and, based on their site survey, they confirm the following and either the assessor or ecologist inputs this data in to the BREEAM Le 03/Le04 calculator:

i. The broad habitat types that define the landscape of the assessed site in its existing pre-developed state and proposed state.

ii. Area (m^2) of the existing and proposed broad habitat plot types.

iii. Average total taxon (plant species) richness within each habitat type.

4.8.4 Le04 – Enhancing site ecology

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a suitably qualified ecologist be appointed to report on enhancing and protecting site ecology?	Yes	2	1
Will the suitably qualified ecologist's general recommendations be implemented?	Yes		
What is the targeted/intended improvement in ecological value as a result of enhancement actions?	<6 species (small positive change)		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.10%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit - Ecologist's report and recommendations

1. A suitably qualified ecologist (SQE) has been appointed by the client or their project representative by the end of the Preparation and Brief stage (RIBA Stage 1 or equivalent) to advise on enhancing the ecology of the site at an early stage.

2. The SQE has provided an Ecology Report with appropriate recommendations for the enhancement of the site's ecology at Concept Design stage (RIBA Stage 2 or equivalent). The report is based on a site visit/survey by the SQE (see also CN3.1).

3. The early stage advice and recommendations of the Ecology Report for the enhancement of site ecology have been, or will be, implemented in the final design and build.

4.8.5 Le05 – Long term impact on biodiversity

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a Suitably Qualified Ecologist be appointed to monitor/minimise impacts of site activities on biodiversity?	Yes	2	1
Will a landscape and habitat management plan be produced covering at least the first five years after project completion in accordance with British Standards?	Yes		
Number of applicable measures to improve biodiversity confirmed by SQE:	6		
Number of applicable measures implemented:	2		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.10%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit

1. Where a Suitably Qualified Ecologist (SQE) is appointed prior to commencement of activities on-site and they confirm that all relevant UK and EU legislation relating to the protection and enhancement of ecology has been complied with during the design and construction process.

2. Where a landscape and habitat management plan, appropriate to the site, is produced covering at least the first five years after project completion in accordance with BS 42020:20131 Section 11.1. This is to be handed over to the building owner/occupants for use by the grounds maintenance staff.

3. Where additional measures to improve the assessed site's long term biodiversity are adopted, according to Table 58, BREEAM Technical Manual.

4.9 Pollution

4.9.1 Pol01 – Impact of refrigerants

Assessment Criteria		Credits available	Credits achieved
Refrigerant containing systems installed in the assessed building?	Yes	2	2
Do all systems (with electric compressors) comply with the requirements of BS EN 378:2008 (parts 2 & 3) & where refrigeration systems containing ammonia are installed, the IoR Ammonia Refrigeration Systems Code of Practice?	Yes		
Global Warming Potential of the specified refrigerant(s) 10 or less?	Yes		
What is the target range Direct Effect Life Cycle CO2eq. emissions for the system?		kgCO2eq/kW coolth capacity	
Cooling/Heating capacity of the system		kW	
Will a refrigerant leak detection and containment system be specified/installed?	Yes	1	1

Total BREEAM credits achieved	3
Total contribution to overall building score	2.54%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

Pre-requisite

2. All systems (with electric compressors) must comply with the requirements of BS EN 378:2008 (parts 2 and 3) and where refrigeration systems containing ammonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice

Two credits - Impact of refrigerant

3. Where the systems using refrigerants have Direct Effect Life Cycle CO_2 equivalent emissions (DELC CO_2e) of ≤ 100 kgCO_2e/kW cooling/heating capacity.

OR

4. Where air-conditioning or refrigeration systems are installed the refrigerants used have a Global Warming Potential (GWP) ≤ 10.

One credit - Leak detection

6. Where systems using refrigerants have a permanent automated refrigerant leak detection system installed; OR where an inbuilt automated diagnostic procedure for detecting leakage is installed. In all instances a robust and tested refrigerant leak detection system must be installed and must be capable of continuously monitoring for leaks.

7. The system must be capable of automatically isolating and containing the remaining refrigerant(s) charge in response to a leak detection incident.

4.9.2 Pol02 – NO_x emissions

Assessment Criteria

NO_x emission level - space heating	70.00	mg/kWh
NOx emission level - water heating	70.00	mg/kWh
Does this building meet BREEAM's definition of a highly insulated building?		
Energy consumption: heating and hot water		kWh/m2/yr

Total BREEAM credits achieved	2
Total contribution to overall building score	1.13%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

Two credits

1. Where the plant installed to meet the building's delivered heating and hot water demand has, under normal operating conditions, a NOx emission level (measured on a dry basis at 0% excess O_2) as follows:

NOx Emission levels for heating and hot water	Credits
≤70 mg/kWh	2 credits

2. Report via the BREEAM scoring and reporting tool the direct and indirect NOx emissions in mg/kWh and energy consumption in kWh/m^2/yr arising from systems installed to meet the building's space heating, cooling and hot water demands.

4.9.3 Pol03 – Surface water run-off

Assessment Criteria	Compliant?	Credits available	Credits achieved
What is the actual/likely annual probability of flooding for the assessed site?	Low	2	2
Will a Flood Risk Assessment be undertaken?	Yes		
Will the site meet the BREEAM criteria for peak rate surface water run off?	Yes	1	1
Will the site meet the criteria for surface water run off volume, attenuation and/or limiting discharge?	Yes	1	1
Will the site be designed to minimise watercourse pollution in accordance with the BREEAM criteria?	No	1	0

Total BREEAM credits achieved	4
Total contribution to overall building score	3.38%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

Two credits - Low flood risk

1. Where a site-specific flood risk assessment (FRA) confirms the development is situated in a flood zone that is defined as having a low annual probability of flooding (in accordance with current best practice national planning guidance). The FRA must take all current and future sources of flooding into consideration (see CN3.2).

Two credits - Surface water run-off

Pre-requisite

4. An Appropriate Consultant is appointed to carry out, demonstrate and/or confirm the development's compliance with the following criteria:

One credit

5. Where drainage measures are specified to ensure that the peak rate of run-off from the site to the watercourses (natural or municipal) is no greater for the developed site than it was for the pre-development site. This should comply at the 1-year and 100-year return period events.

6. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place.

7. Calculations include an allowance for climate change; this should be made in accordance with current best practice planning guidance (see definitions).

One credit

8. Where flooding of property will not occur in the event of local drainage system failure (caused either by extreme rainfall or a lack of maintenance); AND

EITHER

9. Drainage design measures are specified to ensure that the post development run-off volume, over the development lifetime, is no greater than it would have been prior to the assessed site's

development for the 100-year 6-hour event, including an allowance for climate change (see criterion 14).

10. Any additional predicted volume of run-off for this event is prevented from leaving the site by using infiltration or other Sustainable Drainage System (SuDS) techniques.

OR (only where criteria 9 and 10 for this credit cannot be achieved):

11. Justification from the Appropriate Consultant indicating why the above criteria cannot be achieved, i.e. where infiltration or other SuDS techniques are not technically viable options.

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

a. The pre-development 1-year peak flow rate; OR

b. The mean annual flow rate Qbar; OR

c. 2 L/s/ha.

Note that for the 1-year peak flow rate the 1-year return period event criterion applies (as described in the peak run-off criteria above).

13. Relevant maintenance agreements for the ownership, long term operation and maintenance of all specified SuDS are in place.

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

4.9.4 Pol04 – Reduction of night time light pollution

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the external lighting specification be designed to reduce light pollution?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.85%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit

1. Where external lighting pollution has been eliminated through effective design that removes the need for external lighting without adversely affecting 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 ILP Guidance notes for the reduction of obtrusive light, 2011.

3. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00.

4. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the ILP's Guidance notes.

5. Illuminated advertisements, where specified, must be designed in compliance with ILP PLG 05 The Brightness of Illuminated Advertisements.

4.9.5 Pol05 – Reduction of noise pollution

Assessment Criteria	Compliant	Credits available	Credits achieved
Will there be noise-sensitive areas/buildings within 800m radius of the development?	Yes	1	1
Will a noise impact assessment be carried out and, if applicable, noise attenuation measures specified?	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.85%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

It is assumed that the developer will achieve and provide evidence for:

One credit

1. Where there are, or will be, no noise-sensitive areas or buildings within 800m radius of the assessed site.

OR

2. Alternatively, where the building does have noise-sensitive areas or buildings within 800m radius of the site, one credit can be awarded as follows:

a. Where a noise impact assessment in compliance with BS 7445 has been carried out and the following noise levels measured/determined:

   i. Existing background noise levels at the nearest or most exposed noise-sensitive development to the proposed development or at a location where background conditions can be argued to be similar.

   ii. The rating noise level resulting from the new noise source (see CN4).

3. The noise impact assessment must be carried out by a suitably qualified acoustic consultant holding a recognised acoustic qualification and membership of an appropriate professional body.

4. The noise level from the proposed site/building, as measured in the locality of the nearest or most exposed noise-sensitive development, is a difference no greater than +5dB during the day (07:00 to 23:00) and +3dB at night (23:00 to 07:00) compared to the background noise level.

5. Where the noise source(s) from the proposed site/building is greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with criterion 4.

5. Summary and Conclusions

Full design team engagement is crucial for the development of the targeted BREEAM rating and requires an integrated, co-ordinated and open design team approach.

The credits listed within this document are based on information received to date and include the design proposals set out alongside the Energy Strategy, the Design and Access Statement and other supplemental environmental reports submitted with the planning application

Please note that the actual credits targeted may be subject to change as detailed design progresses. Hence, this live document together with the BREEAM score is subject to alteration should the relevant criteria not be met or should further credits become achievable.

The BREEAM pre-assessment demonstrates the flexible non-residential space unit of the proposed development could achieve an 'Excellent' rating with an indicative score of 70.34%, subject to a complete package of compliant evidence being submitted by the design team to the licensed BREEAM Assessor. Thus, the proposed development accords with the high standards of sustainability as prescribed by the London Plan (2015) and London Borough of Camden planning policies.

Building name	156 West End Lane
Indicative building score (%)	70.34%
Indicative BREEAM rating	Pre-Assessment result indicates potential for BREEAM 'Excellent' rating
Indicative minimum standards level achieved	Pre-Assessment result indicates the minimum standards for 'Excellent' level

Appendix A – Sample BREEAM Pre-Assessment

BREEAM UK New Construction 2014 Pre-Assessment Estimator

General information

BRE Assessment reference no.	TBC
Client name	A2Dominion Developments Limited
Building end user/occupier	Shell and Core
Assessor name	Yannis Papadopoulos
Assessor organisation	Silver EMS Ltd.

Building details

Building name	West End Lane
Country	England
Building type (main description)	Retail
Building type (sub-group)	Retail - Shop
Building floor area (GIA) m^2	763
Building floor area (NIFA) m^2	763
BREEAM scheme	New Construction
BREEAM version	2014 (SD5076)
BREEAM UK 2014 technical manual issue number	SD5076 Issue 3.0
Project type	New Construction (shell and core)
Assessment stage	Pre-Assessment
Location type	London Borough
If applicable, does this industrial building have a heated or cooled operational area?	Option not applicable to building type
Does water heating contribute less than 10% of the buildings total energy consumption?	No
Commercial/industrial refrigeration and storage systems	No
Building user transportation systems (lifts and/or escalators)	No
Laboratory function/area and size category	No laboratory
Laboratory containment level	No laboratory
Fume cupboard(s) and/or other containment devices	No
Unregulated water uses present? (e.g. vehicle wash system, irrigation)	No
If applicable, will this healthcare building house inpatients?	Option not applicable to building type
If applicable, does this industrial building have an office area?	Option not applicable to building type
If applicable, does this building contain areas requiring SAP assessment?	Option not applicable to building type
If SAP used, what proportion of the building's total floor area (GIA) does it apply to?	Option not applicable to building type

BREEAM UK New Construction 2014 Pre-Assessment Estimator: Assessment Issue Scoring

Building name	West End Lane
Building score (%)	70.34%
Building rating	Excellent
Minimum standards level achieved	Excellent level

MANAGEMENT

Man 01 Project brief and design

No. of BREEAM credits available	4	Available contribution to overall score	2.44%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will stakeholder consultation (project delivery) take place?	Yes	1	1
Will stakeholder consultation (third party) take place?	No	1	0
Will a sustainability champion (design) be assigned?	No	1	0
Will a sustainability champion (monitoring progress) be assigned?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	0.61%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Man 02 Life cycle cost and service life planning

No. of BREEAM credits available	4	Available contribution to overall score	2.44%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an elemental life cycle cost (LCC)analyses be carried out?	Yes	2	2
Will a component level LCC plan be developed?	Yes	1	1
Will the predicted capital cost be reported?	Yes	1	1
Expected capital cost of the project (if available)		£/m^2	

Total BREEAM credits achieved	4
Total contribution to overall building score	2.44%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Man 03 Responsible construction practices

No. of BREEAM credits available	6	Available contribution to overall score	3.67%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is all site timber used in the project 'legally harvested and traded timber'?	Yes		
Will/does the principal contractor operate a compliant Environmental Management System?	Yes	1	1
Will a construction stage sustainability champion be assigned?	No	1	0
Will a considerate construction scheme be used by the principal contractor? (One credit where 'compliance' has been achieved. Two credits where 'compliance' is significantly exceeded.)	2	2	2
Will construction site impacts be metered/monitored?	Yes		
Will site utility consumption be metered/monitored?	Yes	1	1
Will transport of construction materials and waste be metered/monitored?	Yes	1	1
Will exemplary level criteria be met?		1	0

Key Performance Indicators: Construction site energy use

Energy consumption (total) - site processes		Information not available at design stage
Energy consumption (intensity) - site processes		Information not available at design stage
Distance (total) - materials transport to site		Information not available at design stage
Distance (total) -waste transport from site		Information not available at design stage
Energy consumption (total) - materials transport to site		Information not available at design stage
Energy consumption (total) - waste transport from site		Information not available at design stage
Energy consumption (intensity) - materials transport to site		Information not available at design stage
Energy consumption (intensity) - waste transport from site		Information not available at design stage

Key Performance Indicators: Construction site greenhouse gas emissions

Process greenhouse gas emissions (total) - site processes		Information not available at design stage
Greenhouse gas emissions (intensity) - site processes		Information not available at design stage
Greenhouse gas emissions (total) - materials transport to site		Information not available at design stage
Greenhouse gas emissions (total) - waste transport from site		Information not available at design stage
Greenhouse gas emissions (intensity) - materials transport to site		Information not available at design stage
Greenhouse gas emissions (intensity) - waste transport from site		Information not available at design stage

Key Performance Indicators: Construction site use of freshwater resources

Use of freshwater resource (total) - site processes		Information not available at design stage
Use of freshwater resource (intensity) - site processes		Information not available at design stage

Total BREEAM credits achieved	5
Total contribution to overall building score	3.06%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Man 04 Commisioning and handover

No. of BREEAM credits available	4	Available contribution to overall score	2.44%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will commissioning schedule and responsibilities be developed & accounted for?	Yes	1	1
Will a commissioning manager be appointed?	Yes	1	1
Will the building fabric be commissioned?	Yes	1	1
Will a training schedule for building occupiers/managers at Handover?		1	1
Will a building user guide be developed prior to handover?	Yes		

Total BREEAM credits achieved	4
Total contribution to overall building score	2.44%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Man 05 Aftercare

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will aftercare support be provided to building occupiers?			
Will seasonal commissioning occur over 12months once substantially occupied?			
Will a post occupancy evaluation be carried out 1 year after occupation?			
Will exemplary level criteria be met?			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A

Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

HEALTH & WELLBEING

Hea 01 Visual Comfort

No. of BREEAM credits available	5	Available contribution to overall score	4.38%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the design provide adequate glare control for building users?	No	1	0
Will relevant building areas be designed to achieve appropriate daylight factor(s)?	1	2	1
Will the design provide adequate view out for building users?	No	1	0
Will internal/external lighting levels, zoning and controls be specified in accordance with the relevant CIBSE Guides/British Standards?	Yes	1	1
Will exemplary level criteria be met?	No	1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.75%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Hea 02 Indoor Air Quality

No. of BREEAM credits available	2	Available contribution to overall score	1.75%
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an air quality plan be produced and building designed to minimise air pollution?			
Will building be designed to minimise the concentration and recirculation of pollutants in the building?	Yes	1	1

Will the relevant products be specified to meet the VOC testing and emission levels required?			
Will formaldehyde and total VOC levels be measured post construction?			
Will the building be designed to, or have the potential to provide, natural ventilation?	No	1	0
Will exemplary level VOCs (products)criteria be met?			

Key Performance Indicators: Indoor air quality

Concentration levels of formaldehyde		Information not available at design stage
Total volatile organic compound (TVOC) concentration		Information not available at design stage

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Hea 03 Safe containment in laboratories

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an objective risk assessment of proposed laboratory facilities' design be completed?			
Will the manufacture & installation of fume cupboards and containment devices meet best practice standards?			
Will containment level 2 & 3 labs meet best practice safety & performance criteria?			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Hea 04 Thermal comfort

No. of BREEAM credits available	2	Available contribution to overall score	1.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will thermal modelling of the design be carried out?	Yes	1	1
Will the building design be adapted for a projected climate change scenario?	No	1	0

Key Performance Indicators: Thermal comfort

Predicted Mean Vote (PMV)	INA
Predicted Percentage Dissatisfied (PPD)	INA

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Hea 05 Acoustic Performance

No. of BREEAM credits available	1	Available contribution to overall score	0.88%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Credits	Credits available	Credits achieved
Will the building meet the appropriate acoustic performance standards and testing requirements for: a. Sound insulation b. Indoor ambient noise level c. Reverberation times?	1	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Hea 06 Safety and Security

No. of BREEAM credits available	2	Available contribution to overall score	1.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Where external site areas are present, will safe access be designed for pedestrians and cyclists?	Yes	1	1
Will a suitably qualified security consultant be appointed and security considerations accounted for?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.75%
Total BREEAM innovation credits achieved	N/A

Minimum standard(s) level	N/A

Comments/notes:

ENERGY

Ene 01 Reduction of energy use and carbon emissions

No. of BREEAM credits available	12	Available contribution to overall score	10.00%
No. of BREEAM innovation credits available	5	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits achieved for this issue?	Define a target number of BREEAM credits achieved
Select the target number of BREEAM credits for the Ene01 issue:	6

Ene 01 Calculator

Country of the UK where the building is located		Confirm building regulation and version to be used:	

New Construction (shell and core)

Building floor area		m2
Notional building heating and cooling energy demand		MJ/m2yr
Actual building heating and cooling energy demand		MJ/m2yr
Notional building primary energy consumption		kWh/m2yr
Actual building primary energy consumption		kWh/m2yr
Target emission rate (TER)		kgCO2/m2yr
Building emission rate (BER)		kgCO2/m2yr
Building emission rate improvement over TER		
Heating & cooling demand energy performance ratio (EPR_{ED})		
Primary consumption energy performance ratio (EPR_{PC})		
CO_2 Energy performance ratio (EPR_{CO2})		
Overall building energy performance ratio (EPR_{NC})		

Where specified, please confirm the energy production from onsite or near site energy generation technologies	
Equivalent % of the building's 'regulated' energy consumption generated by carbon neutral sources and used to meet energy demand from 'unregulated' building systems or processes?	
Is the building designed to be 'carbon negative' ?	
If the building is defined as 'carbon negative' what is the total (modelled) renewable/carbon neutral energy generated and exported?	

Total BREEAM credits achieved	6
Total contribution to overall building score	5.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Excellent level

Comments/notes:

Ene 02 Energy monitoring

No. of BREEAM credits available	2	Available contribution to overall score	1.67%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment criteria	Compliant?	Credits available	Credits achieved
Will a BMS or sub-meters be specified to monitor energy use from major building services systems?	Yes	1	1
Will a BMS or sub-meters be specified to monitor energy use by tenant/building function areas?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Ene 03 External lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.83%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria	Compliant?	Credits available	Credits achieved
Will external light fittings and controls be specified in accordance with the BREEAM criteria?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.83%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 04 Low carbon design

No. of BREEAM credits available	3	Available contribution to overall score	2.50%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria	Compliant?	Credits available	Credits achieved
Will passive design measures be used in line with an analysis be carried out during concept design stage (RIBA stage 2 or equivalent)?	Yes	1	1
Will free cooling measures be implemented in the whole building in line with the passive design analysis?	No	1	0
Will a LZC technology be specified in line with a feasibility study carried out by the completion of the Concept Design stage (RIBA Stage 2 or equivalent)?	Yes	1	1

KPI - Low and/or zero carbon energy generation

Total on-site and/or near-site LZC energy generation	INA	kWh/yr

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 05 Energy efficient cold storage

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved

Will the refrigeration system be designed, installed & commissioned in accrodance with BREEAM criteria?	No	N/A	N/A
Will the refrigeration system demonstrate a saving in indirect greenhouse gas emissions?	No	N/A	N/A

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 06 Energy efficient transportation systems

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved
Will a transportation system analysis be carried out to determine and specify the optimum number, size and type of lifts that is most energy efficient?			
Will the relevant energy-efficient features criteria be met?			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 07 Energy efficient laboratory systems

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved
Pre-requisite: Criterion 1 of Hea 03 - risk assessment of laboratory facilities			
Have the occupants' laboratory requirements & performance criteria been confirmed during the preparation of the initial project brief to minimise energy demand?			
Best Practice Energy Practices in Laboratories (table 27)			
Will the laboratory meet criteria item b) Fan power?			
Will the laboratory criteria item c) Fume cupboard volume flow rates?			
Will the lab meet item d) Grouping / isolation of high filtration/ventilation activities?			
Will the laboratory meet criteria item e) Energy recovery - heat?			
Will the laboratory meet criteria item f) Energy recovery - cooling?			

Will the laboratory meet criteria item g) Grouping of cooling loads?	
Will the laboratory meet criteria item h) Free cooling?	
Will the laboratory meet criteria item i) Load responsiveness?	
Will the laboratory meet criteria item j) Cleanrooms?	
Will the laboratory meet criteria item k) Diversity?	
Will the laboratory meet criteria item l) Room air-change rates?	

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 08 Energy efficient equipment

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria

Which of the following will be present and likely to be a/the major contributor to 'unregulated' energy use?	Present	Major impact
Ref A Small power and plug in equipment?		
Ref B Swimming pool?		
Ref C Communal laundry?		
Ref D Data centre?		
Ref E IT-intensive operation areas?		
Ref F Residential areas?		
Ref G Healthcare?		
Ref H Kitchen and catering facilities?		

	Compliant	Credits available	Credits achieved
Will the significant majority contributor(s) to 'unregulated' energy use above meet the BREEAM criteria?			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 09 Drying space

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved
Will internal/external drying space and fixings be provided?			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

TRANSPORT

Tra 01 Public Transport Accessibility

No. of BREEAM credits available	5	Available contribution to overall score	5.56%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra01 issue assessment)	Retail

Assessment Criteria	Compliant	Credits available	Credits achieved
Indicative public transport accessibility index (AI):	18.00	5	5
Will the building have a dedicated bus service?			N/A

AI	Indicative Accessibility Index for pre-assessment
0	Poor or no public transport provision
1	A single BREEAM compliant public transport node available
2	Some BREEAM compliant public transport nodes/services available
4	A selection of BREEAM compliant public transport nodes/services available
8	Good provision of public transport i.e. small urban centre / suburban area
10	Very Good provision of public transport i.e. small/medium urban centre
12	Excellent provision of public transport, i.e. medium urban centre
18	Excellent provision of public transport, i.e. large urban/metropolitan city centre

Total BREEAM credits achieved	5
Total contribution to overall building score	5.56%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Tra 02 Proximity to Amenities

No. of BREEAM credits available	1	Available contribution to overall score	1.11%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the building be in close proximity of and accessible to applicable amenities?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.11%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Tra 03 Cyclist facilities

No. of BREEAM credits available	2	Available contribution to overall score	2.22%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra03 issue assessment)	Retail – Individual retail unit
How many compliant cycle storage spaces will be provided?	10
What cyclist facilities will be provided?	No compliant facilities

Assessment Criteria	Compliant?	Credits available	Credits achieved
Cycle storage spaces	Yes	2	1
Cyclist facilities	No		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.11%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Tra 04 Maximum Car Parking Capacity

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Building type category (for purpose of Tra04 issue)	
Building's indicative Accessibility Index (sourced from issue Tra01)	

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will BREEAM's maximum parking capacity criteria for the building type/Accessibility Index be met?			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Tra 05 Travel Plan

No. of BREEAM credits available	1	Available contribution to overall score	1.11%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a transport plan based on site specific travel survey/assessment be developed?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.11%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

WATER

Wat 01 Water Consumption

No. of BREEAM credits available	5	Available contribution to overall score	4.69%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define a target % improvement over baseline sanitary fittings
What is the target for % reduction in potable water consumption for sanitary use in the building?	25% - two credits
Please select the calculation procedure used	

Standard approach data

Water Consumption from building micro-components		L/person/day
Water demand met via greywater/rainwater sources		L/person/day
Total net water consumption		L/person/day

Improvement on baseline performance		%

Key Performance Indicator - use of freshwater resource

Total net Water Consumption		m3/person/yr
Default building occupancy		

Alternative approach data

Overall microcomponent performance level achieved	

Total BREEAM credits achieved	2
Total contribution to overall building score	1.88%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Wat 02 Water Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.94%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will there be a water meter on the mains water supply to the building(s)?	Yes	1	1
Will metering/monitoring equipment be specified on the water supply to any relevant plant/building areas?	Yes		
Will all specified water meters have a pulsed output?	Yes		
If the site/building has an existing BMS connection, will all pulsed meters be connected to the BMS?	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.94%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Wat 03 Water Leak Detection and Prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.88%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a mains water leak detection system be installed on the building's mains water supply?	Yes	1	1
Will flow control devices be installed in each sanitary area/facility?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.88%
Total BREEAM innovation credits achieved	N/A

Minimum standard(s) level	N/A

Comments/notes:

Wat 04 Water Efficient Equipment

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Has a meaningful reduction in unregulated water demand been achieved?			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

MATERIALS

Mat 01 Life Cycle Impacts

No. of BREEAM credits available	5	Available contribution to overall score	5.58%
No. of BREEAM innovation credits available	3	Minimum standards applicable	No

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define the number of Mat 01 credits achieved

Assessment Criteria

Predicted total Mat01 credits achieved	3
Predicted total Mat01 points achieved	
Number of building elements assessed	
Green Guide exemplary level compliant?	No
Has IMPACT compliant software been used?	No

Key Performance Indicator - embodied green house gas emissions by element	Total area of element m^2	Total impact $kgCO_2$ eq.	Area of element impact data relevant to m^2
External walls			

Windows			
Roof			
Upper floor construction			
Internal wall			
Floor finishes/coverings			

Key Performance Indicator - embodied green house gas emissions for building (assessed elements only)

Total embodied green house gas emissions for building (by assessed elements)	Missing data	$kgCO_2$ eq.		$kgCO_2$ eq./m^2
Proportion of applicable building elements that data reported covers				

Total BREEAM credits achieved	3
Total contribution to overall building score	3.35%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Mat 02 Hard Landscaping and Boundary Protection

No. of BREEAM credits available	1	Available contribution to overall score	1.12%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will ≥80% of all external hard landscaping and boundary protection achieve a Green Guide A or A+ rating?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.12%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Mat 03 Responsible Sourcing

No. of BREEAM credits available	4	Available contribution to overall score	4.46%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant	Credits available	Credits achieved
All timber and timber based products are 'Legally harvested and trader timber'	Yes		
Is there a documented sustainable procurement plan?	Yes	1	1
Percentage of available responsible sourcing of materials points achieved	36.00%	3	2

Please confirm the route used to assess Mat03	Route 1: Lowest RSCS point score

Total BREEAM credits achieved	3
Total contribution to overall building score	3.35%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Mat 04 Insulation

No. of BREEAM credits available	1	Available contribution to overall score	1.12%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria		Credits available	Credits achieved	
What is the building's targeted insulating index?	2.50	1	1	Note: An insulatio

Total BREEAM credits achieved	1
Total contribution to overall building score	1.12%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Mat 05 Designing for durability and resilience

No. of BREEAM credits available	1	Available contribution to overall score	1.12%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will suitable durability/protection measures be specified and installed to vulnerable areas of the building?	Yes	1	1
Will suitable durability/protection measures be specified and installed to exposed parts of the building?	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.12%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Mat 06 Material efficiency

No. of BREEAM credits available	1	Available contribution to overall score	1.12%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will material efficiency measures be identified & implemented during all RIBA stages?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.12%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

WASTE

Wst 01 Construction Waste Management

No. of BREEAM credits available	4	Available contribution to overall score	4.75%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define a target number of BREEAM credits		
Select the number of BREEAM credits being targeted for issue Wst 01:	2	BREEAM Wst01 Innovation credits:	0

Assessment Criteria	Compliant?
Construction resource management plan	
Compliant Pre-demolition audit	
Does the excavation waste meet the exemplary level requirements?	

Key Performance Indicators - Construction Waste

Measure/units for the data being reported		
Non-hazardous construction waste (excluding demolition/excavation)		
Total non-hazardous construction waste generated		Note: At the pre-assessment stage this
Non-hazardous non-demolition const. waste diverted from landfill		Note: At this stage this will be a target b
Total non-hazardous non-demolition const. waste diverted from landfill		Note: At the pre-assessment stage this
Total non-hazardous demolition waste generated		Note: At this stage this will be a target b
Non-hazardous demolition waste diverted from landfill		Note: At this stage this will be a target b
Total non-hazardous demolition waste to disposal		Note: At the pre-assessment stage this
Material for reuse		Note: At this stage this will be a target b
Material for recycling		Note: At this stage this will be a target b
Material for energy recovery		Note: At this stage this will be a target b
Hazardous waste to disposal		Note: At this stage this will be a target b

Total BREEAM credits achieved	2
Total contribution to overall building score	2.38%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Wst 02 Recycled Aggregates

No. of BREEAM credits available	1	Available contribution to overall score	1.19%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Total
What is the target total % of high-grade aggregate that will be recycled/secondary aggregate?	25%

% of high-grade aggregate that is recycled/secondary aggregate - by application

Structural frame	15%
Bitumen/hydraulically bound base, binder and surface courses	30%
Building foundations	20%
Concrete road surfaces	15%
Pipe bedding	100%
Granular fill and capping	100%

Total BREEAM credits achieved	1
Total contribution to overall building score	1.19%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Wst 03 Operational Waste

No. of BREEAM credits available	1	Available contribution to overall score	1.19%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will operational recyclable waste volumes be segregated and stored?	Yes	1	1
Will static waste compactor(s) or baler(s) be specified where appropriate?	N/A		
Will vessel(s) for composting suitable organic waste where appropriate?	N/A		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.19%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Wst 04 Speculative Floor and Ceiling Finishes

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Wst 05 Adaption to climate change

No. of BREEAM credits available	1	Available contribution to overall score	1.19%
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a climate change adaptation strategy appraisal for structural and fabric resilience be conducted by the end of Concept Design (RIBA Stage 2 or equivalent)?	No	1	0
Will emexplary level criteria – Responding to adaptation to climate change be met?			

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Wst 06 Functional adaptability

No. of BREEAM credits available	1	Available contribution to overall score	1.19%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a building specific functional adaptation strategy appraisal be conducted by Concept Design (RIBA Stage 2 or equivalent) and will functional adaptation measures be implemented?	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

LAND USE & ECOLOGY

LE 01 Site Selection

No. of BREEAM credits available	2	Available contribution to overall score	2.20%

No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will at least 75% of the proposed development's footprint be located on previously occupied land?	Yes	1	1
Is the site deemed to be significantly contaminated?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	1.10%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

LE 02 Ecological Value of Site and Protection of Ecological Features

No. of BREEAM credits available	2	Available contribution to overall score	2.20%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Ecological value of the land defined using	A Suitably Qualified Ecologist

Assessment Criteria	Compliant?	Credits available	Credits achieved
Can the land within the construction zone be defined as 'land of low ecological value'?	Yes	1	1
Will all features of ecological value surrounding the construction zone/site boundary be protected?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	2.20%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

LE 03 Mitigating Ecological Impact

No. of BREEAM credits available	2	Available contribution to overall score	2.20%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Data sourced for calculating the change in ecological value from	Suitably Qualified Ecologist site survey of plant species

Assessment Criteria

What is the likely change in ecological value as a result of the sites development?	≥0 species (i.e. no negative change)	Plant species richn

Total BREEAM credits achieved	2
Total contribution to overall building score	2.20%

Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

LE 04 Enhancing Site Ecology

No. of BREEAM credits available	2	Available contribution to overall score	2.20%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved	
Will a suitably qualified ecologist be appointed to report on enhancing and protecting site ecology?	Yes	2	1	
Will the suitably qualified ecologist's general recommendations be implemented?	Yes			
What is the targeted/intended improvement in ecological value as a result of enhancement actions?	<6 species (small positive change)			Plant species richr

Total BREEAM credits achieved	1
Total contribution to overall building score	1.10%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

LE 05 Long Term Impact on Biodiversity

No. of BREEAM credits available	2	Available contribution to overall score	2.20%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a Suitably Qualified Ecologist be appointed to monitor/minimise impacts of site activities on biodiversity?	Yes	2	1
Will a landscape and habitat management plan be produced covering at least the first five years after project completion in accordance with British Standards?	Yes		
Number of applicable measures to improve biodiversity confirmed by SQE:	6		
Number of applicable measures implemented:	2		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.10%

Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

POLLUTION

Pol 01 Impact of Refrigerants

No. of BREEAM credits available	3	Available contribution to overall score	2.54%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria		Credits available	Credits achieved
Refrigerant containing systems installed in the assessed building?	Yes	2	2
Do all systems (with electric compressors) comply with the requirements of BS EN 378:2008 (parts 2 & 3) & where refrigeration systems containing ammonia are installed, the IoR Ammonia Refrigeration Systems Code of Practice?	Yes		
Global Warming Potential of the specified refrigerant(s) 10 or less?	Yes		
What is the target range Direct Effect Life Cycle CO2eq. emissions for the system?		kgCO2eq/kW coolth capacity	
Cooling/Heating capacity of the system		kW	
Will a refrigerant leak detection and containment system be specified/installed?	Yes	1	1

Total BREEAM credits achieved	3
Total contribution to overall building score	2.54%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Pol 02 NO_x Emissions

No. of BREEAM credits available	3	Available contribution to overall score	2.54%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

NO_x emission level - space heating	70.00	mg/kWh
NO_x emission level - cooling	70.00	mg/kWh

NOx emission level - water heating	0.00	mg/kWh
Does this building meet BREEAM's definition of a highly insulated building?		
Energy consumption: heating and hot water		kWh/m2 yr

Total BREEAM credits achieved	2
Total contribution to overall building score	1.69%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Pol 03 Surface Water Run off

No. of BREEAM credits available	5	Available contribution to overall score	4.23%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
What is the actual/likely annual probability of flooding for the assessed site?	Low	2	2
Will a Flood Risk Assessment be undertaken?	Yes		
Will the site meet the BREEAM criteria for peak rate surface water run off?	Yes	1	1
Will the site meet the criteria for surface water run off volume, attenuation and/or limiting discharge?	Yes	1	1
Will the site be designed to minimise watercourse pollution in accordance with the BREEAM criteria?	No	1	0

Total BREEAM credits achieved	4
Total contribution to overall building score	3.38%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Pol 04 Reduction of Night Time Light Pollution

No. of BREEAM credits available	1	Available contribution to overall score	0.85%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the external lighting specification be designed to reduce light pollution?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.85%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Pol 05 Noise Attenuation

No. of BREEAM credits available	1	Available contribution to overall score	0.85%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant	Credits available	Credits achieved
Will there be noise-sensitive areas/buildings within 800m radius of the development?	Yes	1	1
Will a noise impact assessment be carried out and, if applicable, noise attenuation measures specified?	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.85%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

INNOVATION

Inn 01 Innovation

No. of BREEAM innovation credits available	10	Available contribution to overall score	10.00%
		Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Man 03 Responsible construction practices	No	1	0
Man 05 Aftercare	N/A	N/A	0
Hea 01 Visual Comfort	No	1	0
Hea 02 Indoor Air Quality	N/A	N/A	0
Ene 01 Reduction of energy use and carbon emissions	No	5	0
Wat 01 Water Consumption	No	1	0
Mat01 Life Cycle Impacts	No	3	0
Mat03 Responsible Sourcing of Materials	No	1	0

Wst01 Construction Waste Management	No	1	0
Wst02 Recycled Aggregates	No	1	0
Wst 05 Adaption to climate change	N/A	N/A	0

Number of 'approved' innovation credits achieved?	

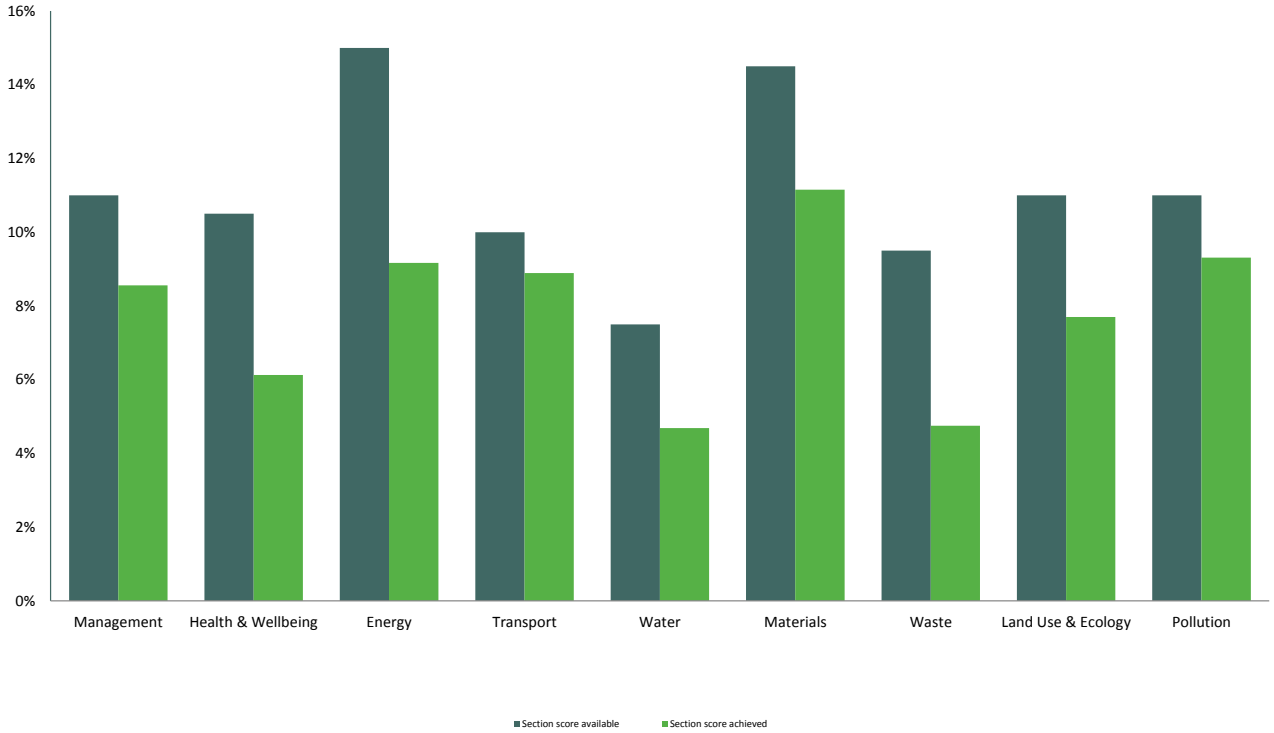
Total BREEAM innovation credits achieved	0
Total contribution to overall building score	0.00%
Minimum standard(s) level	N/A

Comments/notes:

Overall Building Performance

Building name	West End Lane
Indicative BREEAM rating	Excellent
Indicative Total Score	70.3%
Min. standards level achieved	Excellent level

Building Performance by Environment Section



Environmental Section	No. credits available	Indicative no. credits Achieved	% credits achieved	Section Weighting	Indicative Section Score
Management	18	14	77.8%	11.0%	8.6%
Health & Wellbeing	12	7	58.3%	10.5%	6.1%
Energy	18	11	61.1%	15.0%	9.2%
Transport	9	8	88.9%	10.0%	8.9%
Water	8	5	62.5%	7.5%	4.7%
Materials	13	10	76.9%	14.5%	11.2%
Waste	8	4	50.0%	9.5%	4.8%
Land Use & Ecology	10	7	70.0%	11.0%	7.7%
Pollution	13	11	84.6%	11.0%	9.3%
Innovation	10	0	0.0%	N/A	0