BREEAM Refurbishment and Fit-Out 2014

Pre-Assessment Estimate

Dukes Education

FOR THE SITE AT:
Kneller Hall
Twickenham
TW2 7DU

SRE

Version	Revision	Date	Author	Reviewer	Project Manager
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1.0 Summary

This BREEAM[1] Pre-Assessment has been prepared by SRE Ltd for the refurbishment of the buildings at Kneller Hall, Twickenham, within the London Borough of Richmond upon Thames. The estimate has been based on details and reports supplied to SRE with certain credits assessed on best practice and historical data.

Project Name	Kneller Hall
BREEAM Version	BREEAM RFO 2014
Assessment Stage	Pre-Assessment Stage
Lead Assessor	Malcolm Maclean
RFO Criteria applicable	Parts 2, 3 & 4
Target Rating	Very Good
Assessment Type	Fully Fitted
BREEAM Type	Education

1.1 Scoring Scenarios

The pre-assessment has been based on the following score scenario:

Scenario	Score	BREEAM Rating
SRE Proposed Target	65.50%	Very Good
SRE Potential Target	66.34%	Very Good

This Pre-Assessment is an indication of how the desired rating may be achieved. Changes from the outline specification given below may result in changes to the final BREEAM Design and/or PCR assessment rating. Detailed project information should be provided at the earliest date to enable prompt incorporation of design changes into the BREEAM RFO 2014 assessment.

Table 1 – BREEAM Score Chart

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1.2 Development Overview

The Proposed Development is part of a wider development at the site, with a BREEAM New Construction 2018 scheme running alongside this RFO 2014 assessment.

Within this assessment, three existing buildings are included, these are the Grade II listed Kneller Hall and the School Hall (former Band Practice Hall) and Guards House, which are both curtilage listed.

These buildings will be converted to school use providing teaching spaces and ancillary administration offices and a school library. These separate buildings can all be assessed under the same scheme under Section 8 of GN10, as 'Education' is the overarching function across all of these buildings and the wider site in which they sit and serve.

The new buildings included on the site will be assessed separately under a different applicable BREEAM methodology. Please refer to the New Construction (NC) pre-assessment for more details relating to these buildings.

1.3 BREEAM Assessment Summary

The BREEAM (Non-Domestic) RFO 2014 Pre-assessment Estimate has been prepared by SRE Ltd, as registered BREEAM assessors, in support of the refurbishment and fit-out of various listed and retained buildings at Kneller Hall, Twickenham.

The BREEAM RFO Pre-Assessment has shown that the Proposed Development can currently achieve a robust 'Very Good' rating under BREEAM RFO 2014 (SRE Target) – Parts 2, 3 & 4 – based on the assumptions and information agreed to-date.

1.4 BREEAM Phasing

The Proposed Development will be built out over a number of phases and as such the two BREEAM assessments will be undertaken and certified for the whole site at Design Stage.

As each building is completed at the Post Construction Stage an interim letter of confirmation will be provided and as such some buildings will be occupied before the final Post Construction Stage BREEAM certificate has been issued.

This approach is standard within large scale developments.

Figure 1 – Site plan of the Proposed Development

2.0 BREEAM 2014 RFO Scope of Works

This section provides a summary overview of BREEAM RFO 2014 technical guide and covers:

- The scope of the methodology associated to the proposed works on site
- Mandatory credits/standards to be achieved
- Key assumptions/assessments that have taken place to inform the BREEAM RFO 2014 Pre-Assessment Estimate.

3.0 Applicable Assessment Parts

The BREEAM RFO assessment has four 'parts' that are applicable depending upon the type of refurbishment or fit-out project being undertaken.

		Assessment parts (BREEAM Table 3)			
Project Type		Part 1 – Fabric & Structure	Part 2 – Core Services	Part 3 – Local Services	Part 4 – Internal Design
1	Major Refurbishment	✓	✓	✓	✓
2	First Fit-Out		✓~	✓	✓
3	Secondary Fit-out		✓~	✓	✓
4	Shell only	✓			
5	Shell & Core	✓	✓		
6	Upgrade of Central M&E Plant		✓		
7	Change of Use	✓	✓	✓~	✓~
8	Listed Building Refurbishment	✓~	✓	✓	✓
9	Internal refresh / remodelling				✓

Table 1 – Assessment Part Applicable to Scope of Work (~ dependent on project scope)

The Proposed Development will be assessed throughout the design and construction process and will fall under Options7 & 8 listed above – 'Change of Use and Listed Building Refurbishment'.

The four parts can be included or excluded from the BREEAM assessment subject to the level of work being undertaken on-site and meeting the individual parameters for each part. These are as follows:

Part 1: Fabric and Structure (n/a)

The Part 1 Assessment is where a refurbishment project includes ***one or more*** of the following alterations to the building fabric and where the area to be renovated is greater than 50% of the surface of the individual element or 25% of the total building envelope:

- Building façade: where the external façade of the buildings is being upgraded/refurbished such as new cladding, rendering, façade system, internal dry lining etc.
- Roof: where a new roof is being installed or where significant changes are being made to the roof structure or the replacement/refurbishment of roof coverings.
- Windows: where changes are being made to the windows such as replacement, upgrade/refurbishment of existing windows with new glazing or the specification of secondary glazing.

A minor change to the building fabric (e.g., local upgrading of an external wall) below the above thresholds would not qualify for a Part 1 assessment to be included, although it may be carried out in order to assess the overall performance of the building fabric.

Part 1 is not included within the assessment because there are significant constraints on the deliverable building fabric improvements due to the listed and curtilage listed status of the retained buildings. At the early concept stage in the design development, engagement took place with the project architect and heritage consultant concerning this matter, and it was concluded that

because of the building's heritage significance, fabric improvements would not be appropriate – or would be in localised areas – and therefore the Part 1 criteria would not be met and should not be included.

Part 2: Core Services[1]

The Part 2 Assessment is where ***at least two*** of the following are being installed or upgraded to a level that requires compliance with the Building Regulations Compliance Guide:

- Central air handling unit
- Heating boiler
- > 50% of heat distribution
- Chiller plant
- > 50% of chiller distribution
- Water services (sanitary fittings in core)
- Building management system
- Community heating system (e.g., CCHP)
- Low and zero-carbon technologies.

Where works comprise of 'like for like' component replacements e.g., a fan motor of an air handling unit a Part 2 Assessment may not be appropriate although it may still be carried out in order to assess the performance of the core services.

It has been assumed that Part 2 will be applicable to the Proposed Development.

Part 3: Local Services [2]

A Part 3 Assessment may be appropriate where *at least two* of the following fixed local building services are being installed or upgraded e.g., a replacement or new installation of local heating/cooling units.

- Replacement of > 50% of light fittings, system, and controls
- Upgrade of zone controls
- Local ventilation
- Local heating units (including sources not connected to core services)
- Local cooling units (including sources not connected to core services)
- Point of use water heaters.

If there is a requirement to replace a component of a local service as part of the refurbishment or fit-out, and that component is a direct replacement, then a Part 3 Assessment may not be appropriate, though may still be carried out in order to assess the performance of local services. Examples of component replacements include new lamps within existing fittings, circulation pumps or individual heat emitters and valves.

It has been assumed that Part 3 will be applicable to the Proposed Development.

1 BREEAM defines core services as: 'Core services are defined as services that supply multiple areas and/or tenants and will generally be centralised plant. The services will be deemed core where the services supply multiple tenancy areas and are not focused on the needs of the individual tenants. In such instances these services will normally be owned, operated and maintained by the landlord or their agent. In single tenancy occupancy buildings, the systems services will be considered as core where they supply the whole of the building. The services will normally be owned, operated and maintained by the building owner or their agent.'

2 Local services are defined as services that supply a specific area and may connect into the distribution systems from the core services within the tenanted area.

Part 4: Interior Design

A Part 4 Assessment may be appropriate where the refurbishment or fit-out works involve changes to the layout and/or redecoration of the refurbishment or fit-out area including:

- Remodelling/changes to interior spaces including two or more of the following: Wall coverings (alterations to ≥50% by area)
- Floor coverings (alterations to ≥50% by area)
- Ceiling covering or systems (alterations to ≥50% by area)
- Partitions (alterations to ≥50% by area)
- Raised floor system (alterations to ≥50% by area)
- Furniture and fittings e.g., office furniture, retail display furniture and fittings etc. (alterations to ≥50% by area)
- AND at least one of the following: Sanitary fittings e.g., tea/coffee points, kitchenette, and washrooms (alterations to ≥50% of fittings)
- Equipment e.g., Office equipment, display lighting, display chillers/freezers (alterations to ≥50% of equipment)
- Local electrical installations e.g., sub-metering

It has been assumed that Part 4 is applicable to the Proposed Development.

4.0 BREEAM Credit Summary

In addition, performance against the minimum standards (required for the specified target rating) under each scenario is summarised below. If the required minimum standards are not met, then the target rating will not be achieved regardless of the overall score.

Issue	Targeted	Potential
Man 03 - Responsible construction practices	✔	✔
Man 04 - Commissioning and handover	✔	✔
Ene 01 - Reduction of energy use and carbon emissions	✔	✔
Ene 02 - Energy Monitoring	✔	✔
Wat 02 - Water Monitoring	✔	✔
Mat 03 - Responsible Sourcing of Materials	✔	✔
Wst 01 - Construction Waste Management	✔	✔

Table 2 – BREEAM Minimum Standards

4.1 BREEAM Excellent

Although the minimum standards for an 'Excellent' rating have been met by the retained and upgraded buildings within the Proposed Development, the overall target score for the BREEAM RFO element of the project is currently 65.50%, which will deliver a robust 'Very Good' rating. The credits targeted are considered by SRE and the design team to be realistic and challenging but also deliverable on-site.

There is only one remaining 'Potential Credit' still listed within the following section. This is Hea 01 but is high risk in terms of delivering all the criteria within the credit and it is only attributable to 0.84%.

Even if this potential credit is achieved, the overall target score is still well below the threshold 70% so an Excellent rating is not possible for the retained change of use and refurbished units.

BREEAM standards can be challenging to achieve, and the pre-assessment should be carefully reviewed by the design and construction teams to ensure all targeted credits are delivered as the project is progressed. Sections 4.0 and 5.0 list the specific credits proposed as part of the BREEAM 'Very Good' rating.

4.0 Potential and unachievable credits

The following are credits which have been identified as those that are *potentially achievable* if high benchmarks and/or third-party reports are undertaken.

BREEAM Credit		Potential Credits	% Score	Summary of the credit requirements
Hea 01	Visual Comfort – View Out	1	0.84	The view-out credits are currently assumed based on the initial development drawings and standard education requirements. The Architect is required to confirm the View out credits through drawings and a Design Stage commitment letter. Credits targeted are therefore subject to change.

Table 3 – Potential credits.

The following credits have been identified as *unachievable* on the site. An explanation has been given for each:

BREEAM Credit		Unachievable credits	% Score	Summary of credit requirements
Hea 01	Visual comfort - Daylighting	1	0.84	Based on the external façade daylighting is likely to be limited. This will be reviewed by the design team.
Hea 02	Ventilation	2	1.68	The ventilation credits are not achievable as air intakes are not 10m away from a source of external pollution (access road, parking area).
Hea 04	Thermal Comfort	3	2.52	Exposed thermal mass requirements cannot be achieved for the existing buildings due to acoustic issues, meaning 3 credits cannot be achieved for Thermal Comfort.
Ene 01	Reduction of energy use and carbon emissions	9	6.39	6 credits have already been targeted for the whole building energy model.
Ene 04	Passive design – free cooling	2	1.42	As the 3 credits in Hea04 cannot be achieved (thermal comfort), this one credit for the passive analysis cannot be achieved as per criterion 1. As outlined in CN6.1, to achieve the passive design free cooling credit no active cooling can be used.
Pol 02	NOx emissions	2	1.88	Emissions are likely to be in excess of 100mg/kWh, meaning only 1 credit can be targeted in this section.

Table 4 - Unachievable credits

5.0 Summary Score Sheet

		Available	Targeted	Potential
Management				
Man 01	Project brief and design	4	4	4
Man 02	Life cycle cost and service life planning	4	1	1
Man 03	Responsible construction practices	6	6	6
Man 03 – Exemplary (1)	Responsible construction practices	1	0	0
Man 04	Commissioning and handover	3	3	3
Man 05	Aftercare	3	3	3
Man 05 – Exemplary (1)	Aftercare	1	0	0
	Standard Management Credit Total:	**20**	**17**	**17**
	Exemplary Management Credit Total:	**2**	**0**	**0**
	% Management Total (Standard + Exemplary):	**16**	**11.90**	**11.90**
Health & Wellbeing				
Hea 01	Visual Comfort	7	2	3
Hea 01 – Exemplary (1)	Visual Comfort	1	0	0
Hea 02	Indoor Air Quality	5	3	3
Hea 02 – Exemplary (1)	Indoor Air Quality	2	0	0
Hea 04	Thermal comfort	3	0	0
Hea 05	Acoustic Performance	3	2	2
Hea 06	Safety and Security	1	1	1
	Standard Health & Wellbeing Credit Total:	**19**	**8**	**9**
	Exemplary Health & Wellbeing Credit Total:	**3**	**0**	**0**
	% Health & Wellbeing Total (Standard + Exemplary):	**18.96**	**6.72**	**7.56**
Energy				
Ene 01	Reduction of energy use and carbon emissions	15	6	6
Ene 01 – Exemplary (1)	Reduction of energy use and carbon emissions	5	0	0
Ene 02	Energy Monitoring	2	2	2
Ene 03	External Lighting	1	1	1

		Available	Targeted	Potential
Ene 04	Low carbon design	3	1	1
Ene 06	Energy Efficient Transportation Systems	3	2	2
Ene 08	Energy Efficient Equipment	2	2	2
	Standard Energy Credit Total:	**26**	**14**	**14**
	Exemplary Energy Credit Total:	**5**	**0**	**0**
	% Energy Total (Standard + Exemplary):	**23.46**	**9.94**	**9.94**
Transport				
Tra 01	Sustainable transport solutions	3	3	3
Tra 02	Proximity to amenities	1	1	1
Tra 03	Cyclist facilities	2	2	2
Tra 05	Travel Plan	1	1	1
	Standard Transport Credit Total:	**7**	**7**	**7**
	Exemplary Transport Credit Total:	**0**	**0**	**0**
	% Transport Total (Standard + Exemplary):	**5.74**	**5.74**	**5.74**
Water				
Wat 01	Water Consumption	5	3	3
Wat 01 – Exemplary (1)	Water Consumption	1	0	0
Wat 02	Water Monitoring	1	1	1
Wat 03	Leak Detection	2	2	2
Wat 04	Water Efficient Equipment	1	1	1
	Standard Water Credit Total:	**9**	**7**	**7**
	Exemplary Water Credit Total:	**1**	**0**	**0**
	% Water Total (Standard + Exemplary):	**8.38**	**5.74**	**5.74**
Materials				
Mat 01	Life Cycle Impacts	6	2	2
Mat 01 – Exemplary (1)	Life Cycle Impacts	1	0	0
Mat 03	Responsible Sourcing of Materials	4	2	2
Mat 03 – Exemplary (1)	Responsible Sourcing of Materials	1	0	0
Mat 04	Insulation	1	1	1

		Available	Targeted	Potential
Mat 05	Designing for durability and resilience	1	1	1
Mat 06	Material efficiency	1	1	1
	Standard Materials Credit Total:	**13**	**7**	**7**
	Exemplary Materials Credit Total:	**2**	**0**	**0**
	% Materials Total (Standard + Exemplary):	**17.34**	**8.26**	**8.26**
Waste				
Wst 01	Construction Waste Management	7	5	5
Wst 01 – Exemplary (1)	Construction Waste Management	1	0	0
Wst 03	Operational Waste	1	1	1
Wst 06	Functional adaptability	1	1	1
	Standard Waste Credit Total:	**9**	**7**	**7**
	Exemplary Waste Credit Total:	**1**	**0**	**0**
	% Waste Total (Standard + Exemplary):	**7.93**	**5.39**	**5.39**
Land Use & Ecology				
LE 02	Protection of Ecological Features	1	1	1
LE 05	Long Term Impact on Biodiversity	2	1	1
	Standard Land Use & Ecology Credit Total:	**3**	**2**	**2**
	Exemplary Land Use & Ecology Credit Total:	**0**	**0**	**0**
	% Land Use & Ecology Total (Standard + Exemplary):	**7.38**	**4.92**	**4.92**
Pollution				
Pol 01	Impact of Refrigerants	3	2	2
Pol 02	NOx emissions	3	1	1
Pol 03	Surface Water Run Off	2	2	2
Pol 04	Reduction of Night Time Light Pollution	1	1	1
	Standard Pollution Credit Total:	**9**	**6**	**6**
	Exemplary Pollution Credit Total:	**0**	**0**	**0**
	% Pollution Total (Standard + Exemplary):	**8.46**	**5.64**	**5.64**
Innovation				
AI	Approved Innovation			

	Available	Targeted	Potential
AI - Innovation Credit Total:	1	1	1
% Innovation Total (Standard + Exemplary):	1	1	1
OVERALL TOTALS		76	77
% OVERALL SCORE TOTALS		65.25	66.09

6.0 Detailed Score Sheet

Management					
Man 01 - Project brief and design					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Stakeholder consultation (project delivery)	1	1	1	**Stakeholder Consultation (project delivery)** **Targeted - Yes (1 credit)** Input from all the major stakeholders is required from the earliest stage (prior to RIBA stage 2), key roles and responsibilities are to be identified and defined for each key phase. The design team must demonstrate how stakeholder consultation has influenced the Initial Project Brief including, where relevant, the project execution plan, communication strategy and the concept design. Documentation such as meeting minutes, project brief and project plan will be required (this must be prior to RIBA Stage 2). **Actions:** • *Design Team to provide evidence of meetings between major stakeholders and how the outcomes of the meetings have influenced the Project Brief and early design options* SRE (12/07/2022): Man01 schedule is completed and early-stage meeting notes along with drafts of some reports are received. Completed Project Execution Plan, Statement of Community Involvement, Design and Access Statement, Landscape Design Statement and Planning Statement will be required when they are completed.
2	Stakeholder consultation (third party)	1	1	1	**Stakeholder Consultation (third party)** **Targeted - Yes (1 credit)** All relevant third-party stakeholders should be fully consulted by the design team. It must be demonstrated how the consultation exercise has influenced the project brief and concept design. Consultation feedback must also be provided to all relevant parties. **Actions:** • *Design Team to provide evidence of meetings between third-party stakeholders and how the outcomes of the meetings have influenced the Project Brief and early design options.* SRE (12/07/2022): Man01 schedule is completed and early-stage meeting notes along with drafts of some reports are received. Completed Project Execution Plan, Statement of Community Involvement, Design and Access Statement, Landscape Design Statement and Planning Statement will be required when they are completed.
3	Sustainability Champion (design)	1	1	1	**Sustainability Champion design** **Targeted - Yes (1 credit)** A Sustainability Champion should be appointed at RIBA Stage 1 (feasibility) to set and facilitate the BREEAM performance targets for the project. These targets must be formally agreed with the client by Concept Design Stage with the BREEAM Design Stage report showing compliance with the performance targets.

					Actions: • *SRE has been appointed as Sustainability Champion (AP) role so will be responsible for these elements. AP will need to be reappointed in the Design stage to confirm.*
4	Sustainability Champion (monitoring progress)	1	1	1	**Sustainability Champion monitoring** **Targeted - Yes (1 credit)** Sustainability Champion (Design) criteria have to be met to enable this additional credit to be achieved. Sustainability Champion to be appointed to monitor progress against the agreed BREEAM performance targets. **Actions:** • *SRE has been appointed as Sustainability Champion (AP) role so will be responsible for these elements. AP will need to be reappointed in the Design stage to confirm.*
Man 02 - Life cycle cost and service life planning					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Elemental life cycle cost (LCC)	2	0	0	**Elemental life cycle cost (LCC)** **Targeted - No** An Elemental Life Cycle Cost (ELCC) analysis is to be carried out at Process Stage 2 (equivalent to Concept Design - RIBA Stage 2) together with any design option appraisals in line with the 'Standardised method of life cycle costing for construction procurement' PD 156865:2008. The ELCC analysis must demonstrate how the following has been developed: • An outline LCC Plan undertaken for the buildings basic structure & envelope, appraising a range of options and based on the life expectancy of the refurbished building. (20, 30, 50+ years). • The servicing strategy for the project outlining services components over a 15-year period, in the form of an 'elemental LCC plan'. • A fit-out strategy outlining fit-out options over a 10-year period. **Actions:** • *ELCC and/or CLCC are not included within this scheme based on the nominal fit-out elements that would be assessed.*

2	Component level LCC option appraisal	1	0	0	**Component level LCC option appraisal** **Targeted - No** A Component Level LCC (CLCC) Plan is to be carried out at Process Stage 4 (equivalent to Technical Design - RIBA Stage 4) in line with PD 156865:2008: 'Standardised method of life cycle costing for construction procurement'. The report must demonstrate how the LCC plan has influenced building systems design/specification to minimise LCC and maximise critical value. This includes where present: • Part 1: Envelope (cladding, windows, roofing) • **Part 2 & 3:** New local & core services equipment (boiler, A/C, air handling, controls etc.) • **Part 1-4:** Finishes (walls, partitions, floors, ceilings etc.) • **External space:** If included (hard landscaping, boundary protection) **Actions:** • *ELCC and/or CLCC are not included within this scheme based on the nominal fit-out elements that would be assessed. Therefore, credit is not targeted.*
3	Capital cost reporting	1	1	1	**Capital cost reporting** **Targeted – Yes (1 credit)** The capital cost for the refurbishment/fit-out works is to be reported in pounds per square metre (£k/m^2) via the BREEAM Assessment Scoring and Reporting tool. This is to be formally stated in the BREEAM assessment and written confirmation is to be provided during the Design Stage. **Actions:** • *QS is to report the capital cost for the refurbishment/fit-out works in £k/m^2.*
Man 03 - Responsible construction practices					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req 1	Pre-Requisite		✔	✔	All timber and timber-based products used on the project to be **'Legally harvested and traded timber'** - MANDATORY
1	Environmental management	1	1	1	**Environmental Management System(ISO 14001/EMAS)** **Targeted - Yes (1 credit)** The principal contractor (and demolition contractor) must have a certified Environmental Management System (ISO 14001/EMAS) covering their main operations. This must be EITHER: 1. Third party certified, to ISO 14001/EMAS or equivalent standard; or

					2. 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 1 to 4, as defined in BS 8555:2003. The principal contractor (and demolition contractor) must also implement best practice pollution prevention policies and procedures on-site in accordance with Pollution Prevention Guidelines, Working at construction and demolition sites: PPG6. **Actions:** • *Main Contractor appointed must have an EMS or equivalent certification.*
2	Sustainability Champion (construction)	1	1	1	**Site based Sustainability Champion** **Targeted - Yes (1 credit)** A Sustainability Champion must be appointed to monitor the project to ensure ongoing compliance with the relevant sustainability performance/process criteria, and therefore BREEAM target(s), during the Construction, Handover and Close Out stages (as defined by the RIBA Plan of Works 2013, Stages 5 and 6). The Sustainability Champion will ideally be site based or will visit the site regularly to carry out spot checks, with the relevant authority to do so, and will require action to be taken to address shortcomings in compliance. The Sustainability Champion will monitor site activities with sufficient frequency to ensure that risks of non-compliance are minimised. For example, at key stages of the construction process at times where: • Works can be observed before they are covered up or new works or trades start • Significant risks of conflicts or errors could occur, where timing is critical to demonstrating compliance • Key evidence is required to be produced at specific times including, but not limited to photographic, delivery notes and other documentary evidence • Different trades and systems come together and one could harm the integrity or compliance of another system's performance against BREEAM requirements. They will report on progress at relevant project team meetings including identifying potential areas of non-compliance and any action needed to mitigate. **Actions:** • *Main Contractor to provide a written commitment to undertake the above - SRE can champion upon request.*
3	Considerate construction	2	2	2	**Considerate Constructors Scheme** **Targeted - Yes (2 credits)** The principal contractor must use a 'compliant' organisational, local or national considerate construction scheme (e.g.,

					Considerate Constructor Scheme - CCS) and their performance against the scheme must be confirmed by independent assessment and verification. The BREEAM credits will be awarded as follows: 1. One credit where the contractor achieves compliance with the criteria of a compliant scheme, e.g., >25/50 points, with a minimum of 5 points in each category. 2. **Two credits where the contractor significantly exceeds compliance with the criteria of the scheme, e.g., >35/40 points, with a minimum of 7 points in each category.** **Actions:** • *Main Contractor to register the scheme under CCS and provide evidence of this registration.*
4	Monitoring of construction site impacts - Utility consumption	1	1	1	**Monitoring of refurbishment or fit-out-site impacts - Utility consumption** **Targeted – Yes (1 credit)** An individual(s) must be assigned responsibility for monitoring, recording and reporting energy use and water consumption resulting from all on-site refurbishment or fit-out processes (and dedicated off-site monitoring) throughout the refurbishment or fit-out programme. The individual(s) must have the appropriate authority and responsibility to request and access the data required. Where appointed, the Sustainability Champion could perform this role. To achieve the utility consumption credit, the following must be reported: • **Energy consumption** (in kWh) and, where relevant, litres of fuel used as a result of the use of the construction plant, equipment (mobile and fixed) and site accommodation. • **Carbon dioxide emissions** (total $kgCO_2$/project value) from the construction process. • The principal contractor's and subcontractor's **potable water consumption** (m^3) arising from the use of the construction plant, equipment (mobile and fixed), and site accommodation. This collated data should be used to report the total net water consumption (m^3) - consumption minus any recycled water used from the construction process. **Actions:** • *Main Contractor to assign an individual with the appropriate authority to monitor and report data.* • *Construction energy consumption, CO_2emissions and construction water consumption data are to be monitored and reported throughout construction.*

5	Monitoring of construction site impacts - Transport of construction materials & waste	1	1	1	**Site monitoring of utilities and transport of construction and waste materials** **Targeted – Yes (1 credit)** An individual(s) must be assigned responsibility for monitoring, recording and reporting transport data (where measured) resulting from all on-site refurbishment or fit-out processes (and dedicated off-site monitoring) throughout the refurbishment or fit-out programme. The individual(s) must have the appropriate authority and responsibility to request and access the data required. Where appointed, the Sustainability Champion could perform this role. The responsible individual(s) must monitor and record data on transport movements and impacts resulting from delivery of the majority of refurbishment or fit-out materials to site and refurbishment, fit-out and demolition or strip-out waste from site. As a minimum this must cover: • Transport of materials from the factory gate to the building site, including any transport, intermediate storage and distribution. • Where **Part 2** is being assessed, materials used for core services. • Where undertaking a comprehensive refurbishment including fit-out with a **combination of Parts 1 - 4**, materials used for major building elements, services and interior fit-out • Where within scope, ground works and landscaping materials • Transport of construction waste from the construction gate to waste disposal processing or recovery centre gate. Scope of this monitoring must cover the construction waste groups outlined in the project's waste management plan. This collated data will be used to report the total fuel consumption (litres) and/or total carbon dioxide emissions ($kgCO_2eq$), plus the total distance travelled (km). **Actions:** • *Main Contractor to assign an individual with the appropriate authority to monitor and report data.* • *Transportation of construction materials and waste is to be reported by responsible individual throughout construction.*
e1	Considerate Construction: Exemplary performance	1	0	0	
Man 04 - Commissioning and handover					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Pre-Requisite (Excellent & Outstanding only)		✔	✔	
1	Commissioning and testing schedule and responsibilities	1	1	1	**Commissioning and testing schedule** **Targeted - Yes (1 credit)** An appropriate project team member(s) must be appointed to monitor and programme pre-commissioning, commissioning, testing and, where necessary, re-commissioning activities on behalf of the client.

					A full **commissioning and testing schedule** must be compiled, with responsibilities set out for all complex and non-complex systems and services, building control systems and changes to the building fabric that will affect thermal performance. Commissioning is to be undertaken in accordance with the relevant standards, for example, current Building Regulations, BSRIA and CIBSE guidelines and/or other appropriate standards, where applicable. Where a **building management system (BMS)** is specified, the following commissioning procedures must be carried out: 1. Commissioning of air and water systems is carried out when all control devices are installed, wired and functional. 2. In addition to air and water flow results, commissioning results include physical measurements of room temperatures, off-coil temperatures and other key parameters as appropriate. 3. The BMS/controls installation should be running in auto with satisfactory internal conditions prior to handover. 4. All BMS schematics and graphics (if BMS is present) are fully installed and functional to user interface before handover 5. The occupier or facilities team is fully trained in the operation of the system. The principal contractor must account 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. **Actions:** • *Main Contractor to assign an individual with the appropriate authority to monitor and report commissioning data.* • *Main Contractor to provide written specification to confirm the above.* • *Evidence of testing and commissioning will be required at the PCR stage.*
2	Commissioning building services	1	1	1	**Commissioning building services** **Targeted - Yes (1 credit)** The 'Commissioning and testing schedule and responsibilities' credit must be achieved. For projects where work is being undertaken to upgrade, renovate or install new building services and systems, an appropriate project team member must be appointed to undertake the work. For complex services and systems, a specialist commissioning manager must be appointed during the design stage (by either client or contractor) to perform this role. They must have responsibility for: • Undertaking design reviews and giving advice on suitability for ease of commissioning • Providing commissioning management input into the construction programming or during installation stages • Management of commissioning, performance testing and handover/post-handover stages

					For simple building services, the role can be performed by an appropriate project team member, provided they are not involved in the general installation works for the building services systems. **Actions:** • *MC is to appoint an appropriate team member/specialist commissioning manager during the Design Stage to undertake the above.*
4	Handover	1	1	1	**Handover** **Targeted - Yes (1 credit)** A **Building User Guide** should be developed or (where present) an existing Building User Guide is updated prior to handover for distribution to the building occupiers and premises managers. A draft copy must first be produced and discussed with building users to ensure the guide is sufficiently relevant and useful. In addition, a **training schedule** should be prepared for the building occupiers and/or premises manager. This must include (as a minimum): 1. The design intent of refurbishment/fit-out works 2. The available aftercare provision and aftercare team main contact(s), including any scheduled seasonal commissioning and post-occupancy evaluation 3. Introduction to, and demonstration of, installed systems and key features, particularly building management systems, controls and their interfaces, to ensure they are fully conversant with the detailed operation of the building 4. 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. 5. Maintenance requirements, including any maintenance contracts and regimes in place. **Actions:** • *Draft copy of the Building User Guide is to be produced, circulated to building users, and updated prior to handover.* • *Training schedule to be produced.*
Man 05 - Aftercare					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Aftercare support	1	1	1	**Aftercare support** **Targeted - Yes (1 credit)** Operational infrastructure and resources must be put in place to provide aftercare support to the building occupier(s), including:

					1. A meeting programmed to occur between the aftercare team/individual and the building occupier/management (prior to initial occupation, or as soon as possible thereafter) to: ○ Introduce the aftercare team or individual to the aftercare support available, including the Building User Guide (where existing) and training schedule/content. ○ Present key information about features of the refurbished building including the design intent and how to use the building to ensure it operates as efficiently and effectively as possible (including the use of local services and controls and central services, as applicable). ○ On-site facilities management training, to include a walkabout of the refurbished area of the building and introduction to, and familiarisation with the building systems, their controls and how to operate them in accordance with the design intent and operational demands. ○ Initial aftercare support provision for at least the first month of building occupation, e.g. on-site attendance on a weekly basis to support building users/and management and to conduct a walk-around to examine how the refurbished area of the building is being used/operated to identify any issues that need to be communicated to building users/facilities managers (this could be more or less frequent depending on the complexity of the building and building operations). ○ Longer term aftercare support provision for occupants for at least the first 12 months from occupation, e.g. a helpline, nominated individual or other appropriate system to support building users/management. Operational infrastructure and resources must be put in place to coordinate the collection and monitoring of energy and water consumption data for a minimum of 12 months (for Part 4, where local metering is available and accessible), once the building is occupied. Discrepancies between actual and predicted performance should be identified, with a commitment to identify actions required to address any discrepancies such as adjusting systems and/or to develop/review operational policies to influence user behaviours accordingly. **Actions:** • *Client to commit to aftercare support for at least 12 months after occupation.*
2	Seasonal commissioning	1	1	1	**Seasonal commissioning** **Targeted – Yes (1 credit)** The following seasonal commissioning activities must be completed over a minimum 12-month period, once the building becomes substantially occupied:

					Complex systems - Specialist Commissioning Manager: • Testing of all building services under full load conditions, i.e. heating equipment in mid-winter, cooling/ventilation equipment in mid-summer, and under part load conditions (spring/autumn). • Where applicable, testing is carried out during periods of extreme (high or low) occupancy. • Interviews with building occupants (where they are affected by the complex services) to identify problems or concerns regarding the effectiveness of the systems. • Re-commissioning of systems (following any work needed to serve revised loads) and incorporating any revisions in operating procedures into the operations and maintenance (O&M) manuals. Simple systems (naturally ventilated) - external consultant/aftercare team/facilities manager: • Review thermal comfort, ventilation, and lighting, at three, six- and nine-month intervals after initial occupation, either by measurement or occupant feedback. • Take all reasonable steps to re-commission systems following the review to take account of deficiencies identified and incorporate any relevant revisions in operating procedures into the O&M manuals. **Actions:** • *Client to commit to seasonal commissioning activities over a minimum 12-month period, once the building becomes substantially occupied.*

3	Post occupancy evaluation	1	1	1	**Post Occupancy Evaluation**
					Targeted - Yes (1 credit)
					The client or building occupier must make a commitment to carry out a Post Occupancy Evaluation (POE) exercise 1 year after the initial building occupation. The POE is to be undertaken by an independent party and should cover:
					
					• A review of the design intent and construction process (review of design, procurement, construction and handover processes).
					• Feedback from a wide range of building users including facilities management on the design and environmental conditions of the building covering:
					  ○ Internal environmental conditions (light, noise, temperature, air quality)
					  ○ Control, operation and maintenance
					  ○ Facilities and amenities
					  ○ Access and layout, other relevant issues.

					• Sustainability performance (energy/water consumption, performance of any sustainable features or technologies, e.g. materials, renewable energy, rainwater harvesting etc.).
					
					The client or building owner must carry out the appropriate dissemination of information on the building's post-occupancy performance to share lessons learned and inform changes in user behaviour, building operational processes and procedures, and system controls.
					
					Information to be disseminated includes:
					
					• A basic description of the project and building
					• BREEAM rating and score
					• The key innovative and low-impact design features of the building
					• Project cost
					• Project size: floor area, site area
					• Facilities available for community use (where relevant)
					• Any steps taken during the construction process to reduce environmental impacts, i.e. innovative construction management techniques
					• Predicted and actual carbon dioxide emissions and/or Energy Performance Certificate rating (where this is available)
					• Outcomes of the post occupancy evaluation study, to share lessons learned from the project including:
					  ○ Occupant feedback
					  ○ Energy and water consumption including renewable energy generation, level of rainwater/grey water provision, as applicable.
					
					Appropriate methods of dissemination include:
					
					• Communication to immediate stakeholders such as building occupants, managers and owners (and communication externally)
					• The production and publication of a building case study through one of the following:
					  ○ Client's/building owner's website, publicly available literature or press release
					  ○ Industry/sector or government/local authority sponsored website or information portals
					• Where public dissemination is not possible, a commitment should be put in place to produce and disseminate the relevant information at an organisational level or to appropriate internal/external stakeholders. Alternatively, any sensitive parts of information for dissemination can be omitted from the publication.
					
					Actions:

					• *Client to commit to appointing an independent party to perform a POE 12 months post-occupancy, and appropriately disseminate the results and information.*
e1	Aftercare / monitoring: 3 years	1	0	0	
		20	17	17	**Standard Management Credit Total**
		2	0	0	**Exemplary Management Credit Total**
		16	11.90	11.90	**% Management Total (Standard + Exemplary)**
Health & Wellbeing					
Hea 01 - Visual Comfort					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Glare control	1	1	1	**Glare control** **Targeted - Yes (1 credit)** A glare control strategy will be implemented, through measures such as building form/ layout, brise soleil, blinds etc. This will only be necessary in the relevant building areas where glare control would be problematic for users, from initial drawings this is within the flexible working areas and potential reception areas. A glare control strategy must be implemented to disable glare in all relevant building areas, either through building form and layout or compliant building design measures, such as: • Building-integrated measures (e.g. low eaves) • Occupant-controlled devices such as blinds (where transmittance value is < 0.1 (10%)for visible light). Blackout blinds can be used as all relevant criteria are met. • Bioclimatic design • External shading or brise soleil. **Curtains (where used without other forms of shading) do not provide sufficient control to optimise daylight into the space, and therefore do not meet the criteria and cannot be considered an appropriate glare control measure.** Glare control must provide shading from both high-level summer and low-level winter sun. Where using fixed systems, design studies can be used to demonstrate that sunlight is prevented from reaching building occupants during occupied hours. The glare control strategy chosen must avoid increasing light energy consumption by ensuring that: 1. The glare control system is designed to maximise daylight levels under all conditions while avoiding disabling glare in the workplace or other sensitive areas. The system should not inhibit daylight from entering the space under cloudy conditions, or when sunlight is not on the facade: AND 2. The use or location of shading does not conflict with the operation of lighting control systems.

					Actions: • *Architect to provide the glare control strategy and specifications/datasheets of measures to be put in place.*
2	Daylighting	3	0	0	**Daylighting** **Targeted - No** Up to 3 credits can be awarded depending on the percentage of relevant building areas that comply with one of the following daylighting criteria (Option 1 or 2): EDUCATION BUILDINGS - Higher education **OPTION 1:** A 2% average daylight factor is achieved in - • **1 credit: 40% (m^2)** • 2 credits: 60% (m^2) • 3 credits: 80% (m^2) of occupied spaces. AND EITHER • A uniformity ratio of at least 0.3 OR • A minimum point daylight factor of at least 0.3 times the relevant average daylight factor value (2%). ○ Spaces with glazed roofs, such as atria, must achieve a uniformity ratio of at least 0.7 or a minimum point daylight factor of at least 0.7 times the relevant average daylight factor value (2%). OR • At least 80% of the room has a view of sky from desk or table top height (0.85m in multi-residential buildings, 0.7m in other buildings). • The room depth criterion d/w +d/HW < 2/(1-RB) is satisfied, where: d = room depth w = room width HW = window head height from floor level RB = average reflectance of surfaces in the rear half of the room

					OPTION 2: The relevant building areas meet good practice average daylight illuminance (averaged over the entire space) of at least 300 lux for 2000 hours per year or more and minimum point daylight illuminance at the worst lit point of at least 90 lux for 2000 hours per year or more in - • **1 credit: 40% of spaces** • 2 credits: 60% of spaces • 3 credits: 80% of spaces Alternatively, two credits can be awarded where daylighting provision, averaged over all relevant spaces, has improved after refurbishment or fit-out by 30% or more and there is a minimum glazing to floor area ratio of either: • 5% glass to floor area ratio for side windows; OR • 2.5% glass to floor area ratio for roof lights; **One credit** is awarded where daylighting provision, averaged over all relevant spaces, has improved after refurbishment or fit-out by 15% or more and there is a minimum glazing to floor area ratio of either: • 5% glass to floor area ratio for side windows; OR • 2.5% glass to floor area ratio for roof lights. **Actions:** *Daylighting credits are currently assumed based on the initial development drawings and standard education requirements. The Architect is required to confirm the Daylighting credits through drawings and a Design Stage commitment letter and Daylighting calculations.. Credits targeted are therefore subject to change.* *SRE (31.08.2022): Daylighting modelling will be required to confirm credits.* *SRE (02.09.2022): Credit removed from potential.*
3	View out	2	0	1	**View out (2 credits)** **Targeted - Potential** Two credits: 95% of the floor area in each relevant building area must be within 7m of a wall which has a window or permanent opening that provides an adequate view out. **One credit: 80% of the floor area in each relevant building area must be within 7m of a wall which has a window or permanent opening that provides an adequate view out.** The window/opening must be20% of the surrounding wall area. Where the room depth is greater than 7m, compliance is only possible where the percentage of window/opening is the same as, or greater than, the values in Table 1.0 of BS 8206.

					Adequate view out: A view of a landscape or buildings (rather than just the sky) at seated eye level (1.2 1.3m) within the relevant building areas and should ideally be through an external window. A view into an internal courtyard or atrium will comply provided the distance from the opening to the back wall of the courtyard/atrium is at least 10m (therefore allowing enough distance for the eyes to refocus). The view cannot be an internal view across the room, as this is likely to become obstructed by partitions, filing cabinets etc. **Actions:** • *View out credits are currently assumed based on the initial development drawings and standard education requirements. The Architect is required to confirm the View out credits through drawings and a Design Stage commitment letter. Credits targeted are therefore subject to change.*
4	Internal and external lighting levels, zoning and control	1	1	1	**Internal and external lighting, zoning and controls** **Targeted Yes (1 credit)** **Internal lighting:** All internal fluorescent and compact fluorescent lamps must be fitted with high-frequency ballasts. Internal lighting in all relevant areas of the building must be designed to provide illuminance levels in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. For areas where computer screens are regularly used, the lighting design must comply with CIBSE Lighting Guide 72sections2.4, 2.20 and 6.10 to 6.20. This gives recommendations highlighting: • Limits to the luminance of the luminaires to avoid screen reflections. (Manufacturers data for the luminaires should be sought to confirm this.) • 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. • Recommendations for direct lighting, ceiling illuminance, and average wall illuminance. **External lighting:** All external lighting located within the refurbishment or fit-out zone is designed to provide illuminance levels in accordance with BS 5489-1:2013 and BS EN 12464-2:2014. **Zoning occupant control:** Internal lighting is zoned to allow for occupant control in accordance with the criteria below for relevant areas present within the building: 1. In office areas, zones of no more than four workplaces 2. Workstations adjacent to windows/atria and other building areas separately zoned and controlled 3. Seminar and lecture rooms: zoned for presentation and audience areas 4. Library spaces: separate zoning of stacks, reading and counter areas 5. Teaching space or demonstration area 6. Whiteboard or display screen

					7. Auditoria: zoning of seating areas, circulation space and lectern area 8. Dining, restaurant, cafe areas: separate zoning of servery and seating/dining areas 9. Retail: separate zoning of display and counter areas 10. Bar areas: separate zoning of bar and seating areas 11. Wards or bedded areas: zoned lighting control for individual bed spaces and control for staff over groups of bed spaces 12. Treatment areas, dayrooms, waiting areas: zoning of seating and activity areas and circulation space with controls accessible to staff. *Occupant control: Light switches or controls for a particular area/zone of the building that can be accessed and operated by the individual(s) occupying that area or zone. Such controls will be located within, or within the vicinity of, the zone or area they control.* Areas used for teaching, seminar or lecture purposes have lighting controls provided in accordance with CIBSE Lighting Guide 5. In addition, for **education buildings**, manual lighting controls must be easily accessible for the teacher while teaching and on entering/leaving the teaching space. **Actions:** • *M&E consultant to confirm the development's lighting requirements via specifications and lighting designs.*
e1	Daylighting: Exemplary levels	1	0	0	
Hea 02 - Indoor Air Quality					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Indoor air quality (IAQ) plan	1	1	1	**Indoor air quality plan** **Targeted - Yes (1 credit)** An indoor air quality plan must be produced and implemented, with the objective of facilitating a process that leads to design, specification and installation decisions and actions that minimise indoor air pollution during the design, construction and occupation of the building. The indoor air quality plan must consider the following: • Removal of contaminant sources • Dilution and control of contaminant sources • Procedures for pre-occupancy flush out • Protection of Heating Ventilation and Air Conditioning (HVAC) systems from sources of pollution during refurbishment/fit-out works e.g. dust • Procedures for protecting the indoor air quality of areas outside of the refurbishment or fit-out zone that may be affected by the refurbishment/fit-out works • Procedures for identifying and implementing third party testing and analysis required to ascertain that the contaminant sources have been removed effectively before occupancy • Commitments for maintaining indoor air quality in-use, e.g. maintenance and cleaning of the HVAC system, ductwork and filters.

					Actions: • *A BREEAM-compliant IAQP is to be produced. SRE can provide this service in conjunction with the report required for the other site (New Construction).*
2	Ventilation	1	0	0	**Ventilation** **Targeted - No (1 credit)** For **1 credit**: • In air-conditioned/mixed-mode buildings, the air intakes and exhausts must be over 10m apart and 20m from external sources of pollution (roads, car parks etc) or the intakes and exhausts must be designed in accordance with BS EN 13779:2007 Annex A2. • HVAC systems must have suitable filtration to minimise external pollution. This is unlikely given the sites central location. • Areas of the building subject to large and unpredictable or variable occupancy patterns have carbon dioxide (CO2) or air quality sensors specified and, in mechanical ventilated buildings/spaces, sensor(s) are linked to the mechanical ventilation system and provide demand-controlled ventilation to the space. **Actions:** • *M&E to confirm the ventilation strategy/specifications of ventilation to be installed and whether the above credit will be achieved.* *SRE (02.09.2022): Credit removed from targeted and potential.*
3	Volatile organic compound (VOC) emission levels (products)	1	1	1	**Volatile organic compound (VOC) emission levels (products)** **Targeted - Yes (1 credit)** Decorative paints and varnishes, wood panels, floor coverings, floor adhesives, ceiling tiles and wall coverings to be specified to meet the **VOC emission levels** as set out in BREEAM RFO 2014 Table-20. Main Contractor to collate product data sheets during construction to confirm that all relevant products meet the required emission standards. **Actions:** • *Produce a VOC schedule and compile datasheets of all products used.* • *Account for testing within budget to confirm VOC levels.*

4	Volatile organic compound (VOC) emission levels (post construction)	1	1	1	**Volatile organic compound (VOC) emission levels (post-construction)**
					Targeted - Yes (1 credit)
					1 credit can be awarded for:
					• The testing of the formaldehyde concentration levels pre-occupancy, achieving
					• Total VOC concentration levels must be measured and found to be
					• Where VOC and formaldehyde levels are found to exceed the limits above, the project team must confirm the measures that have, or will be taken, in accordance with the IAQ plan, to reduce the levels to within these limits, including re-measurement. The IAQ Plan should outline what remedial measures are appropriate depending on the severity and type of the non-compliannce with prescribed limits. Such measures may include re-testing as a matter of 'best practice'.
					• The testing and measurement of formaldehyde and TVOCs must be in accordance with the following standards, where relevant:
					  ○ BS ISO 16000-4: 2011 Diffusive sampling of formaldehyde in air
					  ○ BS ISO 16000-6: 2011 VOCs in air by active sampling
					  ○ BS EN ISO 16017-2: 2003 VOCs - Indoor, ambient and workplace air by diffusive sampling
					  ○ BS ISO 16000-3: 2011 Formaldehyde and other carbonyls in air by active sampling
					Actions:
					• *The measured concentration levels of formaldehyde (g/m³) and TVOC (g/m³) are to be reported, via the BREEAM Assessment Scoring and Reporting Tool.*
					• *Produce a VOC schedule and compile datasheets of all products used.*
					• *Account for testing within budget to confirm VOC levels.*

5	Potential for natural ventilation	1	0	0	**Potential for natural ventilation** **Targeted - No (1 credit)** In order to achieve the credit, the building ventilation strategy is designed to be flexible and adaptable to potential building occupant needs and climatic scenarios. This can be demonstrated as follows: • Where occupied spaces of the building are designed to be capable of providing fresh air entirely via a natural ventilation strategy. Achieved where room depths are designed in accordance with CIBSE AM10 (section 2.4). The openable window area in each occupied space is equivalent to 5% of the gross internal floor area of that room/floor plate; OR

					• Where the design demonstrates that the natural ventilation strategy provides adequate cross-flow of air to maintain the required thermal comfort conditions and ventilation rates, assessed using ventilation design tool types recommended by CIBSE AM107. For fit-out projects (Part 3 assessments), local services are to be designed to provide fresh air via a natural ventilation strategy and are appropriately designed according to the room depth in accordance with CIBSE AM10. The natural ventilation strategy should be capable of providing at least 2 levels of user-control on the supply of fresh air to the occupied space. The two levels of ventilation must be able to achieve the following: • Higher level: higher rates of ventilation achievable to remove short-term odours and/or prevent summertime overheating • Lower level: adequate levels of draught-free fresh air to meet the need for good indoor air quality throughout the year, sufficient for the occupancy load and the internal pollution loads of the space. **Actions:** • *M&E to confirm the potential for natural ventilation within the development.* *SRE (02.09.2022): Credit removed from targeted and potential.*
e1	VOC emissions (post construction): Exemplary levels	2	0	0	
Hea 04 - Thermal comfort					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Thermal modelling	1	0	0	**Thermal modelling** **Targeted - No** Modelling would be required to be undertaken using compliant software in accordance with CIBSE AM11 Building Energy and Environmental Modelling. The simulation must provide full dynamic thermal analysis. The modelling must demonstrate that:

					• 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 design2, Table 1.5; or other appropriate industry standard (where this sets a higher or more appropriate requirement/level for the building type). Where undertaking a **Part 4** assessment, a competent person (e.g. chartered building services engineer) must assess the suitability of existing building services and controls to identify any changes that may be required as a result of fit-out works (e.g. as a result of changes to internal layout, occupant density, additional equipment that may increase cooling loads etc.). **Actions:** • *SRE to undertake thermal modelling in accordance with CIBSE AM11.* *SRE (18.08.22): Design Team confirmed that the exposed thermal mass will not meet requirements on the existing buildings due to the acoustic issues - this credit is therefore unachievable and has been removed.*
2	Adaptability - for a projected climate change scenario	1	0	0	**Adaptability - for a projected climate change scenario** **Targeted - No** The thermal modelling credit (above) must be achieved to enable the adaptability credit to be achieved. Ultimately, thermal modelling is required to demonstrate that for different types of building services the standards are achieved for a projected climate change environment. **Projected climate change environment:** Dynamic thermal simulation software packages currently provide the facility for building designs to be assessed under external climatic conditions specific to geographic location. Industry-standard weather data for the UK is available in the form of Test Reference Years (TRYs) and Design Summer Years (DSYs) provided by CIBSE. This weather data enables thermal analysis of building designs under current climatic conditions, yet no account is taken of the projected variations in weather data that will occur during the building's life cycle as a result of climate change. For BREEAM, the fiftieth percentile DSY weather file should be used. Where thermal comfort criteria are not met for the projected climate change environment, the project team must demonstrate how the building has been adapted, or designed to be easily adapted in the future using passive design solutions in order to subsequently meet the requirements for this credit. For **air-conditioned buildings**, the PMV and PPD indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool. **Actions:**

					• *SRE to undertake thermal modelling in accordance with CIBSE AM11.* *SRE (18.08.22): Design Team confirmed that the exposed thermal mass will not meet requirements on the existing buildings due to the acoustic issues - this credit is therefore unachievable and has been removed.*
3	Thermal zoning and controls	1	0	0	**Thermal zoning and controls** **Targeted - No** The thermal modelling criteria must be achieved. Thermal modelling should inform the **temperature control strategy** for the building and its users. The control strategy is to be based on appropriate zoning, occupant control based on discussion with the end-user, and system interaction. The strategy for the proposed heating/cooling system(s) must demonstrate that it has addressed the following: • Zones within the building and how the building services could efficiently and appropriately heat or cool these areas. • Where specified, any new local cooling or heating services (or changes to existing services) are designed to ensure they do not conflict with core services (e.g. conflicts between two separate cooling systems, conflicts between core heating and locally provided cooling systems). • The degree of occupant control required for these zones, based on discussions with the end-user (or alternatively building type or use specific design guidance, case studies, feedback) considers: 1. User knowledge of building services 2. Occupancy type, patterns and room functions (and therefore the appropriate level of control required) 3. How the user is likely to operate or interact with the system(s), e.g. are they likely to open windows, access thermostatic radiator valves (TRV) on radiators, change air-conditioning settings etc. 4. The user expectations (this may differ in the summer and winter) and degree of individual control (i.e. obtaining the balance between occupant preferences, for example, some occupants like fresh air and others dislike draughts). 4. How the proposed systems will interact with each other (where there is more than one system) and how this may affect the thermal comfort of the building occupants. 5. The need or otherwise for an accessible building user actuated manual override for any automatic systems.

					Actions: • *Temperature control strategy to be confirmed and completed by M&E.* *SRE (18.08.22): Design Team confirmed that the exposed thermal mass will not meet requirements on the existing buildings due to the acoustic issues - this credit is therefore unachievable and has been removed.*
Hea 05 - Acoustic Performance					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**

1	Acoustic performance	3	2	2	**Acoustic performance**
					Targeted - Yes (2 credits)
					
					Up to 3 credits are available for Education buildings.
					
					The building should target the appropriate acoustic performance standards and testing requirements as set out within the BREEAM Technical Manual, Table 21, to achieve **2 credits** in this section:
					
					• **1st credit** - Sound insulation:
					  ○ Achieve the performance standards set out in Section 1 of the Building bulletin 93: Acoustic design of schools: performance standards, February 2015relating to airborne sound insulation between spaces and impact sound insulation of floors.
					  ○ A programme of pre-completion acoustic testing is carried out by a compliant test body in accordance with the BB93 requirements and the ANC Good Practice Guide, Acoustic testing of Schools.
					• **2nd credit** - Indoor ambient noise levels:
					  ○ Achieve the indoor ambient noise level standards set out within Section 1 of BB93 for all room types.
					  ○ A programme of acoustic measurements is carried out by a compliant test body in accordance with the ANC Good Practice Guide, Acoustic testing of Schools.
					  ○ Rain noise: installation of a specification compliant with the BB93 criteria demonstrates compliance.
					• 3rd credit - Reverberation times- **this is not possible due to the scheme being below residential units.**
					
					Actions:
					
					• *A programme of pre-completion acoustic testing must be undertaken by a compliant test body to confirm that all standards have been achieved.*
					• *To be reviewed to confirm.*

Hea 06 - Safety and Security					
	Credit	Available	Targeted	Potential	Comments
1	Security of site and building	1	1	1	**Security of site and building** **Targeted - Yes (1 credit)** A Suitably Qualified Security Specialist (SQSS) must conduct an evidence-based Security Needs Assessment (SNA) during or prior to Concept Design (RIBA Stage 2 or equivalent). The SQSS must develop a set of recommendations or solutions during or prior to Concept Design (RIBA Stage 2 or equivalent). These recommendations or solutions should 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. The recommendations or solutions proposed by the SQSS must be implemented. Any deviation from those recommendations or solutions will need to be justified, documented and agreed in advance with a suitably qualified security specialist. **Where the refurbishment or fit-out zone comprises part of a larger building:** For Part 4, where an organisation is refurbishing or fitting-out a space that is part of a larger building, with access controls and security features already in place, compliance can be demonstrated where the suitability of existing security is reviewed and any adaptations that may be required are implemented. The review should be conducted by an SQSS which,in this situation, could be an independent specialist or a person with sector-specific security expertise within the occupying organisation or from a company approved by the NSI(National Security Inspectorate). **Actions:** • *Client to appoint an SQSS and complete DS letter. Architect to provide drawings showing SNA recommendations.* • *To be reviewed by the design team to confirm the possibility.*
		19	8	9	**Standard Health & Wellbeing Credit Total**
		3	0	0	**Exemplary Health & Wellbeing Credit Total**
		18.96	6.72	7.56	**% Health & Wellbeing Total (Standard + Exemplary)**
Energy					
Ene 01 - Reduction of energy use and carbon emissions					
	Credit	Available	Targeted	Potential	Comments
1	Energy performance	15	6	6	**Reduction of energy use and carbon emission** **Targeted - Yes (6 credits)** **OPTION 1** A standard whole building energy model (e.g. BRUKL document in SBEM) and the Energy Performance Ratio must be completed and for refurbishment (EPR) it is compared to benchmarks in the BREEAM software. Using this approach ties in with Building Regulations requirements and Part L2A being applicable for the scheme.

					In essence, the potential existing building performance is compared to the average performance of the existing building stock to determine how much improvement can be achieved. This approach recognises whether the building is better or worse than the average and weights the scoring accordingly. The EPR compares actual and notional data on heating & cooling demand, primary energy consumption and CO_2 emissions. This data is listed on the existing and proposed building's BRUKL reports. **Historic Building Study (2 credits)** **Targeted - No** A study by a Suitably Qualified Heritage Conservation Specialist is required prior to the end of RIBA stage 2 to investigate the implications of improving building fabric and services performance while minimising the potential negative impacts of both the historic character of the building, the condition of the building fabric and indoor air quality. **Actions:** • *SRE to complete the Energy modelling to confirm the number of achievable credits 6 assumed at this stage based on previous experience* *SRE (18.08.2022): BREEAM Ene 01 requirements for the Heritage Assessment discussed with Heritage Consultant. Draft report to be sent to SRE once complete to confirm compliance. Credits listed as potential for now.* *SRE (02.09.2022): Heritage assessment will not include the BREEAM Ene 01 requirements. 2 potential credits therefore removed.*
e1	Zero regulated carbon / carbon negative	5	0	0	
Ene 02 - Energy Monitoring					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Sub-metering of major energy consuming systems	1	1	1	**Sub-metering of major energy-consuming systems** **Targeted - Yes (1 credit)** A BEMS is to be specified to monitor the energy use from major building services systems by both type of use and area of use. A BEMS is required as the building has a floor area of over 1000m^2. Note that sub-metering of types of use is a MANDATORY credit. **Energy metering** systems must cover at least 90% of the energy consumption of each fuel type, assigned to the following end-use categories: • Space heating from the HIU and to each unit • Hot water from the HIU and to each unit • Cooling - air handling system(TBC) • Ventilation - air handling system (TBC) • Pumps

					• Lighting • Small power • Renewable systems (TBC) • Controls • Any other major systems Areas in **Educational buildings** that must be sub-metered include: • Kitchens (excluding small staff kitchens and food technology rooms) • Computer suites • Workshops • Lecture halls • Conference rooms • Drama studios • Swimming pools • Sports halls • Process areas • Laboratories • High containment suites within laboratories • Controlled environment chambers • Animal accommodation areas • Data centres • IT work and study rooms, including IT-equipped library space and any space with provision of more than one computer terminal per 5m^2. Individual sub-metering of standard classrooms/seminar rooms is not required. **Actions:** • *M&E to include metering in the scheme and produce a schematic drawing covering all relevant items and spaces.*
2	Sub-metering of high energy load and tenancy areas	1	1	1	**Sub-metering of high energy load and tenancy areas** **Targeted - Yes (1 credit)** 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 within the building/unit. **Actions:** • *M&E to include metering in the scheme and produce a schematic drawing covering all relevant items and spaces.*
Ene 03 - External Lighting					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	External lighting	1	1	1	**Energy-efficient external lighting** **Targeted - Yes (1 credit)** External lighting is to have a luminous efficacy of 60 lumens/watt or greater, controlled through a time-switch or daylight sensor to prevent operation during daylight hours, and presence detection in areas of intermittent pedestrian traffic. Note: this also includes advertisements, see notes within Pol 04. **Actions:** • *M&E to confirm external lighting to be installed and Design Team to confirm the commitment to criteria.*
Ene 04 - Low carbon design					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Passive design - Passive design analysis	1	0	0	**Passive design - Passive design analysis** **Targeted - No** To achieve this credit, the first credit within Hea 04 must be achieved in order to demonstrate the building design can deliver appropriate thermal comfort levels in occupied spaces. The project team should carry out an analysis of the existing building fabric, form, site location and outline scheme design to influence decisions made during the Concept Design stage (RIBA Stage 2 or equivalent) and identify opportunities for the implementation of passive design solutions and retrofit measures that reduce demands for energy-consuming building services. As a minimum, the passive design analysis should cover: • Site location • Site weather • Microclimate • Building layout • Building orientation • Building form • Building fabric

					• Thermal mass or other fabric thermal storage • Building occupancy type • Daylighting strategy • Ventilation strategy • Adaptation to climate change. The building should use 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. **Meaningful reduction:** The amount of energy or CO_2emissions reduction is not specified in the criteria in this issue. However, it should not be a trivial amount. As a guide, the installation should contribute at least 5% of overall building energy demand and/or CO_2emissions. **Actions:** SRE (31/08/2022): As the Hea04 TM52 modelling does not meet the criteria, this one credit cannot be targeted.
2	Passive design - Free cooling	1	0	0	**Passive design - Free cooling** **Targeted - No** The Passive design credit above must be achieved. The passive design analysis must include an analysis of free cooling and identifies opportunities for the implementation of free cooling solutions. The building is naturally ventilated or uses any combination of the free cooling strategies listed below: • Night time cooling (which could include the use of a high exposed thermal mass) • Ground coupled air cooling • Displacement ventilation (not linked to any active cooling system) • Ground water cooling • Surface water cooling • Evaporative cooling, direct or indirect • Desiccant dehumidification and evaporative cooling, using waste heat • Absorption cooling, using waste heat • The building does not require any significant form of active cooling or mechanical ventilation (i.e. naturally ventilated).
3	Low and zero carbon technologies - LZC feasibility study	1	1	1	**Low and zero carbon technologies - LZC feasibility study** **Targeted - Yes** A feasibility study must be carried out by the completion of the Concept Design stage (RIBA Stage 2 or equivalent) by an energy specialist to establish the most appropriate recognised local (on-site or near-site) low and zero carbon (LZC) energy source(s) for the building/development. The LZC study should cover as a minimum:

					• Energy generated from LZC energy source per year • Carbon dioxide savings from LZC energy source per year • Life cycle cost of the potential specification, accounting for payback • Local planning criteria, including land use and noise • Feasibility of exporting heat/electricity from the system • Any available grants • All technologies appropriate to the site and energy demand of the development. • Reasons for excluding other technologies • Where appropriate to the building type, connecting the proposed building to an existing local community CHP system or source of waste heat or power OR specifying a building/site CHP system or source of waste heat or power with the potential to export excess heat or power via a local community energy scheme. A local LZC technology/technologies must be specified for the building/development in line with the recommendations of this feasibility study and this method of supply results in a meaningful reduction in regulated carbon dioxide (CO_2) emissions. **Meaningful reduction:** The amount of energy or CO_2emissions reduction is not specified in the criteria in this issue. However, it should not be a trivial amount. As a guide, the installation should contribute at least 5% of overall building energy demand and/or CO_2emissions. **Actions:** • *LZC study to be completed by SRE and subsequent inclusion of this within the design of the building.*
Ene 06 - Energy Efficient Transportation Systems					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**

1	Energy consumption	1	1	1	**Energy Consumption**
					Targeted - Yes (1 credit)
					Where new lifts, escalators and/or moving walks (transportation types) are specified within refurbishment works:
					
					• An analysis of the transportation demand and usage patterns for the building has been carried out to determine the optimum number and size of lifts.
					• The energy consumption has been estimated in accordance with BS EN ISO 25745 Energy performance of lifts, escalators and moving walks, Part 2: Energy calculation and classification for lifts for one of the following:
					  ○ At least two types of system (for each transportation type required); OR
					  ○ An arrangement of systems (e.g. for lifts, hydraulic, traction, machine room-less lift (MRL)); OR
					  ○ A system strategy which is 'fit for purpose'.
					• The use of regenerative drives should be considered.

					• The transportation system with the lowest energy consumption is specified. **Actions:** • *Initial drawings show a lift in place, will need confirmation on the type/and if it is existing to confirm if the first credit is applicable. Lift report is required and at least one criterion to be met.*
2	Energy efficient features	2	1	1	**Energy-efficient features** **Targeted - Yes (1 credit)** The 'Energy Consumption' credit within Ene 06 is achieved and at least two of the criteria within the scope of influence are specified: • The lifts operate in a standby condition during off-peak periods. For example, the power side of the lift controller and other operating equipment such as lift car lighting, user displays and ventilation fans switch off when the lift has been idle for a prescribed length of time. • The lift car lighting and display lighting provides an average lamp efficacy, (across all fittings in the car) of > 55 lamp lumens/circuit Watt. • The lift uses a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive motor. **Actions:** • *Initial drawings show a lift in place, will need confirmation on the type/and if it is existing to confirm if the first credit is applicable. Lift report is required and at least one criterion to be met.*
Ene 08 - Energy Efficient Equipment					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Energy efficient equipment	2	2	2	**Energy-efficient equipment** **Targeted - Yes (2 credits)** The building's unregulated energy consuming loads must be identified their contribution to the total annual unregulated energy consumption of the building must be estimated, assuming a typical/standard specification. The systems and/or processes that use a significant proportion of the total annual unregulated energy consumption of the development and its operation must be identified.

					A meaningful reduction in the total annual unregulated energy consumption must be demonstrated. Examples of solutions deemed to comply with the criteria for the reduction of unregulated energy load from significantly contributing systems include:
					
					• Small power/plug-in equipment: Energy Star rating OR has been procured in accordance with the Government Buying Standards.
					• Kitchen and catering facilities: The project has incorporated at least two-thirds of the energy efficiency measures outlined in the section summaries of each of the following sections of CIBSE Guide TM50:
					  ○ Section 8 (Drainage and kitchen waste removal)
					  ○ Section 9 (Energy controls - specifically controls relevant to appliances)
					  ○ Section 11 (Appliance specification - not fabrication or utensil specifications)
					  ○ Section 12 (Refrigeration)
					  ○ Section 13 (Warewashing: dishwashers and glasswashers)
					  ○ Section 14 (Cooking appliance selection)
					  ○ Section 15 (Water temperatures, taps, faucets and water-saving controls).
					
					Actions:
					
					• *Design team to confirm that this can be achieved.*
					• *Datasheets of products/systems with a significant proportion of the total annual unregulated energy consumption of the development and its operation must be provided.*

		26	14	14	**Standard Energy Credit Total**
		5	0	0	**Exemplary Energy Credit Total**
		23.46	9.94	9.94	**% Energy Total (Standard + Exemplary)**

Transport

Tra 01 - Sustainable transport solutions

	Credit	Available	Targeted	Potential	Comments
1	Sustainable transport solutions	3	3	3	**Accessibility Index** **Targeted - Yes (2 credits)** The site must have access to suitable transport nodes that provide regular services to the city centre or transport depots/stations. The nodes must be accessible via a safe walking route (i.e. lit pavements with crossing points) and within 650min (bus stops) and 1000m (train stations). The development is located in close proximity to numerous transport services and achieves an Accessibility Index (AI) of 5.02 (PTAL of 2) which allows for **two credits** within this section due to the building type, school, and Table 34 within the BREEAM RFO 2014 manual. **Alternative transport measures** **Targeted - Yes (1 credit)**

					This is subject to discussion. From initial drawings and discussions, it is assumed that **two new measures** will be added and **one credit** is to be achieved (cycle storage, cycle facilities, electric car charging). A For buildings with a fixed shift pattern, i.e. where building users will predominantly arrive/depart at set times, this measure is achieved where the building occupier provides, or commits to providing a dedicated bus service to and from the building at the beginning and end of each shift/day. - **Assumed (worth 2 measures)** B Where two credits under BREEAM issue Tra 03 have been achieved and the number of compliant cycle storage spaces provided is 10% greater than is required within 'Tra 03 Cyclist facilities', thus providing extra capacity for future growth and allowing more building users to cycle as a result.- **Assumed** C Where two credits under BREEAM issue Tra 03 have been achieved and three or more types of compliant cycle facilities that are required within Tra 03 Cyclist facilities are to be provided, which includes the following facilities: showers, changing facilities, lockers and drying spaces. - **Potential** D Where at least 5% of the car parking spaces provided for the building users include electrical charging points, with a minimum of two spaces being provided. - **Potential** E Where priority spaces for car sharers are provided for at least 5% of the total car parking capacity for the building, with a minimum of two spaces being provided. - **Potential** F Where the building has digital information points providing details on alternative transport options; this could include bus times, car-sharing and cycle routes. These information points must be well positioned and accessible to all building users. - **Unlikely** G Where on-site facilities have been provided that reduce the need to travel (taking into account the activities being undertaken in the building), for example, the specification of video conferencing systems or where the appropriate amenities are available on-site. - **Assumed** **Actions:** • *Desk study provides an AI of 5.02 based on the TFL PTAL, which means 2 credits can be achieved.* • *As a maximum of three credits are available overall, one more credit can be gained based on alternative transport measures if two are provided.*
Tra 02 - Proximity to amenities					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Proximity to local amenities	1	1	1	**Proximity to amenities** **Targeted - Yes (1 credit)** The site will be located in close proximity ((<500m from the main entrance/using CN7 as they are part of the same campus), and accessible via a 'safe walking route' (i.e. lit pavements with crossing points), to the two following amenities: • Appropriate food outlet(on-site) • Leisure and recreational facility (on-site) **Actions:**

					• *A desktop study undertaken by SRE has confirmed the following amenities are on-site and within safe walking distance: food outlet (kitchen, will need further confirmation from the school of the appropriateness of this) and leisure facility (pool).*
Tra 03 - Cyclist facilities					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Cycle storage	1	1	1	**Cycle storage** **Targeted - Yes** Compliant cycle storage spaces that meet the minimum levels set out below must be installed: • **Secondary schools and sixth form, Further and Higher education (FE and HE):** 1 space per 10 staff & pupils total. **Compliant cycle storage spaces** Compliant cycle storage spaces are defined as those that meet the following: • 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. • 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. • The storage facility or entrance to the facility is in a prominent site location that is viewable or overlooked from either an occupied building or a main access to a building. In the scenario where cycle storage spaces are within the building, prominent signage should be provided to advertise their location to building users and cyclists. • The cycle storage facility has adequate lighting; this could be demonstrated with the lighting criteria defined in BREEAM issue Hea 01 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. **Minimum cycle storage provision:** Where the calculated number of required cycle storage spaces is less than four, total provision should be based on the lower of the following: • A minimum of four compliant storage spaces must be provided OR • One space per user (staff and where appropriate other user groups). **Actions:**

					• *Client to confirm if any cycle storage or facilities are possible - this does not seem likely based on the initial drawings received.*
2	Cyclist facilities	1	1	1	**Cyclist Facilities** **Targeted - Yes** Two of the following should be provided: lockers, changing facilities, showers, and drying space. It has been confirmed that although some lockers, changing facilities AND showers will be provided for staff, it is unlikely these can meet the BREEAM requirements. • Showers: 1 shower for 10 spaces, minimum of 1 male and 1 female. • Changing Facilities: Separate male and female areas with hooks/benches - can be co-located with the shower if adequate space is provided. • Lockers: These must be equal to the number of cycle spaces. The number of cyclist facilities is compliant based on the number of users on site who would be able to use these facilities. Cyclist facilities may be located anywhere on site. However, the path that cyclists must take to access the nearest cycle storage, cyclist facilities and building entrance(s) must be no greater than 500m via a safe and convenient route, as measured from the first to the last point on the route. Where possible, different types of cyclist facilities should be grouped together in designated areas for ease of access and use. All new and existing facilities may be included provided they are BREEAM compliant and conform to the 500m requirement above. **Actions:** • *Client to confirm if any cycle storage or facilities are possible - this does not seem likely based on the initial drawings received.*
Tra 05 - Travel Plan					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Travel plan	1	1	1	**Travel plan** **Targeted - Yes (1 credit)** A travel plan is to be developed as part of the feasibility & design stages and this is to be based on the site-specific travel assessment and to cover the following as a minimum:

					• 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. • Travel patterns and transport impact of future building users. • Current local environment for walkers and cyclists (accounting for visitors who may be accompanied by young children). • Disabled access (accounting for varying levels of disability and visual impairment). • Public transport links serving the site. • Current facilities for cyclists. The travel plan must include a package of measures to encourage the use of sustainable modes of transport and the movement of people and goods during the building's operation and use. 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 refurbishment or fit-out and be supported by the building's management in operation. **Actions:** • *Client is to complete a site-specific Travel Plan for the fit-out elements.* • *The developer must provide the Transport Assessment and Travel Plan completed in support of the initial development in order to enable the credit to be awarded.*
		7	7	7	**Standard Transport Credit Total**
		0	0	0	**Exemplary Transport Credit Total**
		5.74	5.74	5.74	**% Transport Total (Standard + Exemplary)**
Water					
Wat 01 - Water Consumption					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Water consumption	5	3	3	**Water consumption** **Targeted - Yes (3 credits)** Level 3 performance has been targeted. A typical specification should be as follows, based on the current drawings: • WC - 4 litres effective flush volume; • Wash hand basin taps 4.5 litres per min; • Showers 6 litres per min • Baths - 140 litres

					• Kitchenette Taps - 5 litres per min • Domestic-sized dishwashers - 12 litres/cycle • Domestic-sized washing machines - 40 litres/use • Commercial-sized dishwashers - 5 litres/rack • Commercial or industrial-sized washing machines - 7.5 litres/kg **Actions:** • *M&E to confirm the above in DS letter, drawings and relevant data sheets.*
e1	Water consumption: Exemplary levels	1	0	0	
Wat 02 - Water Monitoring					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Pre-requisite (Good to Outstanding ONLY)		✔	✔	
1	Water monitoring	1	1	1	**Water monitoring** **Targeted - Yes (1 credit)** The following elements have been assumed and should be reflected in the specification: • Mains water meter to be supplied to the building (with a pulsed output) this is a mandatory element and must be achieved for a Very Good rating. • In addition, water-consuming plant or building areas consuming 10% or more of the building's total water demand should also be fitted with sub-meters or have water monitoring equipment integral to the plant or area. As the water demands are small for the staff kitchen and WC facilities, it could be considered that there would be no additional benefit from the installation of sub-meters - this is to be confirmed by the M&E consultant. **Actions:** • *M&E consultant to confirm water metering/monitoring strategy and specify water metering within the design and schematics.* • *Mains water meters to be confirmed as having pulsed outputs to support BREEAM M&E to confirm with drawings and data sheets.*

Wat 03 - Leak Detection					
	Credit	Available	Targeted	Potential	Comments
1	Leak detection system	1	1	1	**Leak detection system** **Targeted - Yes (1 credit)** 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 must be installed. if a break tank is installed, then the leak detection system would only cover from the utility water meter to the check meter in the plant room. The leak detection system must be: • 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. • 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. • Able to identify different flow and therefore leakage rates, e.g. continuous, high and/or low level, over set time periods. • Programmable to suit the owner/occupiers water consumption criteria. • Where applicable, designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers. **Actions:** • *Leak detection system to be detailed within the M&E specification*.
2	Flow control devices	1	1	1	**Flow control devices** **Targeted - Yes (1 credit)** Flow control devices should be installed to each WC area/facility to avoid leaks and wastage. These can be in the form of: • A time controller or programmed time controller • A volume controller • A presence detector and controller • A central control unit (utilising all or some of the above) The control device must be installed in communal WC areas. **Actions:** • *Flow control devices to be detailed within the M&E specification.*
Wat 04 - Water Efficient Equipment					

	Credit	Available	Targeted	Potential	Comments
1	Water efficient equipment	1	1	1	**Water efficient equipment** **Targeted - Yes (1 credit)** Any unregulated water demands that could be realistically mitigated or reduced should be identified. System(s) or processes must be identified to reduce the unregulated water demand, and demonstrate, through either good practice design or specification, a meaningful reduction in the total water demand of the building. **Actions:** • *From initial drawings, this appears to apply in relation to irrigation systems which will require a manual shut-off. M&E to confirm this and any other potential areas.*
		9	7	7	**Standard Water Credit Total**
		1	0	0	**Exemplary Water Credit Total**
		8.38	5.74	5.74	**% Water Total (Standard + Exemplary)**
Materials					
Mat 01 - Life Cycle Impacts					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Life cycle impacts	6	2	2	**Life cycle Impacts** **Targeted - Yes (2 credits currently)** The number of credits achievable is an assumption at this stage based on typical building types. To confirm credits to be targeted, the Architect must confirm build-ups of all elements. Green Guide ratings can be accessed at www.bre.co.uk/geenguide/. **Option 2** will be followed (with a maximum of 4 credits available) and a detailed specification and robust environmental performance (manufacturers information and supply chain) of the materials specified (both new and retained) must be entered into the BREEAM Mat 01 calculator tool. The number of points scored is based on the percentage of each element that has been: • Reused in situ • Reused in situ with minor repairs • Specified with robust environmental performance information This equates to at least 1 product per element having 3rd party ISO 15804 Type 3, ISO 14025 Type 3, ISO 14024, Type 1). The use of the Green Guide ratings can assist in the assessment process. **Actions:**

					• *Architect to supply Mat 01 schedule and Green Guide ratings.*
e1	Green Guide to Specification - Exemplary performance	1	0	0	
Mat 03 - Responsible Sourcing of Materials					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
Pre-req	Pre-requisite		✔	✔	**Pre-requisite for all assessments: All timber used on the project is to be legally harvested and traded. Supporting statement to this effect and supporting chain of custody certification.**
1	Sustainable Procurement Plan	1	1	1	**Sustainable Procurement Plan** **Targeted - Yes (1 credit)** The contractor is required to provide a **Sustainable Procurement Plan** which sets out a clear framework for the responsible sourcing of materials to guide procurement throughout the project. The plan can be adopted at an organisational level or, alternatively, it can be site specific. **Actions:** • *A sustainable procurement plan is to be produced (SRE can provide this service).*
2	Responsible sourcing of materials (RSM)	3	1	1	**Responsible sourcing of materials (RSM)** **Targeted - Yes (1 credit)** All relevant building materials including (but not limited to) concrete, steel, blocks, insulation, plasterboard etc. are to be sourced from suppliers holding **ISO14001 / BES6001** product certification, with all timber to be **FSC/PEFC** certified and from a legal source. An RSMscore of 18%+ will, therefore, be targeted. **Actions:** • *Key materials (timber, metal stud, insulation and plasterboard) to be sourced from suppliers with ISO 14001/BES 6001 or have EPDs.*
e1	Exemplary performance: Responsible sourcing	1	0	0	
Mat 04 - Insulation					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Embodied impact	1	1	1	**Embodied impact** **Targeted - Yes (1 credit)**

					An insulation index of >2.5 must be achieved for the embodied environmental impact of the insulation. Insulation within the following elements is to be assessed: • External walls • Ground floor • Roof • Building services The embodied impact is calculated based on the **Green Guide rating** of the insulation and its **thermal conductivity**. Where possible, products will be specified with the manufacturer's Environmental Product Declarations (EPDs) as these will enhance the Green Guide ratings. **Actions:** • *Architect to complete the Mat 04 schedule and high-quality (performance) insulation to be installed.*
Mat 05 - Designing for durability and resilience					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Protecting vulnerable parts of the building from damage & protecting exposed parts of the building from material degradation	1	1	1	**Protecting vulnerable parts of the building from damage** **Targeted - Yes (1 credit)** Areas to be identified which are subject to vehicular, trolley and pedestrian movement, and suitable design measures to be included for protection and prevent damage. • Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc.). • Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. • Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building facade for all car parking areas and within 2m for all delivery areas. **Material degradation:** (e.g. corrosion, discolouration) due to environmental factors (e.g. moisture, solar radiation) must be limited through appropriate design and specification measures.(only as applicable to the works included in the fit-out) Suitable durability and protection measures to vulnerable parts of the building can include:

					• Bollards/barriers/raised kerbs to delivery and vehicle drop-off areas • Robust external wall construction, up to 2m high • Corridor walls specified to Severe Duty (SD) as per BS 5234-21 • Protection rails to walls of corridors • Kick plates/impact protection (from trolleys etc.) on doors • Hard-wearing and easily washable floor finishes in heavily used circulation areas (i.e. main entrance, corridors, public areas etc.) • Designing out the risk without the need for additional materials specification to protect vulnerable areas. **Historic Buildings:** For listed buildings and buildings in a conservation area, measures to protect vulnerable parts of the building from damage and to limit material degradation should be based on the measures that are feasible within the scope of any heritage requirements that may be explicitly required by the relevant conservation authority (e.g. the local authority heritage office). This should consider the range of options that may be feasible in order to demonstrate compliance with justification provided, including reference to documentary evidence to verify any restrictions that are in place that prevent compliance with any durability measures. **Actions:** • *Architect to specify protection measures for the building with drawings, schedule and DS letter.*
Mat 06 - Material efficiency					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Material efficiency	1	1	1	**Material efficiency** **Targeted - Yes (1 credit)** Opportunities should be identified, and appropriate measures investigated and implemented within the scope of refurbishment or fit-out works, to optimise the use of materials through building design, procurement, refurbishment, maintenance and end of life. The above should be carried out by the design/construction team in consultation with the relevant parties at each of the following RIBA stages: Preparation and Brief, Concept Design, Developed Design, Technical Design, and Construction. **Relevant parties:** All parties (as relevant to the project stage) involved in the design, specification and/or construction of the building should be consulted. This includes but is not limited to, the following: • Client/developer • Cost consultant • Architect • Structural/civil engineers

					• Building services engineers - mechanical, electrical • Principal contractor • Demolition/strip-out contractor • Environmental consultant • Project management consultant • Materials/component manufacturers/suppliers. **Actions:** • *Material efficiency report to be produced at each RIBA Stage of the Fit-Out process, and a DS Letter to confirm this will be completed is required.* *SRE (05.08.22): Stage 1-2 Material Efficiency report received from Architect.*
		13	7	7	**Standard Materials Credit Total**
		2	0	0	**Exemplary Materials Credit Total**
		17.34	8.26	8.26	**% Materials Total (Standard + Exemplary)**
Waste					
Wst 01 - Construction Waste Management					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Pre-refurbishment audit	1	1	1	**Pre-refurbishment audit** **Targeted - Yes (1 credit)** A pre-refurbishment waste audit must be undertaken at Concept Design (RIBA Stage 2) prior to demolition of existing buildings/structures, even if there are no demolition works being undertaken. The audit should be carried out by a competent person has appropriate knowledge of buildings, waste and options for the reuse and recycling of different waste streams. **Competent person:** A 'competent person' for the pre-refurbishment audit is someone who has knowledge of the value and condition of materials and what can or cannot be repaired. It should be someone who has appropriate knowledge of buildings, waste and options for the reuse and recycling of different waste streams. A demolition contractor would be ideal for the role but it could also be the main contractor. The 'competent person' does not have to be independent of the project. Actual waste arisings and waste management routes used should be compared with those forecast from the audit and barriers to achieving targets should be investigated. The audit must be referenced in the **Resource Management Plan (RMP)** and cover:

					• Identification and quantification of the key materials where present on the project. • Potential applications and any related issues for the reuse and recycling of the key materials in accordance with the waste hierarchy. • Identification of local reprocessors or recyclers for recycling of materials. • Identification of overall recycling rate for all key materials. • Identification of reuse targets where appropriate. • Identification of overall landfill diversion rate for all key materials. **Actions:** • *Pre-refurbishment audit to be completed and made reference to within the Resource Waste Management Plan (RMP).*
2	Reuse and direct recycling of materials	2	1	1	**Reuse and direct recycling of materials** **Targeted - Yes (1 credit)** Where, from the waste generated by the refurbishment and fit-out works, the following waste material types are either directly re-used on-site or off-site or are sent back to the manufacturer for closed-loop recycling: • Inert materials (excluding soil) • New and used metal materials • Composite materials (materials which include more than one material type often bonded together) • New and sued plasterboard (offcuts/unused/undamaged boards) • Furniture • Timber products (All sawn soft/hard wood only - no board products e.g. MDF/chipboard, etc) • New and used mineral fibre ceiling panels and tiles • Vinyl floor coverings (uplifted vinyl flooring and post-installation offcuts) • Used carpet tiles (good reusable condition) • Packaging materials (all timber, cardboard and plastic) • New and unused insulation board (foam board only e.g. EPS, XPS, ISO, COMP. not mineral fibre) • Fixtures and fittings **One credit** is achieved where 50% of the total available points for the waste material types listed above that are present on the project have been achieved (using the Wst 01 calculator tool). **Two credits** are achieved where 75% of the total available points for the waste material types listed above that are present on the project have been achieved (using the Wst 01 calculator tool). **Actions:**

					• *Waste figures to be quantified.*
3	Construction resource efficiency	3	2	2	**Resource efficiency** **Targeted - Yes (2 credits)** A **Resource Management Plan (Site Waste Management Plan)** covering non-hazardous waste relating to construction (including dedicated off-site manufacture), demolition and excavation must be developed and implemented. A nominated person should be identified to take responsibility for the plan and collection of data to confirm that the following targets have been met: **One credit**: Construction waste generated should be less than 11.3m^3 or 3.5 tonnes of waste per 100m^2 (GIFA). **Two credits:** Construction waste generated should be less than the target benchmarks which are assumed for this project at 4.5m^3 or 1.2 tonnes of waste per 100m^2 (GIFA). **Three credits:** Construction waste generated should be less than 2.1m^3 or 0.4 tonnes of waste per 100m^2 (GIFA). - This should be targeted where possible. Note - Volume (m^3) is actual volume of waste (not bulk volume). **Actions:** • *Waste figures to be quantified.* • *Resource Waste Management Plan (RMP) to be produced.*
4	Diversion of resources from landfill	1	1	1	**Diversion of resources from landfill;** **Targeted - Yes (1 credit)** The following percentages of non-hazardous construction and demolition waste (where applicable) generated have been diverted from landfill: Refurbishment/fit-out: 85% (Volume), 90% (Tonnage) Demolition: 90% (Volume), 95% (Tonnage) **Actions:** • *Waste figures diverted from landfill to be quantified.*
e1	Resource efficiency / Diversion of waste from landfill: Exemplary performance	1	0	0	
Wst 03 - Operational Waste					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**

1	Operational waste	1	1	1	**Operational waste** **Targeted - Yes (1 credit)** The design team needs to identify the typical volumes of recyclable waste that will be generated and show that there is sufficient space for the storage of recyclables. Where volumes cannot be predicted, at least 2m² area should be allowed per 1000m² floor area for storage of recyclable waste and this should be clearly identified on the Site Plan. Dedicated waste storage space will also need to be clearly labelled and accessible to all building occupants. If large volumes of bulky packaging are anticipated then a waste compactor or baler will also be required. The total area is 1,150m², and therefore a minimum of 4m² will be required for recyclable waste AND 4m² for general waste. **Actions:** • *Architect to specify the area of waste storage provision, supporting labelling on walls and label clearly on drawings, where organic waste is disposed of there must be a tap within the waste room.*
Wst 06 - Functional adaptability					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Functional adaptability	1	1	1	**Functional adaptability** **Targeted - Yes (1 credit)** A building-specific functional adaptation strategy study is required to be undertaken by the client and design team by Concept Design (RIBA Stage 2) of the fit-out, which should include recommendations for measures to be incorporated to facilitate future adaptation. The study should cover: • The potential for major refurbishment, including replacing the facade. • Design aspects that facilitate the replacement of all major plant within the life of the building, e.g. panels in floors/walls that can be removed without affecting the structure, providing lifting beams and hoists. • The degree of adaptability of the internal environment to accommodate changes in working practices. • The degree of adaptability of the internal physical space and external shell to accommodate change in-use. • The extent of accessibility to local services, such as local power, data infrastructure etc. The adaptation measures should be adopted into the scheme by RIBA Stage 4 to enable the credit to be awarded. **Actions:** • *Functional adaptability study to be undertaken and recommendations produced by the Architect prior to the end of Stage 2.*

		9	7	7	Standard Waste Credit Total
		1	0	0	Exemplary Waste Credit Total
		7.93	5.39	5.39	% Waste Total (Standard + Exemplary)
Land Use & Ecology					
LE 02 - Protection of Ecological Features					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**

1	Protection of ecological features	1	1	1	**Protection of ecological features**
					Targeted - Yes
					All existing features of ecological value within and surrounding the refurbishment or fit-out zone and site boundary area must be adequately protected from damage during clearance, site preparation and refurbishment or fit-out activities in line with BS42020: 2013.
					
					In all cases, the principal contractor is required to construct ecological protection recommended by the Suitably Qualified Ecologist (SQE), prior to any preliminary site refurbishment or fit-out or preparation works (e.g. erection of temporary site facilities).
					
					Features of ecological value:
					• Trees determined to be of value using one of the following measures:
					  ○ More than 10 years old (or where age is unknown where the trunk diameter is over 100mm).
					  ○ Tree of significant ecological value (as defined by BS 5837: 20122and confirmed by the Suitably Qualified Ecologist or qualified arboriculturalist).
					• Hedges and natural areas requiring protection.
					• Watercourses and wetland areas.
					• Nesting or roosting opportunities for birds or bats within the building.
					
					Actions:
					
					• *A Suitable Qualified Ecologist (SQE) will be required to visit the site prior to any work taking place.*
					• *Will require further confirmation from the SQE that enhancements bring site-wide benefits (KBCN0656).*

LE 05 - Long Term Impact on Biodiversity					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Long term impact on biodiversity	2	1	1	**Long-term impact on biodiversity;** **Targeted - Yes (1 credit)** This issue is only applicable where works to external soft landscaping are within the scope of the refurbishment or fit-out zone, or where the occupier of the refurbishment or fit-out zone will have responsibility for ongoing management of soft landscaped areas. It has been assumed that this issue will apply to the project and therefore one credit is targeted here. A **Suitably Qualified Ecologist (SQE)** is to be 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 refurbishment or fit-out process. A **landscape and habitat management plan**, appropriate to the site, is to be produced covering at least the first five years after project completion in accordance with BS 42020:20131Section 11.1. This is to be handed over to the building owner/occupants for use by the grounds maintenance staff. Additional measures to improve the assessed site's long term biodiversity should be adopted, according to Table 70 in the BREEAM RFO 2014 manual. Where the Suitably Qualified Ecologist confirms that none of the additional measures are applicable (due to the nature of the site and its surroundings) full credits can be awarded for demonstrating compliance with criteria 1 and 2. **Actions:** • *To be confirmed by SQE report.*
		3	2	2	**Standard Land Use & Ecology Credit Total**
		0	0	0	**Exemplary Land Use & Ecology Credit Total**
		7.38	4.92	4.92	**% Land Use & Ecology Total (Standard + Exemplary)**
Pollution					
Pol 01 - Impact of Refrigerants					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Impact of refrigerants	3	2	2	**Impact of refrigerants** **Targeted - Yes (1 credit)** **Three credits** can be achieved where there are no refrigerants used. However, if refrigerants are used and the below is achieved, up to **two credits** can be achieved: **Pre-requisite**: All systems (with electric compressors) must comply with the requirements of EN 378:2016 and EN 378-2:20161and where refrigeration systems containing ammonia are installed, the Institute of Refrigeration Ammonia Refrigeration Systems Code of Practice. **Two credits - Impact of refrigerant**: Where the systems using refrigerants have Direct Effect Life Cycle CO_2equivalent emissions (DELC CO_{2e}) of100 kgCO_{2e}/kW cooling/heating capacity, OR: Where air-conditioning or refrigeration systems are installed the refrigerants used have a Global Warming Potential (GWP)10. OR **One credit - Impact of refrigerant**: Where the systems using refrigerants have Direct Effect Life Cycle CO_2equivalent emissions (DELC CO_{2e}) of1000 kgCO_{2e}/kW cooling/heating capacity. - This one credit is currently targeted.

					Leak detection **Targeted - Yes (1 credit)** If refrigerants are used on-site, the systems will be specified with a permanent automated refrigerant leak detection system and must be capable of automatically isolating and containing the remaining refrigerant(s) charge. **Actions:** • *M&E to confirm what refrigerants are to be used within the building.*
Pol 02 - NOx emissions					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	NOx emission levels for heating and hot water	3	1	1	**NO_x emission levels for heating and hot water** **Targeted - Yes (1 credit)** For credits to be awarded emissions level will need to be: • 100 mg/kWh (1 credit) • 70 mg/kWh (2 credits) • 40 mg/kWh (3 Credits). As the heating and hot water are being provided by the centralised network, which is powered by gas boilers and CHP, the NO_x emissions are likely to be in excess of 100mg/kWh. Therefore, only **1 credit** is assumed here, at present. **Actions:** • *M&E to confirm the heating system to be used within the building.*
Pol 03 - Surface Water Run Off					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Flood resilience	2	2	2	**Flood resilience;** **Targeted - Yes (2 credits)** A desk-based Flood Risk Assessment has been completed on the GOV.UK website that confirms the site is within flood zone 1 Low Flood risk, and therefore two credits can be awarded. **Actions:**

					• *Based on flood risk maps and as the site is within zone 1 and there is a low risk of flooding, two credits can be achieved.*
Pol 04 - Reduction of Night Time Light Pollution					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Reduction of night time light pollution	1	1	1	**Reduction of night time light pollution** **Targeted - Yes (1 credit)** As initial drawings show external lighting is being installed as part of the fit-out works, this credit is applicable. This external lighting is to be designed in compliance with the ILE Guidance Note for the reduction of obtrusive light, 2011 in order to minimise unnecessary light pollution. All external lighting (excluding security and safety lighting but INCLUDING advertisements) is to be switched off between 2300hrs and 0700hrs. Security/safety lighting used between these times must comply with the lower levels of light as in the ILP's guidance. Illuminated advertisements, where specified, must be compliant with ILE Technical Report 5 - The Brightness of Illuminated Advertisements. **Actions:** • *M&E to confirm external lighting compliance.*
		9	6	6	**Standard Pollution Credit Total**
		0	0	0	**Exemplary Pollution Credit Total**
		8.46	5.64	5.64	**% Pollution Total (Standard + Exemplary)**
Innovation					
AI - Approved Innovation					
	Credit	**Available**	**Targeted**	**Potential**	**Comments**
1	Innovation application approved by BRE Global	1	1	1	**Exemplar Credit** **Targeted - Yes** Operational infrastructure and resources will be provided by the client to coordinate the following activities at quarterly intervals for the first three years of building occupation: 1. Collection of occupant satisfaction, energy consumption and (where available) water consumption data. 2. Analysis of the data to check the building is performing as expected and make any necessary adjustments to systems controls or to inform building user behaviours. **3.**Setting targets and/or appropriate actions for reducing water and energy consumption and monitor progress towards these. 4. Feedback any lessons learned to the design team and developer for use in future projects.

					5. Provision of the actual annual building energy, water consumption (where available and accessible) and occupant satisfaction data to BRE for the purpose of future BREEAM performance benchmarking.
		0	0	0	Standard Innovation Credit Total
		1	1	1	Exemplary Innovation Credit Total
		1	1	1	% Innovation Total (Standard + Exemplary)

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