

Project 5b, 46-47 Bloomsbury Square For Morgan Lovell BREEAM Pre-Assessment RevB

July 2022

Verte Ltd

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NOTICE

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Document History

Job Number: v4	05	Doc Ref: v405 Project 5b, 46-47 Bloomsbury Square BREEAM Pre-Assessment RevB 20220720			
Revision	Purpose description	Originated	Authorised	Date	
Α	Draft	AD	RM	July 2022	
В	Draft	JRC	AD	July 2022	

Client Sign-off

Client	Morgan Lovell
Project	Project 5b 46-47 Bloomsbury Square
Document Title	BREEAM Pre-assessment
Job No	v405
Revision	В
Doc Reference	v405 Project 5b, 46-47 Bloomsbury Square BREEAM Pre- Assessment RevB 20220720



BREEAM Assessor Information

BRE Registration Number	TBC
Licensed Assessor	A Diprose
BREEAM AP	N/A
Assessor Support	A Findlay
BREEAM Scheme	BREEAM Refurbishment and Fit-Out (2014)
BREEAM Scheme Version	2014 (SD216)
Assessment Stage	Pre-Assessment

BREEAM Assessment Information

Building Type and Sub-Group	Office – General Office Building
Building Floor Area	~ 467 sqm NIA
Building Services (Heating)	Electric Radiators
Building Services (Cooling)	VRF
Building Services (DHW System)	Point of Use
Building Services (Controls)	ТВС
Commercial Cold Storage Systems	N/A
Transportation Systems	Yes, existing transportation systems
Laboratory (Type, Area and Size)	N/A
Laboratory Containment level	N/A
Fume Cupboards/Containment Devices	N/A
Unregulated Water Uses	No

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1.Executive Summary

This report illustrates the BREEAM 2014 Non-Domestic Refurbishment and Fit-Out rating that the current design proposals for 46-47 Bloomsbury Square can achieve under the scheme.

The proposed works comprise full planning and listed building consent application for change of use of Nos. 20-22 Southampton Place and 46-47 Bloomsbury Square from Class F1 (learning and non-residential institution) to Class E (commercial, business and service), together with internal and external refurbishment works and the erection of replacement external plant.

Assessme	ent Scope	Assessed?
Part 1	Fabric and Structure: Building façade, roof, and windows. Where 50% of the individual element is upgraded/refurbished OR where this makes up over 25% of total building envelope.	No
Part 2	Core Services: Heating, ventilation and air-conditioning (HVAC), building management system, water services and low/zero carbon (LZC) technologies. Where at least two systems are installed/upgraded and require compliance with Building Regulations.	Yes
Part 3	Local Services: Lighting (fittings, systems and controls), local ventilation, heating and cooling; point of use water heaters. Where at least two fixed local services are installed/upgraded.	Yes
Part 4	Interior Design: Wall, floor and ceiling coverings; partitions, raised floor systems; furniture and fittings. Where alterations are made to at least 50% by area of two or more of these AND at least one of the following: Sanitary fittings, equipment and local electrical installations.	Yes

Table 1: BREEAM RFO Assessment Scope.

Following an initial pre-assessment workshop, the following scores and ratings have been established. To note these scores are based on a Part 2,3 & 4 assessment.

The predicted baseline score based on the current design is 36.46%, a rating of PASS. A score of 30% is required to achieve a rating of PASS.





In addition to meeting the minimum score thresholds for a BREEAM rating, credits that are assigned as minimum standards to particular ratings, are also required within the final credits achieved. Currently the following minimum standards are not feasible due to the building's listed nature and spatial constraints. A full review of the minimum standards is included within Section 4.

Ene 02 Energy Monitoring – Monitoring Major Energy Uses Minimum standard for BREEAM Very Good, Excellent and Outstanding ratings.

Credit not considered feasible following review of criteria by electrical sub-contractor. The design of the electrical installation includes for separate metering to the lighting and power systems.

The requirement for metering to the space heating and domestic hot water systems would be difficult to achieve without further intrusion into the existing building fabric to install additional sub main cables, distribution boards and the possibility of an additional riser throughout each building.

Wst 03 Operational Waste

Minimum standard for BREEAM Excellent and Outstanding ratings.

Credit considered not achievable as due to space and design constraints provision of a bin store is not included within the scope of works.

A detailed Table setting out the scoring strategy associated with the above ratings is provided within Section 6.





2.Introduction

Verte Ltd have been instructed by Morgan Lovell to carry out a BREEAM Pre-assessment of the proposed works to 46-47 Bloomsbury Square.

The proposed works comprise full planning and listed building consent application for change of use of Nos. 20-22 Southampton Place and 46-47 Bloomsbury Square from Class F1 (learning and non-residential institution) to Class E (commercial, business and service), together with internal and external refurbishment works and the erection of replacement external plant.



Figure 2: Proposed Ground Floor layout.

The report provides a status of the development's performance with regards to BREEAM Refurbishment and Fit-Out 2014.

The following sections detail the proposed development's performance against the BREEAM criteria.

2.1 BREEAM Refurbishment and Fit-Out 2014

The BREEAM UK Refurbishment and Fit-out scheme is a performance-based assessment method and certification scheme for existing building refurbishment and fit-out projects.

The primary aim of BREEAM UK Refurbishment and Fit-out is to promote the delivery of sustainable refurbishment and fit-out, to mitigate the life cycle impacts of existing buildings on the environment in a robust and cost-effective manner. This is achieved through integration and use of the scheme by clients and their project teams at key stages in the design and refurbishment/fit-out works process.

This enables the client, through the BREEAM assessor and the BRE Global certification process, to measure, evaluate and reflect the performance of their refurbishment or fit-out project against best practice in an independent and robust manner.

As illustrated in Figure 3, the scheme provides a modular framework split up into four separate parts that are assessed according to the scope of work of the project, with each part defining a set of individual measures and associated criteria that each project is assessed against. This allows projects to be assessed against the parts that are within the scope of influence of the project, while also ensuring that similar project types are assessed against a comparable set of criteria.

This approach provides the scheme's users with a flexible means of measuring the environmental performance of their building and comparing it with other buildings across the property market, backed with the assurance that independent third-party certification of the assessment process provides.



Figure 2: BREEAM RFO 2014 Assessment Parts.

The performance of a BREEAM-assessed project is quantified by several individual measures and associated criteria stretching across a range of environmental issues, which highlights the full set of assessment issues that may be applied to a project. The performance of the project is then ultimately expressed as a single certified BREEAM rating, i.e., the label (Section 3 describes how a BREEAM rating is calculated).

2.2 Recent Workshops

Verte Ltd met with the Morgan Lovell design team on the 20/06/2022, then met additional with the wider client team on 07/07/2022, to review the design and to set out a feasible scoring strategy and determine the maximum BREEAM score that could be achieved.



3. BREEAM Status Summary

This section is intended as a summary of the BREEAM assessment status for 46-47 Bloomsbury Square based on a Part 2, 3 and 4 assessment.

3.1 Summary Score Sheet

Ref No.	Description	Credits			
		Available	Baseline		
Management					
Man 01	Project Brief and Design	4	0		
Man 02	Life cycle cost and service life planning	4	1		
Man 03	Responsible construction practices	6 + 1e	6		
Man 04	Commissioning and Handover	3	3		
Health and Wellt	peing				
Hea 01	Visual Comfort	7 + 1e	0		
Hea 02	Indoor Air Quality	5 + 2e	1		
Hea 04	Thermal Comfort	3	0		
Hea 05	Acoustic Performance	3	0		
Hea 06	Safety and Security	1	0		
Energy					
Ene 01	Reduction of CO ₂ emissions	15 + 5e	5		
Ene 02	Energy Monitoring	2	0		
Ene 03	External Lighting	1	0		
Ene 04	04 Low Carbon Design		0		
Ene 06 Energy Efficient Transportation Systems		2	0		
Transport					
Tra 01	Public Transport Accessibility	3	3		
Tra 02	Proximity to amenities	1	1		
Tra 03	Cyclist facilities	2	2		
Tra 04	Maximum Car Parking Capacity	2	2		
Tra 05	Travel Plan	1	0		
Water					
Wat 01	Water Consumption	5 + 1e	2		
Wat 02	Water Monitoring	1	0		
Wat 03	Leak Detection	2	0		
Materials					
Mat 01	Life Cycle Impacts	6+1e	3		
Mat 03	Responsible Sourcing of Materials	4 + 1e	2		
Mat 04	Mat 04 Insulation 1 1				
Mat 05	Designing for Durability and Resilience	1	1		

Mat 06	Material Efficiency	1	0
Waste			
Wst 01	Construction Waste Management	7	1
Wst 03	Operational Waste	1	0
Wst 04	Speculative Floor and Ceiling Finishes	1	0
Wst 06	Functional Adaptability	1	0
Pollution			
Pol 01	Impact of Refrigerants	3	0
Pol 02	NO _x Emissions	0	0
Pol 03	Surface Water Run Off	2	2
Pol 04	Reduction of night-time light pollution	1	0
Pol 05	Noise Attenuation	1	1
Innovation			
ALL	Approved Innovation and Exemplary Level Credits	1	0

RFO Office Assessment

Baseline Target Score

3.2 Scoring Scenario

2

36.46%



It has been established that the development currently has the potential to achieve a score of **36.46%** which provides a **Pass** rating with a **6.46%** margin of contingency over the minimum 30% required for BREEAM Pass.



Figure 3: BREEAM Target Score.



4. Minimum Standards

The following Table sets out the minimum standards associated with each BREEAM rating and feasibility on 46-47 Bloomsbury Square.

BREEAM Issue	Pass	Good	Very Good	Excellent	Outstanding	Achieved?
Man 03 Responsible construction practices	None	None	None	One credit (Considerate construction)	Two credits (Considerate construction)	Included within 36.46% targe
Man 04 Commissioning and handover	None	None	None	Criterion 9 (Building User Guide)	Criterion 9 (Building User Guide)	Included within 36.46% targe
Ene 01 Reduction of energy use and carbon emissions	None	None	None	Parts 1, 2, 3 and 4 (full assessments): Six credits, varies for other assessment types	Parts 1, 2, 3 and 4 (full assessments): Ten credits, varies for other assessment types	Currently 5 credits are antici 01 performance schedule. Fe detailed energy performance
Ene 02 Energy monitoring	None	None	Parts 2, 3 and 4: One credit (first sub-metering credit)	Parts 2, 3 and 4: One credit (first sub-metering credit)	Parts 2, 3 and 4: One credit (first sub-metering credit)	Credit not considered feasible contractor. The design of the metering to the lighting and The requirement for meterin systems would be difficult to existing building fabric to ins boards and the possibility of
Wat 01 Water consumption	None	One credit (where applicable)	One credit (where applicable)	One credit (where applicable)	Two credits (where applicable)	Included within 36.46% targe
Wat 02 Water monitoring	None	Part 2: Criterion 1 only	Part 2: Criterion 1 only	Part 2: Criterion 1 only	Part 2: Criterion 1 only	Included within 36.46% targe
Mat 03 Responsible sourcing of materials	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only	Criterion 1 only	Included within 36.46% targe
Wst 01 Project waste management	None	None	None	None	One credit	Included within 36.46% targe
Wst 03 Operational waste	None	None	None	One credit	One credit	Credit considered not achi constraints provision of a l works.

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ipated based on a high level review of the Ene easibility of additional credits would require a e review.

le following review of criteria by electrical sube electrical installation includes for separate power systems.

ng to the space heating and domestic hot water o achieve without further intrusion into the stall additional sub main cables, distribution an additional riser throughout each building.

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et score.

nievable as due to space and design bin store is not included within the scope of



5. Early Action Credits

BREEAM criteria includes time critical elements which cannot be awarded if they are not dealt with in the prescribed timeframe. These credits are considered no longer achievable and have been excluded from scoring. The total of these credits is 8.45%, which even if included as part of the scoring would be a shortfall of the minimum 70% required for BREEAM Excellent.

BREEAM RFO 2014 Credit	Reports/Actions Required	RIBA Stage
Man 01 Project Brief and Design Stakeholder Consultation (Project Deliver)	Project Execution Plan and Design Team Responsibility Matrix required. Meeting minutes over the course of the design phases to be collated ongoingly.	To be completed by the end of Stage 2.
Man 01 Project Brief and Design Stakeholder Consultation (Third Party)	Stakeholder consultation to be undertaken, ideally to be evidenced through a Statement of Community Involvement.	To be completed by the end of Stage 2.
Man 01 Project Brief and Design – BREEAM AP	BREEAM Accredited Professional to be appointed to monitor and advise on performance targets.	To be appointed within Stage 2.
Man 02 Life Cycle Cost and Service Life Planning – Elemental LCC	An Elemental Life Cycle Cost analysis to be undertaken, with recommendations showing how material choices can provide cost savings.	To be completed within Stage 2.
Hea 06 Safety Security	A Security Needs Assessment should be undertaken by a security specialist, providing design recommendations.	To be completed within Stage 2.
Mat 06 Material Efficiency	Opportunities have been identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life. The above is 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, Construction.	To be started within Stage 1 .
Wst 06 Functional Adaptability	A building-specific functional adaptation strategy study has been undertaken by the client and design team which includes recommendations for measures to be incorporated to facilitate future adaptation.	To be completed by the end of Stage 2.

Responsibility **Project Manager**

Project Manager

BREEAM AP

Life Cycle Cost Consultant

Security Consultant

Whole Design Team

Design Team



6. Pre-assessment Scoring



Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below.

Evidence should be collated in individual credit folders (electronically). Highlighted in Grey - Not relevant to scheme.

GREEN: CREDIT ACHIEVED

Target Score: 36.46% PASS



AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

			Refu	irbishment	t (RFO)			
<u>Ref.</u> No.	Description	Criteria	<u>Credits</u> Available	<u>Target</u>	Enhanced Credits	Action/Evidence Required	Actionee	Comments
Man 01.1	Project Brief & Design - Stakeholder Consultation (Project Delivery)	One credit where LA clear sustainability brief is developed prior to Concept Design which sets out: a. Client requirements e.g. internal environmental conditions required b. Sustainability objectives and targets including target BRERAN rating, business objectives etc. c. Timescales and budget List of consulters and professional appointments that may be required e.g. Suitabily Qualified Acoustician etc. e. Constraints for the project e.g. t Technical, legal, physical, environmental. 2. Prior to completion of the Concept Design (RIBA Stage 2 or equivalent), the project delivery stakeholders (see Relevant definitions) have met to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery. 3. In defining the roles and responsibilities for each key phase of the project, the following must be considered: a. End user requirements b. Aims of the design and design strategy c. Particular installation and construction requirements/limitations d. design and construction risk assessment e.g. (2DM, legionella risk assessment e.legistative requirements e.g. (2DM, legionella risk assessment e.g. (2DM) b. Rocupiers budget and t Technical expertise in maintaining any proposed systems i. Maintainability and adaptability of the proposals j. Requirements for the production of project and end user documentation k. Requirements for commissioning, training	1	0	0	Provide: 1) The project brief highlighting how items 1-a to 1-e are covered. 2) The project responsibility matrix illustrating key stakeholder responsibilities at key stages. 3) The Project Execution Plan, illustrating how items 3-a to 3-k are considered. 4) Meeting minutes confirming the required stakeholders have been involved from RIAS ATAGE 2 and that the required topics have been covered and roles and responsibilities have been allocated. 5) Examples of how this process has impacted on the Initial Project Brief, including if appropriate, the Project Execution Plan, Communication Strategy, and the Concept Design. This can be meeting minutes / marked up drawings.		24/06/2022: Credit requires early stakeholder consultation from the design team. At the time of this BREEAM review the credit is now considered as unachievable if actions have not already been completed.
Man 01.2	Project Brief & Design - Stakeholder Consultation (Third Party)	One credit where 4. Prior to completion of the Concept Design stage, all relevant third party stakeholders have been consulted by the design team and this covers the minimum consultation content. 5. The project must demonstrate how the stakeholder contributions and outcomes of the consultation exercise have influenced or changed the initial Project Brief and Concept Design. 6. Prior to completion of the detailed design (RIBA Stage 4, T Technical Design or equivalent), consultation feedback has been given to, and received by, all relevant parties. PLEASE VIEW: GN Man 01.2	1	0	0	Provide: 1) Consultation plan confirming the required stakeholders shall be consulted with. 2) Meeting minutes and agenda confirming the required stakeholders have been involved from RIBA Stage 2 and that the required stakeholders have been allocated. 3) Examples of how this process has impacted on the Initial Project Brief and the Concept Design. This can be meeting minutes / marked up drawings. 4) Meeting minutes, marked up drawings etc. confirming feedback has been fed back prior to RIBA Stage 4.		24/06/2022: Credit requires early stakeholder consultation from the design team. At the time of this BREEAM review the credit is now considered as unachievable if actions have not already been completed.
Man 01.3	Project Brief & Design - Sustainability Champion (Design)	One credit where 9.A Sustainability Champion has been appointed to facilitate the setting and achievement of BREEAM performance target(s) for the project. The design stage Sustainability Champion is appointed to perform this role during the feasibility stage (Stage 1, Preparation and Brief stage, as defined by the RIBA Plan of Work 2013 or equivalent). 10.The defined BREEAM performance target(s) has been formally agreed between the client and design/project team no later than the Concept Design stage (RIBA Stage 2 or equivalent). 11. To achieve this credit at the interim design stage assessment, the agreed BREEAM performance target(s) must be demonstrably achieved by the project design. This must be demonstrated via the BREEAM Assessor's design stage assessment report.	1	0	0	Provide: 1) Letter confirming BREEAM AP appointment at RIBA Stage 1. 2) Contract / Planning requirements confirming the BREEAM Rating required, RIBA Stage 2. 3) Meeting minutes confirming the attendance of the BREEAM AP and that sustainability is included in all design team meeting agendas.		24/06/2022: Credit requires early appointment of a BREEAM AP. Though an initial BREEAM Pre-assessment was undertaken there has not been enough early design stage involvement from a BREEAM AP to achieve th credit.

Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below.

Evidence should be collated in individual credit folders (electronically).

Highlighted in Grey - Not relevant to scheme.

GREEN: CREDIT ACHIEVED

AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

RED: INFORMATION NOT AVAILABLE TO ACHIEVE THE CREDIT

				urbishmen	t (RFO)			
Ref. No.	Description	Criteria	<u>Credits</u> <u>Available</u>	<u>Target</u>	Enhanced Credits	Action/Evidence Required	Actionee	Comments
Man 01.4	Project Brief & Design - Sustainability Champion (monitoring progress)	One credit where 12. The Sustainability Champion criteria 8, 9 and 10 have been achieved. 13. A Sustainability Champion is appointed to monitor progress against the agreed BREEAM performance target(s) throughout the design process and formally report progress to the client and design team. To do this the Sustainability Champion must attend key project/design team meetings during the Concept Design, Developed Design and T Technical Design stages, as defined by the RIBA Plan of Work 2013, reporting during, and prior to, completion of each stage, as a minimum	1	0	0	Provide: 1) SAME AS ABOVE		24/06/2022: Credit requires early appointment of a BREEAM AP. Though an initial BREEAM Pre-assessment was undertaken there has not been enough early design stage involvement from a BREEAM AP to achieve th credit.
Man 02.1	Life cycle cost and service life planning - Elemental life cycle cost (LCC)	Two credits where 1.An elemental life cycle cost (LCC) analysis has been carried out at Process Stage 2 (equivalent to Concept Design - RIBA Stage 2) together with any design option appraisals in line with "Standardised method of life cycle costing for construction procurement" PD 156865:20081. 2. The LCC analysis shows: a. An outline LCC plan has been undertaken for the project based on the building's basic structure and envelope, appraising a range of options and based on the life expectancy of the refurbished building. e.g. 20, 30, 50+ years. b. The servicing strategy for the project outlining services component over a 15-year period, in the form of an 'elemental LCC Plan'. c. A fit-out strategy is developed outlining fit-out options over a 10-year period.	2	0	0	Provide: 1) Elemental LCC.		24/06/2022: Credit not achievable as Stage 2 Life Cycle Costing analysis was not completed.
Man 02.2	Life cycle cost and service life planning - Component life cycle cost (LCC)	One credit where 3.A component level LCC plan has been developed by the end of Process Stage 4 (equivalent to T Technical Design – RIBA Stage 4) in line with PD 156865-2008 and includes the following component types (where present): Part 1 assessments, including components within scope of works. Envelope, e.g. cladding, windows, and/or roofing Part 2.8 3 assessments including newly specified local and core services. Newly specified local and/or core service equipment, e.g. boiler, air-conditioning, air handling unit, and/or controls etc. Parts 1 – 4, where finishes are within scope of works. Environe, e.g. alternative hard landscaping, boundary protection. Where external spaces, e.g. alternative hard landscaping, boundary protection. 4. Demonstrate, using appropriate examples provided by the design team, how the component level LCC plan has been used to influence building and systems design/specification to minimise life cycle costs and maximise critical value	1	0	0	Provide: 1) Component level LCC. 2) Marked up drawings/specification confirming how the component level LCC has influenced the design.		20/07/2022: Credit not included within current scope of works.
Man 02.3	Life cycle cost and service life planning - Capital cost reporting	One credit where: 5. Report the capital cost for the building in pounds per square metre (Ek/m2), via the BREEAM Assessment Scoring and Reporting tool, Assessment Issue Scoring tab, Management section.	1	1	0	Provide: 1) Data cost in £ per square meter.	Cost Consultant	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell.

Target Score: 36.46% PASS

Verte

sustainability

Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below. Evidence should be collated in individual credit folders (electronically).

Highlighted in Grey - Not relevant to scheme.

GREEN: CREDIT ACHIEVED

Target Score: 36.46% PASS



AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

			Refu	irbishment	iment (RFO)			
<u>Ref.</u> <u>No.</u>	Description	Criteria	<u>Credits</u> <u>Available</u>	<u>Target</u>	Enhanced Credits	Action/Evidence Required	Actionee	Comments
Man03.1	Pre-requisite & Environmental Management	Pre-requisite 1. All timber and 1. All timber dased products used on the project is ' Legally harvested and traded timber' One Credit where 2. The principal contractor operates an environmental management system (EMS) covering their main operations. The EMS must be either: a. Third party certified, to ISO 14001/EMAS or equivalent standard; or b. Have a structure that is in compliance with BS 8555: 2003 and has reached phase four of the implementation stage, 'implementation and operation of the environmental management system', and has completed phase audits 1 to 4, as defined in BS 8555:2003. See compliance note CNSFor Healthcare NHS buildings, see the pre-requisite for this issue in compliance note CN8 2. The principal contractor implements best practice pollution prevention policies and procedures on-site in accordance with Pollution Prevention Guidelines, Working at construction and demolition-sites: PPG61.	1	1	0	Provide: 1) Copy of the prelims including the requirements.	Contractor	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell. The ML team operate an Environmental Management System and are able to implement on-site procedures required to achieve credit.
Man 03.2	Responsible Construction Practices - BREEAM AP Construction Stage	One credit where: 4. A BREEAM AP or Site Sustainability Manager (SSM) is appointed to monitor the project to ensure ongoing compliance with the relevant sustainability(BREEAM criteria, during the Construction, Handover and Close Out stages 5 and 6). To do this the Sustainability (MBREEAM criteria, during the Construction, Handover and Close Out stages 5 and 6). To do this the Sustainability (MBREEAM the site based or will wisk the site regularly to carry out post checks, with the relevant authority to do so and 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. 5. The defined BREEAM performance target forms a requirement of the principal contractor's contract. 6. To achieve this credit at the final post construction stage of assessment, the BREEAM-related performance target for the project must be demonstrably achieved by the project	1	1	0	Provide: 1) Contract Prelims requirements confirming the BREEAM Rating required, on the Main Contractor. 2) BREEAM AP/SSM reports during construction.	Contractor	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell. Morgan Lovell have a sustainability team who are able to undertake the BREEAM AP role at construction stage.
Man 03.3	Responsible Construction Practices - CCS Mandatory: Excellent: 1 credit Outstanding: 2 credits	Up to two credits : 7. Where the principal contractor achieves: a. One credit where the contractor achieves compliance' with the criteria of a compliant scheme (a CCS score between 25 and 34) - A score of at least 5 in each of the five sections must be achieved b. Two credits where the contractor significantly exceeds 'compliance' with the criteria of the scheme (a CCS score between 35 and 39) - A score of at least 7 in each of the five sections must be achieved Innovation: As CCS Score of more than 40.	2 + 1 Innov	2	0	Provide: 1) Copy of the prelims including the requirements.	Contractor	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell.
Man 03.4	Responsible Construction Practices - Monitoring of Construction Site Impacts	Up to two credits 1) Responsibility has been assigned to an individual(s) for monitoring, recording and reporting energy use, water consumption and transport data (where measured) resulting from all on-site construction processes. 2) First monitoring credit - Utility consumption Energy consumption & Water consumption 3) Second monitoring credit - Transport of construction materials and waste PLEASE VIEW: GN Man 03.4	2	2	0	Provide: 1) Copy of the prelims including the requirements.	Contractor	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell. The ML team are able to implement on-site procedures required to achieve credits.

Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below.

Evidence should be collated in individual credit folders (electronically). Highlighted in Grey - Not relevant to scheme.

GREEN: CREDIT ACHIEVED

Target Score: 36.46% PASS



AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

			Refu	rbishment	t (RFO)			
<u>Ref.</u> <u>No.</u>	Description	Criteria	<u>Credits</u> Available	Target	Enhanced Credits	Action/Evidence Required	Actionee	Comments
Man 04.1	Commissioning and handover - Commissioning and testing schedule and responsibilities	One credit where 1. A schedule of commissioning and testing that identifies and includes a suitable timescale for commissioning and re- commissioning of all complex and non-complex building services and control systems and testing and inspecting building fabric. 2. All commissioning activities are carried out in accordance with current Building Regulations, BSRM1 and CISE2 guidelines and/or other appropriate standards, where applicable and complaint commissioning of the BMS (if applicable). 3. An appropriate project team memory of the building Regulation of the BMS (if applicable). 4. The principal contractor accounts for the commissioning and testing programme, responsibilities and criteria within their buidget and main programme of works, allowing for the required time to complete all commissioning and testing activities pror to handover.	1	1	0	Provde: 1) Copy of the prelims including the requirements.	МЕР	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell. To note, that while the credit criteria can be implemented, there are minimal systems that will require commissioning.
Man 04.2	Commissioning and handover- Commissioning building services	One credit where 5. The commissioning and testing schedule and responsibilities credit is achieved. 6. For projects where work is being undertaken to upgrade, renovate or install new building services and systems. a. For complex building services and systems, a specialist commissioning manager is appointed during the design stage (by ether dirent or constractor) with responsibility for: I. Undertaking design reviews and giving advice on suitability for ease of commissioning ii:Providing commissioning management input to construction programming and during installation stages iii:Management of commissioning, performance testing and handover/post handover stages. b. for simple building services, this role can be carried out by an appropriate project team member (see criterion 3), provided they are not involved in the general installation works for the building services system(s).	1	1	0	Provide: 1) Copy of the prelims including the requirements.	МЕР	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell. To note, that while the credit criteria can be implemented, there are minimal systems that will require commissioning. Due to the scope of MEP services the specialist commissioning manager could be an appropriate ML team member.
Man 04.4	Commissioning and handover - Handover Mandatoy Requirement: Excellent: BUG	One credit where: 9. A Building User Guide (BUG) is developed prior to handover for distribution to the building occupiers and premises managers The guide includes, as far as possible, all relevant sections regarding the services and fabric installed. On completion of works the building owner/agent/user hands it over to the fit-out contractor, who can then complete the relevant sections based on the fit-out strategy. 10. A training schedule is prepared for buildings: 10. A training schedule is prepared for building occupiers/premises managers, timed appropriately around handover and proposed occupation plans, which includes the following content as a minimum: a. The building's elegin intent b. The available aftercare provision and aftercare team main contact(s), including any scheduled seasonal commissioning and post occupancy evaluation c. Introduction to, and demonstration of, installed systems and key features, particularly building management systems, controls and their interfaces d. Introduction to the Building User Guide and other relevant building documentation, e.g. design data, t Technical guides, maintennes strategy, operations and maintenance (GRAM) manual, commissioning records, log book etc. e. Maintenance requirements, Include and maintenance contracts and regimes in place.	1	1	0	Provide: 1) Copy of the prelims including the requirements.	Contractor	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell.
Hea 01.1	Visual Comfort - Glare Control	One credit where 1. The potential for disabling glare has been designed out of all relevant building areas using a glare control strategy, either through building form and layout and/or building design measures. 2. The glare control strategy avoids increasing lighting energy consumption, by ensuring that: a. 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 on inhibit daylight from entering the space under cloudy conditions, or when sunlight is not on the fracade. ADD b. The use or location of shading does not conflict with the operation of lighting control systems.	1	0	0	Provide: 1) Drawings or specification confirming the provision of occupant controlled glare control. 2) Where the glare risk has been designed out of the building, examples of this are required (marked up drawings), indicating how this is achieved.	Architect	20/07/2022: Credit not included within current scope of works.

Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below.

Evidence should be collated in individual credit folders (electronically).

Highlighted in Grey - Not relevant to scheme.

GREEN: CREDIT ACHIEVED

AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

RED: INFORMATION NOT AVAILABLE TO ACHIEVE THE CREDIT

to staff.

			Refurbishment (RFO)		t (RFO)			
<u>Ref.</u> <u>No.</u>	Description	Criteria	<u>Credits</u> Available	<u>Target</u>	Enhanced Credits	Action/Evidence Required	<u>Actionee</u>	Comments
Hea 01.2	Visual Comfort - Daylighting	One credit where The relevant building areas achieve the required daylight factors/criteria. 3. Up to three credits are awarded on a sliding scale depending on the percentage of relevant building areas that comply with one of the following daylighting criteria: a. The relevant building areas meet good practice daylight factor(s) and other criterion as outlined in Table - 12 and Table - 13: OR b. The relevant building areas meet good practice average and minimum point daylight illuminance criteria a outlined in Table 14. 4. Two credits 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: a. 5% glass to floor area ratio for side windows; OR 5. One credit where daylighting provision, averaged over all relevant spaces, has improved after refurbishment or fit-out by 30% b.2.5% glass to floor area ratio for side windows; OR 5. One credit 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: a. 5% glass to floor area ratio for side windows; OR	3 +1 Innov	0	0	Provde: 1) Compliant daylighting calculations.		24/06/2022: Credit not feasible due to building layout. Office spaces at lower ground level would not achieve suitable average daylighting level for compliance with BREEAM requirements.
Hea 01.3	Visual Comfort - View Out	Dec credit where 4. 95% of the floor area in relevant building areas is within 7m of a wall which has a window or permanent opening that provides an adequate view out. 5. The window/opening must be 20% of the surrounding wall area (Surrounding wall area refers to the area (in m2) of the internal wall on which the window/opening is located, including the area of the window/opening itself). 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.	2	0	0	Provide: 1) Drawings confirming the layout, distance of all desks from windows. 2) Drawings/calculations confirming windows are >20% of in wall area.		24/06/2022: Credit not feasible due to building layout. Office spaces at lower ground and ground level do not have adequate window areas for compliance with view out criteria.
Hea 01.4	Visual Comfort - Internal & External Lighting Levels & Controls	One credit where: - All fluorescent and compact fluorescent lamps are fitted with high frequency ballasts Internal lighting - Criteria applicable only to Fully fitted-out buildings 7. All fluorescent and compact fluorescent lamps are fitted with high frequency ballasts. 8. Internal lighting in all relevant areas of the building is designed to provide an illuminance (lux) level in accordance with the SLL Code for Lighting 2012 and any other relevant industry standard. 9. For areas where computer screens are regularly used, the lighting design complies with CIBSE Lighting Guide 72 sections 3.3, 4.6, 4.7, 4.8 and 4.9. 10. All external lighting located is specified in accordance with BS 5489-1:2013 Lighting of roads and public amenity areas 3 and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places. 11. Internal lighting is some to allow for occupant control (Light switches or controls for a particular area/zone of the building: a. In office areas, zones of no more than four workplaces b. Workstations adjacent to windows/atria and other building areas separately zoned and controlled c. Seminar and leture rooms: cond for greenation and audience areas d. Library spaces: separate zoning of stacks, reading and counter areas i. Teaching space or demonstration area f. Whiteboard or display recen g. Auditoria: zoning of stacks, reading and counter areas h. Dining, restaurant, cafe areas, conead igning areas, separate zoning of stacks reading and excurs and astering areas h. Dining - separate zoning of seater areas h. Dining, restaurant, cafe areas, separate zoning of servery and seating/dining areas h. Baraess, separate zoning of seater areas h. Dining, restaurant, cafe areas, separate zoned ing desevery and seating/dining areas h. Dining, restaurant, cafe areas, coneed lighting control for individual bed spaces and control for staff over groups of bed spaces h. Warkstor scheded areas, zoneed lighting control for individual bed spaces and control for staff over groups of bed spa	1	0	0	Provide: 1) Specification documentation confirming HFB and required internal and external lighting levels shall be achieve. 2) Drawings/Specification confirming the required controls shall be included in the design.		24/06/2022: Credit considered not feasible. Any office space that will have more than 4 work spaces will require additional lighting controls that an occupant is able to control, in addition to one light switch within each room.

Target Score: 36.46% PASS



Target Score: 36.46% PASS

Verte

sustainability

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Evidence should be collated in individual credit folders (electronically). Highlighted in Grey - Not relevant to scheme.

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GREEN: CREDIT ACHIEVED

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Refurbishment (RFO) Ref. Credits Enhanced Action/Evidence Required Description Criteria Target Actionee Comments No. Available Credits One credit where 20/07/2022: Credit not included within current scope of works. 1) A compliant Indoor Air Quality Plan (IAQP), (see manual page 92. 1. An indoor air quality plan has been 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 SD216) and occupation of the building. The indoor air quality plan must consider the following: a.Removal of contaminant sources b.Dilution and control of contaminant sources c.Procedures for pre-occupancy flush out 2) At design stage, a contractual obligation to produce a compliant IAOP Indoor Air Quality d.Protection of Heating Ventilation and Air Conditioning (HVAC) systems from sources of pollution during refurbishment/fit-1 Hea02.1 0 0 Plan (IAQ) out works e.g. dust e. 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 f. Procedures for identifying and implementing third party testing and analysis required to ascertain that the contaminant sources have been removed effectively before occupancy g.Commitments for maintaining indoor air quality in-use, e.g. maintenance and cleaning of the HVAC system, ductwork and filters. One credit where: 24/06/2022: Credit not feasible as not all openable windows to office The building has been designed to minimise the concentration and recirculation of pollutants in the building as follows: 1) Relevant section/clauses of the building specification or contract spaces are <10m away from the main road, which is considered as a 2. Provide fresh air into the building in accordance with the criteria of the relevant standard for ventilation. source of pollution. 2) Formal letter from the design team with details of the ventilation Design ventilation pathways to minimise the build-up of air pollutants in the building, as follows: a. In air conditioned and mixed mode buildings/spaces: i. trategy and calculations/results from appropriate software modelling The building's air intakes and exhausts are over 10m apart and intakes are over 20m from sources of external pollution. OR ool(s) ii. The location of the building's air intakes and exhausts, in relation to each other and external sources of pollution, is designed in accordance with BS EN 13779:20071 Annex A2. 3) Manufacturers'/suppliers' literature b. In naturally ventilated buildings/spaces: openable windows/ventilators are over 10m from sources of external pollution. For Shell & Core buildings: Where ventilation systems are not within the remit of the shell and core developer, compliance can be demonstrated through the building servicing strategy where this is predetermined by the built form or core services provision as appropriate to the shell and core option being followed. Indoor Air Quality Hea 02.2 4. Where present, HVAC systems must incorporate suitable filtration to minimise external air pollution, as defined in BS EN 1 0 0 Ventilation 13779:2007 Annex A3 5. Areas of the building subject to large and unpredictable or variable occupancy patterns have carbon dioxide (CO2) or air quality sensors specified and: a. In mechanically ventilated buildings/spaces: sensor(s) are linked to the mechanical ventilation system and provide demandcontrolled ventilation to the space b. In naturally ventilated buildings/spaces: sensors either have the ability to alert the building owner or manager when CO2 levels exceed the recommended set point, or are linked to controls with the ability to adjust the quantity of fresh air, i.e. automatic opening windows/roof vents.

Target Score: 36.46% PASS

Verte

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AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

			Refurbishment (RFO)		t (RFO)			
<u>Ref.</u> <u>No.</u>	<u>Description</u>	Criteria	<u>Credits</u> Available	<u>Target</u>	Enhanced Credits	Action/Evidence Required	<u>Actionee</u>	Comments
Hea 02.3	Indoor Air Quality - Volatile organic compound (VOC) emission levels (products)	One credit where VOC levels compliant for products. 6. All decorative paints and varnishes specified meet the criteria in Table - 20 7. At least five of the seven remaining product categories listed in Table - 20 meet the testing requirements and emission levels criteria for volatile organic compound (VOC) emissions (listed in Table - 20 meet the testing requirements and emission levels criteria for volatile organic compound (VOC) emissions (listed in table). The criteria under this credit would require that material finishes that contain adhesives, are carefully selected, in order to demonstrate compliance to VOC and Formaldehyde testing requirements. The elements that need to be reviewed are: - Paints and Vamishes - Wood panels (including particle board, fibreboard including MDF, OSB, cement bonded particle board, plywood, solid wood panel and acoust board) - Timber structures (e.g. gue laminated timber) - Wood fooring (e.g. parquet) - Resilient testile and laminated floor coverings (e.g. vinyl, linoleum, cork, rubber, carpet, laminated wood flooring) - Supended celling Ites - Flooring adhesives - Wall coverings - Wall coverings - Wall coverings - Wood flooring - Resilement testile and laminated floor self.	1	1	0	Provide: 1) A materials schedule listing all relevant VOC containing finishes. 2) Compliant certification & data sheets to demonstrate compliance with BEEAM VOC criteria. OR 1) At Design Stage, contractual obligation for the contractor to achieve the stated objectives.	Architect	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell. Consideration should be given to ensure low VOC content of any finishing products.
Hea02.4	Volatile Organic Compounds - TESTING	One credit where VOC levels measured at post completion. 8. The formaldehyde concentration level is measured post construction (but pre-occupancy) and is found to be less than or equal to 100µ/averaged over 30 minutes (WHO guidelines for indoor air quality: Selected pollutants, 20102). 9. The total volatile organic compound (TVOC) concentration level is measured post construction (but pre-occupancy) and found to be less than 300µ/over 8 hours, in line with the Building Regulation requirements. 10. Where VOC and formaldehyde levels are found to exceed the limits defined in criteria 8 and 9, the project team confirms 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. 11. The testing and measurement of the above pollutants are in accordance with the following standards where relevant: as 5150 16000-4: 2011 Diffusive sampling of formaldehyde in air3 Los This of 1000-2: 2003 VOCS - in air by active sampling class INS 01 6100-7: 2003 VOCS - indroy, amblent and workplace air by diffusive sampling5 dis 51N to 1000-7: 2003 VOCS - indroy, amblent and workplace air by diffusive sampling. 12. The measure doncentration levels of formaldehyde (µg/m3) and TVOC (µg/m3) are reported, via the BREEAM Assessment Scoring and Reporting Tool.	1	0	0	Provide: 1) A compliant Indoor Air Quality Plan (IAQP), (see manual page 92, S0216) OR 2) At design stage, a contractual obligation to produce a compliant IAQP. 3) Commitment to carry out necessary testing post construction		20/07/2022: Credit not included within current scope of works.
Hea 02.5	Indoor Air Quality - Potential for Natural Ventilation	One credit where: The building ventilation strategy is designed to be flexible and adaptable to potential building occupant needs and climatic scenarios. The indoor air quality plan must consider the following: a Aemoval of contaminant sources b Dilution and control of contaminant sources c Procedures for pro-occupancy flush out d.Protection of Heating Ventilation and Air Conditioning (HVAC) systems from sources of pollution during refurbishment/fit- out works e_dust e.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 forocedures for dientifying and implementing third party testing and analysis required to ascertain that the contaminant sources have been removed effectively before occupancy g.Commitments for maintaining indoor air quality in-use, e.g. maintenance and cleaning of the HVAC system, ductwork and fiters.	1	0	0	Provide: 1) Relevant section/clauses of the building specification or contract 2) Formal letter from the design team with details of the ventilation strategy and calculations/results from appropriate software modelling tool(s) 3) Manufacturers'/suppliers' literature		24/06/2022: Credit not feasible as two levels of user control for natural ventilation are required. This is typically achieved through openable windows and trickle vents. The Grade 2* listed nature of the building does not allow for two levels of user control. Additionally, analysis would be required to confirm that the natural ventilation strategy can deliver compliance with the ventilation requirements of CIBSE AM10.

Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below.

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			Refu	urbishmen	t (RFO)			
<u>Ref.</u> <u>No.</u>	Description	<u>Criteria</u>	<u>Credits</u> <u>Available</u>	<u>Target</u>	Enhanced Credits	Action/Evidence Required	Actionee	Comments
Hea 04.1	Thermal Comfort - Thermal Modelling	One credit where: 1. Thermal modelling has been carried out using software in accordance with CIBSE AM11 1 Building Energy and Environmental Modelling. 2. The software used to carry out the simulation at the detailed design stage provides full dynamic thermal analysis. 3. The modelling demonstrates that: PLEASE VIEW GN Hea 4.1 4. For air conditioned buildings, the PMV (predicted mean vote) and PPD (predicted percentage of dissatisfied) indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.	1	0	0	Provide: 1) A copy of the thermal comfort study in line with the BREEAM criteria		20/07/2022: Credit not included within current scope of works.
Hea 04.2	Thermal Comfort - Adaptability	One credit where: 5. Criteria 1 to 4 are achieved. 6. The thermal modelling demonstrates that the relevant requirements set out in criteria 3 are achieved for a projected climate change environment (see Relevant definitions). 7. Where thermal comfort criteria are not met for the projected climate change environment, the project eam demonstrates how the building has been adapted, or designed to be easily adapted in future using passive design solutions in order to subsequently meet the requirements under criterion 6. 8. For air conditioned buildings, the PMV and PPD indices based on the above modelling are reported via the BREEAM assessment scoring and reporting tool.	1	0	0	Provide: 1) A copy of the thermal comfort study in line with the BREEAM criteria		20/07/2022: Credit not included within current scope of works.
Hea 04.3	Thermal Comfort - Thermal Zoning and Controls	One credit where: 10. Criteria 1 to 4 are achieved. 11. The thermal modelling analysis (undertaken for compliance with criteria 1 to 4) has informed the temperature control strategy for the building and his users. 12. The strategy for proposed heating/cooling system(s) demonstrates that it has addressed the following: a Zones with the building and how the building services could difficiently and appropriately heat or cool these areas. For example consider the different requirements for the central core of a building compared with the external perimeter adjacent to the windows. b. 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). C. The degree of occupant control required for these zones, based on discussions with the end user (or alternatively building type or use specified dissing undance, case studies, (seeback) considers: Lisser knowledge of building services. Liscer knowledge of building services. II.Occupancy type, patterns and room functions (and therefore appropriate level of control required) III.Coupancy type, patterns. A for operate or interact with the system(s), e.g. are they likely to open windows, access thermostatic tradiator valves (TRY) on radiators, for example some occupants like fresh ari and others dislike drafts). A low the proposed systems will interact with each other (where there is more than one system) and how this may affect the thermal confort of the building occupants. e. The need or otherwise for an accessible building user actuated manual override for any automatic systems.	1	0	0	Provide: 1) A copy of the thermal comfort study in line with the BREEAM criteria 2) Temperature control strategy based on the above analysis		20/07/2022: Credit not included within current scope of works.
Hea 05	Acoustic performance	One credit where: 1. The building meets the appropriate acoustic performance standards and testing requirements defined in the checklists and tables section which defines criteria for the acoustic principles of: a. Sound insulation b. Indoor ambient noise level c. Reverberation times.	3	0	0	Provide: 1) An acoustic specification report of the design strategy detailing elements regarding Internal Noise, Sound Insulation and Reverberation times. 2) A programme of acoustic testing and remedial works schedule OR a contractual requirement to undertake these at construction stage (Prelims)		20/07/2022: Credit not included within current scope of works.

Target Score: 36.46% PASS

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sustainability

Target Score: 36.46% PASS

2) Energy strategy document detailing metering strategy of at least 90%

This could include amongst other documents. Services Specification.

Confirmation that each meter is labelled/identifiable for its end use

f energy consumption estimated above

Metering Schematics, Points Schedule,

Verte

sustainability

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Energy Monitoring

tenancy areas

Ene 02.2

GREEN: CREDIT ACHIEVED

AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

5. An accessible energy monitoring and management system or separate accessible energy sub-meters with pulsed or other open protocol communication outputs to enable future connection to an energy monitoring and management system are

rovided, covering a significant majority of the energy supply to tenanted areas or, in the case of single occupancy buildings,

relevant function areas or departments within the building/unit.

RED: INFORMATION NOT AVAILABLE TO ACHIEVE THE CREDIT

Refurbishment (RFO) Ref. **Credits** Enhanced Description Criteria Target Action/Evidence Required Actionee Comments No. Available Credits One credit where 20/07/2022: Credit not included within current scope of works. 1) Suitably Qualified Security Specialist (SQSS) design report and 1. A suitably qualified security specialist (SQSS) conducts an evidence-based Security Needs Assessment (SNA) during or prior commendations o Concept Design (RIBA Stage 2 or equivalent). Safety and Security 2. A suitably qualified security specialist (SQSS) develops a set of recommendations or solutions during or prior to Concept) Design drawings and specification demonstrating SQSS Security of site and Design (RIBA Stage 2 or equivalent). These recommendations or solutions aim to ensure that the design of buildings, public and Hea 06.1 1 0 0 commendations are implemented building private car parks and public or amenity space are planned, designed and specified to address the issues identified in the preceding SNA. 3. The recommendations or solutions proposed by the suitably qualified security specialist (SQSS) are implemented (see CN9. Any deviation from those recommendations or solutions will need to be justified, documented and agreed in advance with a suitably qualified security specialist. Up to 15 credits can be awarded for buildings designed to minimise operational energy demand, primary energy consumption rovide: 24/06/2022: 5 Credits considered feasible. Credit scoring is based on a nd CO2 emission high level review of the BREEAM Ene 01 schedule, accounting for the credit are awarded based on the Energy Performance Ratio for New Construction (EPRNC) using BREEAM Ene 01 calculator. 1) Option 1 - A copy of the Building Regulations Output Document provision of new services Reduction in CO2 The calculation is determined using performance data from the approved building energy calculation software rom the approved software for both the existing building and Emissions proposed building. The output documents must be based on the design stage of analysis. 9 Mandatory Reg: Ene 01 MEP 0 + 5 Innov Excellent: 5 Credit Outstanding: 8 2) Option 2 - A copy of the BREEAM Refurbishment and Fit-out energy Credits model to reflect the actual and proposed building performance and scope of the assessment as relevant to the applicable assessment arts. One credit where: 12/07/2022: Credit not considered feasible following review of criteria by rovide: 1) Calculations demonstrating estimated total energy use. electrical sub-contractor. The design of the electrical installation includes 1. Energy metering systems are installed that enable at least 90% of the estimated annual energy consumption of each fuel to for separate metering to the lighting and power systems. be assigned to the various end-use categories of energy consuming systems (see Methodology). 2) Energy strategy document detailing metering strategy of at least 90% 2. The energy consuming systems in buildings with a total useful floor area greater than 1,000m2, are metered using an of energy consumption estimated above Energy Monitoring The requirement for metering to the space heating and domestic hot appropriate energy monitoring and management system. Monitoring Major 3. The systems in smaller buildings are metered either with an energy monitoring and management system or with separate This could include amongst other documents, Services Specification, water systems would be difficult to achieve without further intrusion into Energy Uses ccessible energy sub-meters with pulsed or other open protocol communication outputs, to enable future connection to an Netring Schematics, Points Schedule. the existing building fabric to install additional sub main cables, energy monitoring and management system (see Relevant definitions). Ene 02.1 distribution boards and the possibility of an additional riser throughout 1 0 0 4. The end energy consuming uses are identifiable to the building users, for example through labelling or data outputs. 3) Confirmation that each meter is labelled/identifiable for its end use Aandatory Reg: each building. /G, Excel & Outstanding - 1 Due to the above reasons this would also be a very costly exercise and redit require extension to the current programme. Note: This credit is a minimum standard for BREEAM Very Good utstanding ratings. As such a Very Good rating or above is not feasible. One credit where: 24/06/2022: Credit considered as not feasible due to space constraints rovide: 1) Calculations demonstrating estimated total energy use. for additional sub-metering required at each floor level.

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Target Score: 36.46% PASS

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GREEN: CREDIT ACHIEVED

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demand and/or CO2 emissions
PLEASE VIEW GN Ene 04.3

RED: INFORMATION NOT AVAILABLE TO ACHIEVE THE CREDIT

Refurbishment (RFO) Ref. Credits Enhanced Description Criteria Target Action/Evidence Required Actionee Comments No. Available Credits One credit where 20/07/2022: Credit not included within current scope of works. 1) Relevant section/clauses of the building specification or contract 1. The building has been designed to operate without the need for external lighting (which includes on the building, signs and 2) Design drawings t entrances). Ene 03 External Lighting OR alternatively, where the building does have external lighting, one credit can be awarded as follows 1 0 0 2. The average initial luminous efficacy of the external light fittings within the construction zone is not less than 60 luminaire 3) Manufacturers' product details lumens per circuit Watt. 3. All external light fittings are automatically controlled for prevention of operation during davlight hours and presence detection in areas of intermittent pedestrian traffic. 20/07/2022: Credit not included within current scope of works. One credit where:) The results from a dynamic simulation model demonstrating the . The first credit within issue Hea 04 Thermal comfort has been achieved to demonstrate the building design can deliver opportunities for the implementation of passive design solutions that appropriate thermal comfort levels in occupied spaces duce the demand for energy consuming building services Low Carbon Design 2. The project team carries out an analysis of the proposed building design/development to influence decisions made during Ene 04.1 Passive Design 1 0 0 2) Evidence that the passive design measures implemented will reduce Concept Design stage (RIBA Stage 2 or equivalent) and identify opportunities for the implementation of passive design Analysis total building energy demand by at least 5% solutions that reduce demands for energy consuming building services. This reduction should 5% of overall building energy demand and/or CO2 emissions. 3. The building uses passive design measures to reduce the total heating, cooling, m Exigereanical ventilation and lighting loads and energy consumption in line with the findings of the passive design analysis and the analysis demonstrates a meaningful 24/06/2022: Credit not feasible as due to the listed nature of the One credit where: rovide 1) Correspondence from the building services engineer summarising building, significant carbon reductions from passive design measures will 4. The passive design analysis credit is achieved. the 'purpose designed' free cooling strategy not be achievable. 5. The passive design analysis carried out under criterion 2 includes an analysis of free cooling and identifies opportunities for the implementation of free cooling solutions. 2) The results from a dynamic simulation model demonstrating the The building uses ANY of the free cooling strategies listed below to reduce the cooling energy demand, i.e. it does not use feasibility of the free cooling strategy active cooling: 1.Night time cooling (which could include the use of a high exposed thermal mass) 2.Ground coupled air cooling Low Carbon Design Ene 04.2 1 0 0 3.Displacement ventilation (not linked to any active cooling system) Free Cooling 4 Ground water cooling 5.Surface water cooling 6.Evaporative cooling, direct or indirect 7.Desiccant dehumidification and evaporative cooling, using waste heat 8. Absorption cooling, using waste heat 9. The building does not require any significant form of active cooling or m Exigereanical ventilation (i.e. naturally ventilated) Shell only building: Only free cooling options 1 to 3 listed above are applicable. One credit where: 20/07/2022: Credit not included within current scope of works. 1) LZC study in line with BREEAM criteria 7. A feasibility study has been carried out by the completion of the Concept Design stage (RIBA Stage 2 or equivalent) by an energy specialist (see Relevant definitions) to establish the most appropriate recognised local (on-site or near-site) low or zero 2) Design drawings or relevant sections of the building specification or carbon (LZC) energy source(s) for the building/development. Low Carbon Design 8. A local LZC t Technology/t Technologies has/have been specified for the building/development in line with the 3) Report, calculations/outputs from the manufacturer, supplier, Ene 04.3 recommendations of this feasibility study and this method of supply results in a meaningful reduction in regulated carbon 1 0 0 engineer or approved modelling software LZC lioxide (CO2) emissions: The amount of energy or CO2 emissions reduction is not specified in the criteria in this issue. onfirming carbon savings as a result of the installed LZC technology lowever, it should not be a trivial amount. As a guide, the installation should contribute at least 5% of overall building energy



Target Score: 36.46% PASS

Verte

sustainability

Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below.

Evidence should be collated in individual credit folders (electronically).

Highlighted in Grey - Not relevant to scheme.

GREEN: CREDIT ACHIEVED

AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

RED: INFORMATION NOT AVAILABLE TO ACHIEVE THE CREDIT

Refurbishment (RFO) Ref. <u>Credits</u> Enhanced Description Criteria Target Action/Evidence Required Actionee Comments No. Available Credits Two credits where 24/06/2022: Credit considered not feasible as the proposed lift works are 1) Lift specification demonstrating features specified in line with the for general repair only and will not include changes allowing for 2.Criterion 1 is achieved. REEAM criteria additional energy efficiency measures. 3. For each lift, the following three energy efficient features are specified: a. 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 Energy Efficient prescribed length of time. Transportation Ene 06.2 b. The lift car lighting and display lighting provides an average lamp efficacy. (across all fittings in the car) of > 55 lamp 2 0 0 Systems - Energy umens/circuit Watt. Efficient Features . The lift uses a drive controller capable of variable speed, variable-voltage, and variable-frequency (VVVF) control of the drive 4. Where the use of regenerative drives is demonstrated to save energy, they are specified. Escalators and/or moving walks - If present additional detail shall be provided. Up to three credits where rovide 24/06/2022: Credits considered feasible based on the building location 1) PTAL Calculation for the site which has a high PTAL rating of 6b and an accessibility index of 74.58. . The public transport Accessibility Index (AI) for the assessed building is calculated and BREEAM credits awarded in accordance with the BREEAM tables. 2) Completed copy of Tra01 calculator . The Accessibility Index is determined by entering the following information in to the BREEAM Tra 01 calculator: . The distance (m) from the main building entrance to each compliant public transport node . The public transport type(s) serving the compliant node e.g. bus or rail The average number of services stopping per hour at each compliant node during the operating hours of the building for a Public Transport typical day Tra 01 3 0 Verte Accessibility One credit - Dedicated bus service 3. For buildings with a fixed shift pattern, i.e. where building users will predominantly arrive/depart at set times, one credit car be awarded 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. This credit is only available in cases where a development is unable to achieve any of the available credits using the accessibility Index criteria (i.e. its location has a low public transport Accessibility Index). One credit where: 24/06/2022: Credit considered feasible based on the building location, rovide: 1) Completed map, clearly illustrating location of amenities, distance and with a range of amenities within a 500m walking distance. he building is located within close proximity of the following amenities: destrian access Proximity to Tra 02 1 0 Verte Amenities within 500m of two of these: Food outlet: access to cash, recreation/leisure facility for fitness: within 500m of one of these: Access to out door space, community facility, pharmacy, GP/medical surgery, childcare facility/school. One credit where 24/06/2022: Credit for cyclist storage is achievable based on the Provide: 1) Drawings and specification illustrating location, type and number of proposed NIA requiring 6No. Cycle space. Within the lower ground floor . Compliant cycle storage spaces are provided: 1 cycle space per 10 expected building occupants. There is a sliding scale for cycle parking facilities. 8No. Cycle storage spaces are provided. Additionally 1 shower with uildings with more than 200 expected occupants changing facilities is provided as well as lockers. Drawings and specifications illustrating location, type and number of One credit where: cyclist facilities, namely lockers and shower/changing areas. 2. Criterion 1 has been achieved. Tra 03 Cyclist Facilities 2 0 Architect At least two of the following types of compliant cyclist facilities have been provided for all staff: Showers (1 per 10 cycle spaces. 8 showers is the maximum number required). b. Changing facilities . Lockers - 1 locker per cycle space d. Drving spaces . The requirements of this credit can be reduced by 50% if 2 credits are achieved under Tra 01 Provide details of car parking facilities/numbers. 24/06/2022: Credit considered feasible as the building will be car free. As Up to two credits - Car parking capacity where: such credits are achieved by default. Maximum Car . The building's car parking capacity is compared to the maximum car parking capacity benchmarks provided in the BREEAM Tra 04 2 0 Architect Parking Capacity Guidance.

Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below.

Evidence should be collated in individual credit folders (electronically). Highlighted in Grey - Not relevant to scheme.

GREEN: CREDIT ACHIEVED

Target Score: 36.46% PASS



AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

			Refu	irbishmen	t (RFO)			
<u>Ref.</u> <u>No.</u>	Description	Criteria	<u>Credits</u> <u>Available</u>	<u>Target</u>	Enhanced Credits	Action/Evidence Required	Actionee	Comments
Tra 05	Travel Plan	One credit where: 1. A travel plan has been developed as part of the feasibility and design stages. 2. A site specific travel assessment/statement has been undertaken to ensure the travel plan is structured to meet the needs of the particular site and covers the required topics listed in the BREEAM Guidance. 3. The travel plan includes a package of measures to encourage the use of sustainable modes of transport and movement of people and goods during the buildings operation and use. 4. If the occupier is known, they must be involved in the development of the travel plan and they must confirm that the travel plan will be implemented post construction and be supported by the buildings management in operation.	1	0	0	Please provide: 1) A copy of the site specific Travel Plan 2) A copy of any site specific transport assessment details 3) A commitment from the client/occupier that the travel plan measures will be implemented (letter)		20/07/2022: Credit not included within current scope of works.
Wat 01	Water Consumption Mandatory Req: Good, VG & Excel: 1 Credit Outstanding: 2 Credits	Up to five credits where: 1. An assessment of the efficiency of the building's domestic water-consuming components is undertaken using the BREEAM Wat 01 calculato: 2. The water consumption (L/person/day) for the assessed building is compared against a baseline performance and BREEAM credits awarded based upon Table - 35. 3. The efficiency of the following 'domestic scale' water-consuming components must be included in the assessment (where specified): a. WCs, b. Urinals, c. Taps (wash hand basins and where specified kitchen taps and waste disposal unit), d. Showers, e. Baths, f. Dishwashers (domestic and commercial sized) and g. Washing machines (domestic and commercial or industrial sized). If any greywater / rainwater recycling is available additional guidance shall be provided.	5 + 1 Innov	2	0	Provide: 1) A copy of the sanitary ware schedule identifying water consuming properties of each fitting. 2) Drawings indicating locations of each fitting 3) Completed copy of the Wat01 calculator	Architect	24/06/2022: 2 credits included within target score, based on proposed flow rates of sanitaryware fittings.
Wat 02	Water Monitoring Mandatory Req: Good, VG, Excel, Outstan: Criterion 1	One credit where: 1. The specification of a water meter on the mains water supply to each building; this includes instances where water is supplied via a borehole or other private source. 2. Water-consuming plant or building areas, consuming 10% or more of the building's total water demand, are either fitted with easily accessible sub-meters or have water monitoring equipment integral to the plant or area (see Compliance notes). 3. Each meter (main and sub) has a pulsed or other open protocol communication output to enable connection to an appropriate utility monitoring and management system, e.g. a building management system (BMS), for the monitoring of water consumption (see Relevant definitions). 4. If the refurbishment zone is within a site that has an existing BMS, managed by the same occupier/owner (as the space undergoing refurbishment or fit-out), the pulsed/digital water meter(s) for the refurbishment or fit-out zone must be connected to the existing BMS 5. If the refurbishment or fit-out zone is within a building that is leasehold, the pulsed/digital water meter(s) for the refurbishment or fit-out zone is within a building that is leasehold, the pulsed/digital water meter(s) for the refurbishment or fit-out zone must be connected to the incoming water supply for water using equipment in tenanted areas (see compliance note)	1	0	0	 Frovide: 1) A copy of the PH services schematic illustrating location and number of water meters. 2) A copy of the water meter specification/data sheet, confirming pulsed output. 3) Calculations demonstrating that no areas or major plant consume more than 10 of total water demand. 4) If the above is the case, evidence as per 1 & 2 demonstrating this is adequately sub-metered. 		24/06/2022: The minimum standard is achievable through the provision of a water meter on the incoming mains water supply. Additional water meters for water consuming areas (kitchen) and each floor plate are not achievable due to the additional space required that is not available within the building layout.
Wat 03.1	Water Leak Detection & Prevention - Detection	One credit where: 1. A leak detection system which is capable of detecting a major water leak on the mains water supply within the building and between the building and the utilities water meter is installed. The leak detection system must be: a. A permanent automated water leak detection system that alerts the building occupants to the leak OR an in-built automated diagnostic procedure for detecting leaks is installed. b. Activated when the flow of water passing through the water meter/data logger is at a flow rate above a pre-set maximum for a pre-set period of time. c. Able to identify different flow and therefore leakage rates, e.g. continuous, high and/or low level, over set time periods. d. Programmable to suit the owner/occupies' water consumption criteria. e. Where applicable, designed to avoid false alarms caused by normal operation of large water-consuming plant such as chillers.	1	0	0	1) Details of the major water leak detection system to be installed. 2)Drawing indicating location of system 3)BMS details		20/07/2022: Credit not included within current scope of works.
Wat 03.2	Water Leak Detection & Prevention - Prevention	One credit where: 2. Flow control devices that regulate the supply of water to each WC area/facility according to demand are installed (and therefore minimise water leaks and wastage from sanitary fittings).	1	0	0	Provide: 1) A copy of the PH services schematic illustrating location of solenoid valves 2) A copy of Services schematics/drawings illustrating valves connected to non-		20/07/2022: Credit not included within current scope of works.

Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below.

Evidence should be collated in individual credit folders (electronically). Highlighted in Grey - Not relevant to scheme.

GREEN: CREDIT ACHIEVED

Target Score: 36.46% PASS



AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

			Refu	irbishmen	t (RFO)			
Ref. No.	Description	Criteria	<u>Credits</u> <u>Available</u>	Target	Enhanced Credits	Action/Evidence Required	<u>Actionee</u>	Comments
Mat 01	Life cycle impacts	Up to six credits (option 2): Elemental assessment of environmental performance information The following are required to demonstrate compliance: 8.Robust environmental performance information has been collected for newly specified materials or where materials are retained in situ, for elements listed in CN7 9.The total number of points achieved as set out in the Methodology section are calculated using Part B of the BREEAM Mat 02 calculator. The number of points achieved is based on the percentage of each element that has been: a.reused in situ with minor repairs c.specified with robust environmental performance information. 10.Credits are awarded based upon the percentage of available points achieved as set out in Table - 47 PLEASE VIEW/COMPLETE Mat 01 Table	6 +1	3	0	Provde: 1) Completed Mat01 Schedule indicating: */materials re-used in situ */materials with robust environmental information (EPD) 2) Copies of drawings, specification, product data sheets demonstrating type of proposed materials 3) Copies of Environmental Product Declarations (EPD), Recycled Content declarations, Re-use declarations for the relevant materials	TBC	24/06/2022: A basic Green Guide to Specification LCA can be undertaker though credits capped at 3.
Mat 03.1	Responsible sourcing of materials - Sustainable Procurement Plan Mandatory Req: Any Rating: Criterion 1	Pre-requisite 1. All timber and timber based products used on the project is ' Legally harvested and traded timber' One credit - Sustainable procurement plan 2. The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan PLEASE VIEW GN Mat 03.1	1	1	0	Provide: 1) Copy of the prelims including the requirements.	Contractor	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell. ML team to develop and implement a Sustainable Procurement Plan.
Mat 03.2	Responsible sourcing of materials - Sourcing of Materials	Up to 3 credits - Responsible sourcing of materials (RSM) are responsibly sourced in accordance with the BREEAM methodology, 18% RSM points achieved - 1 credit, 36% RSM points achieved - 2 credits, 54% RSM points achieved - 3 credits Location use categories: 1.Ceiling (including ceiling finishes), 2.Door/window, 3.Floor (including floor finishes), 4.Insulation 5.Internal partition/Internal valls (including finishes), 6.Roof (including roof finishes), 7.Structure, primary and secondary, 8.External vall (e.g. cladding, lining, render, including finishes) 9.Building service, 10.Hard landscaping, 11.Other PLEASE VIEW GN Mat 03.2 PLEASE VIEW/COMPLETE Mat 03 Table	3 +1 Innov	1	0	Provide: 1) Completed Mat03 Schedule indicating: -relevant materials with 2) Copies of drawings, specification, product data sheets demonstrating type of proposed materials 3) Copies of Environmental Product Declarations (EPD), Recycled Content declarations, Re-use declarations for the relevant materials	Contractor	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell. Consideration should be given to specifying materials from manufactures with BES 6001 certification.
Mat 04	Insulation	One credit where: 1. Any new insulation specified for use within the following building elements must be assessed: a. External walls, b. Ground floor, c. Roof, d. Building services. Insulation should have an A/A+ Green Guide rating. 2. The Insulation index for the building fabric and services insulation is the same as or greater than 2.5.	1	1	0	Provide: 1) Completed Mat 4 schedule indicating: - relevant insulation, and estimated m3 for services insulation, plus thermal conductivity 2) Manufacturers details confirming thickness and thermal conductivity for all insulation assessed 3) Copies of drawings, specification, product data sheets demonstrating type of proposed insulation 4) Copies of Environmental Management Systems certification (e.g. ISO 14001, BES 6001), Environmental Product Declarations (EPD), Recycled Content declarations, Re-use declarations for the relevant insulation products.	Architect + MEP	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell. All new insulation to have a suitable Green Guide to Specification to contribute to achieving an insulation index >2.5.

Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below.

Evidence should be collated in individual credit folders (electronically). Highlighted in Grey - Not relevant to scheme.

GREEN: CREDIT ACHIEVED

AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

RED: INFORMATION NOT AVAILABLE TO ACHIEVE THE CREDIT

Target Score: 36.46% PASS



			Ref	urbishmen	t (RFO)			
<u>Ref.</u> <u>No.</u>	Description	Criteria	<u>Credits</u> <u>Available</u>	<u>Target</u>	Enhanced Credits	Action/Evidence Required	Actionee	<u>Comments</u>
Mat 05	Designing for durability and resilience	Protecting vulnerable parts of the building from damage. 1. The building incorporates suitable durability and protection measures or designed features/solutions to prevent damage to vulnerable parts of the internal and external building and landscaping elements. This must include, but is not necessarily limited to: a. Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors et cl.) b. Protection against, any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. c. Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building fraçade for all car parking areas and within 2m for all delivery areas. Protecting exposed parts of the building from material degradation 2. The relevant building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors. PLEASE VIEW GM Mat 05	1	1	0	Provide: 1) Highlighted drawings identifying high traffic/vulnerable areas and measures installed 2) Copies of drawings, specification, product data sheets demonstrating type of proposed materials	Architect	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell. Durability measures are included as part of design such as suitable flooring types and entrance matting. Note: Criteria 2 is not applicable as Part 1 is not within assessment scop
Mat 06	Material Efficiency	One credit where: 1. Opportunities have been identified, and appropriate measures investigated and implemented, to optimise the use of materials in building design, procurement, construction, maintenance and end of life 2. The above is carried out by the design/construction team in consultation with the relevant parties at each of the following RIBA stages: a. Preparation and Brief, b. Concept Design, c. Developed Design, d. Technical Design, e. Construction. 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: 1. Client/developer, 2. Cost consulting. 3. Architet, 4. Structural/civil engineers, 5. Building services engineers - m Exigereanical, electrical, 6. Principal contractor, 7. Demolition/strip-out contractor, B. Environmental consultant, 9. Project management consultant, 10. Materiak/component manufacturers/suppliers. PLEASE VIEW GN Mat 06	1	0	0	Provide: 1) Reports (at Preparation and Brief stage) outlining the activity relating to material efficiency (ideas discussed, analysis and decisions taken) 2) Drawings or building information model (BiM), calculations showing reduction of material use through design (Concept Design/Developed Design stages) 3) Meeting notes, construction program, responsibilities schedule (indicating parties consulted).		24/06/2022: Credit not achievable as initial material efficiency review required from Stage 1 going forward.
Wst 01 .1.	Pre-refurbishment audit	1. The client shall ensure that a pre-refurbishment audit of all existing buildings, structures or hard surfaces within the scope of the refurbishment of fil-out zone is completed. The requirements for carrying out an appropriate pre-refurbishment audit are as a. The audit should be carried out at the Concept Design Stage (equivalent to RIBA stage 2) prior to strip-out or demolition works in order to use the audit results to guide the design, consideration of materials that can be reused, and to set targets for waste management and ensure all contractors are engaged in the process of maximising high grade reuse and recycling of gradement and the audit should be carried out by a competent person (see Relevant Definitions) who is independent of the project, has appropriate howedge of buildings, waste and options for the reuse and recycling of different waste streams C.Actual waste arisings and waste management routes used should be corried out by a competent person (see Relevant Definitions) who is independent of the project, has appropriate howedge of buildings, waste and options for the reuse and recycling of different waste streams C.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 and cover: didentification and quantification of the key materials where present on the project (see Table - 66) E-Otential 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 recycles for recycling of materials placetomic or overall target liversion rate for all key materials. Identification of overall targets where appropriate.	1	0	0	Provide: 1) A copy of the pre-refurbishment audit carried out at Stage 2		24/06/2022: Credit not feasible as strip out has already been undertake for removal of asbestos in alignment with Local Authority requirements and consent.

Target Score: 36.46% PASS

1) Drawings highlighting recyclable waste collection area compliant to

1) Drawings or confirmation that floor and ceiling finishes to be

OR exposed ceilings and raised access floors only.

completed in show area only (<25%) or agreed by tenant if known.

points a, b, c of the criteria

rovide

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sustainability

24/06/2022: Credit not achievable as due to space and design constraints

To note, this is a minimum standard for an Excellent rating and would

require >2sqm of recyclable waste storage space, in additional to space

24/06/2022: Credit not achievable as both floor and ceiling finishes are

a bin store has not been provided.

within the scope of proposed works.

for general waste storage.

Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below.

Evidence should be collated in individual credit folders (electronically). Highlighted in Grey - Not relevant to scheme.

GREEN: CREDIT ACHIEVED

Ref. No.

Wst 01 .2

Wst 01 .3

Wst 01 .4

Wst 03

Wst 04

AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

One credit where:

contractors

inishes

One credit where:

1. Dedicated space(s) is provided for the segregation and storage of operational recyclable waste volumes generated by the

b. Accessible to building occupants or facilities operators for the deposit of materials and collections by waste management

c. Of a capacity appropriate to the building type, size, number of units (if relevant) and predicted volumes of waste that will

. For tenanted areas (where the future occupant is not known), prior to full fit-out works, carpets, other floor finishes and

ceiling finishes have been installed in a show area only. A show area could be either a floor plate or an individual office.

2. In a building developed for a specific occupant, that occupant has selected (or agreed to) the specified floor and ceiling

assessed building/unit, its occupant(s) and activities. This space must be:

lowever, to award this credit it must be less than 25% of the net lettable floor area.

arise from daily/weekly operational activities and occupancy rates.

a. Clearly labelled, to assist with segregation, storage and collection of the recyclable waste streams

Operational Waste

Aandatory Req:

Outstanding: 1

Speculative Floor

and Ceiling Finishes

Excel &

redit

RED: INFORMATION NOT AVAILABLE TO ACHIEVE THE CREDIT

			Returbishment (RFO)					
<u>Description</u>	Criteria	<u>Credits</u> Available	Target	Enhanced Credits	Action/Evidence Required	Actionee	Comments	
Re-use and direct recycling of materials	Where waste material types detailed in Table - 64 are either directly re-used on-site or off-site or are sent back to the manufacturer for closed loop recycling One credit is achieved where 50% of the total available points for the waste material types detailed in Table - 64, that are present on the project have been achieved (using the Was 01 calculator tool, see Table - 65 in the Methodology Section Two credits are achieved where 75% of the total available points for the waste material types detailed in Table - 64, that are present on the project have been achieved (using the Was 01 calculator tool, see Table - 65 in the Methodology section)	2	0	0	Provide: 1) Copy of the prelims including the requirements.		24/06/2022: Credit not feasible as strip out has already been undertaken. As good practice cut-offs from construction materials can be returned to manufacturers (where feasible) for closed loop recycling. This alone however would not be enough to achieve the credit.	
Resource Efficiency	Construction resource efficiency (excluding simple buildings) 5. Develop and implement a compliant resource management plan covering the waste arisings from the refurbishment or fit- out project with the aim of minimising waste (see Relevant definitions), recording and reporting accurate data on waste arisings. 6. The non-hazardous waste relating to on-site refurbishment or fit-out, and dedicated off-site manufacture or fabrication processes generated by the building's design and construction meets, or exceeds, the resource efficiency benchmarks set out in Table - 61 and Table - 62 as relevant to the project type.	3	1	0	Provide: 1) Copy of the prelims including the requirements.	Contractor	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell. A resource efficiency of <3.5 tonnes per 100sqm is required, to be demonstrated within final Site Waste Management Plan.	
Diversion of Resources from Landfill	Diversion of resources from landfill One credit where: 7. The following percentages of non-hazardous construction (on-site and off-site manufacture/fabrication in a dedicated facility), demolition and excavation waste (where applicable) generated by the project have been diverted from landfill: 8.Non-hazardous construction waste generated by the building's design and refurbishment or fit-out is no greater than the exemplary level resource efficiency benchmark (outlined in Table - 62 and Table - 61). 9. The percentage of non-hazardous construction and demolition (if relevant) waste diverted from landfill meets or exceeds the exemplary level percentage benchmark (outlined in Table - 63). 10.Waste materials will be sorted into separate key waste groups (according to the waste streams generated by the scope of the works; the List of Wastes/European Waste Catalogue code should be referenced) either on-site or off-site through a licensed contractor for recovery. 11.75% of difficult to manage wastes have been reused on or off-site rather than recycled, in accordance with Table - 64.	1 + 1 Innov	0	0	Provide: 1) Copy of the prelims including the requirements.	Contractor	07/07/2022: Credit considered not feasible following feasibility workshop with Morgan Lovell and design team. A diversion from landfill rate of 90% of refurbishment and 95% of demolition/ strip out waste isrequired, to be reported within the final Site Waste Management Plan. The building strip out has already been undertaken by others and limited information is available to inform this credit. The strip out works were completed previously in line with written approval from Camden Council.	

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Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below.

Evidence should be collated in individual credit folders (electronically). Highlighted in Grey - Not relevant to scheme.

CREEN CREDIT ACHIEVED

GREEN: CREDIT ACHIEVED

AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

RED: INFORMATION NOT AVAILABLE TO ACHIEVE THE CREDIT

Refurbishment (RFO) Ref. Credits Enhanced Description Criteria Target Action/Evidence Required Actionee Comments No. Available Credits One credit where 24/06/2022: Credit not achievable as a Functional Adaptability Strategy A copy of the functional adaptability strategy study would require development at Stage 2. Due to the BRE set time 1. A building-specific functional adaptation strategy study has been undertaken by the client and design team by Concept constraint this credit is not longer feasible. unctional Design (RIBA Stage 2 or equivalent), which includes recommendations for measures to be incorporated to facilitate future 2) Evidence such as drawings and specification demonstrating outcomes Wst 06 1 0 0 of strategy have been implemented. Adaptability adaptation 2. Functional adaptation measures have been implemented (RIBA Stage 4 or equivalent) in accordance with the functional adaptation strategy recommendations, where practical and cost effective. Omissions have been justified in writing to the ccoccor Up to 3 credits are available for the reduction of the level of greenhouse gas emissions arising from the leakage of refrigerants 20/07/2022: Credit not included within current scope of works. rovide 1) Credit targeted for leak detection: from building systems copy of the specification clause or letter from the M&E 3 credits where the building does not required the use of refrigerant within its installed plant/systems ngineer/system manufacturer confirming relevant refrigeration type ind system information Leak detection - One credit where: 6. Where systems using refrigerants have a permanent automated refrigerant leak detection system installed: OR where an in For further credits: Impact of built automated diagnostic procedure for detecting leakage is installed. In all instances a robust and tested refrigerant leak 1) Documentary evidence confirming the absence of refrigerant in Pol 01 3 0 0 detection system must be installed and must be capable of continuously monitoring for leaks. the development refrigerants 7. The system must be capable of automatically isolating and containing the remaining refrigerant(s) charge in response to a 2) A copy of the specification clause or letter from the M&E leak detection incident. engineer/system manufacturer confirming relevant refrigeration type and system information Shell and core buildings: If the building is designed in such a way that it avoids the need for refrigerant containing building services, and therefore no 'refrigerant-using' building services or systems will be specified for the fit-out, then the available redits can be awarded by default 24/06/2022: Credits not achievable. As the building will be fully electric, Up to three credits: rovide 1) Relevant section/clauses of the building specification or contract though positive from a wider sustainability perspective, the scheme 1. Where the plant installed to meet the building's delivered heating and hot water demand has, under normal operating cannot achieve Pol 02 credits. The BRE criteria assumes that systems fed conditions, a NO x emission level (measured on a dry basis at 0% excess O2) as follows: 2) Manufacturer's product details by grid electricity have high associated NOx emissions, in excess of the 1 credit where maximum dry NOx ≤100 mg/kWh (at 0% excess O2). 2 credits where maximum dry NOx ≤70 mg/kWh (at 0% 3) Calculations from the project team credit thresholds. excess O2). 3 credits where maximum dry NOx <40 mg/kWh (at 0% excess O2). Pol 02 NOx emissions 3 0 0 . Report via the BREEAM scoring and reporting tool the direct and indirect NO x emissions in mg/kWh and energy consumption in kWh/m 2 /yr arising from systems installed to meet the building's space heating, cooling and hot water demands. No credits may be awarded for open flue heating or hot water systems. Where the water heating can be demonstrated to be less than 10% of the building's total energy consumption, these credits can be awarded based solely on the NO x emissions from space heating. Two credits - Low flood risk 24/06/2022: Credit considered feasible as government flood maps rovide 1) Copy of EA Flood Maps indicating flood risk .. Where a site-specific flood risk assessment (FRA) confirms the development is situated in a flood zone that is defined as confirm that the building location is not at risk from flooding. naving a low annual probability of flooding (in accordance with current best practice national planning guidance). The FRA must take all current and future sources of flooding into consideration. for NC an FRA report is required. If Medium/High. sub-sequent evidence as detailed in Cr2-3 of the One credit - Medium/high flood risk 2. Where a site-specific FRA confirms the development is situated in a flood zone that is defined as having a medium or high guidance i.e. a flood resilience strategy is implemented annual probability of flooding and is not in a functional floodplain (in accordance with current best practice national planning uidance). The FRA must take all current and future sources of flooding into consideration. Pol 03.1 Surface water run . To increase the resilience and resistance of the development to flooding, one of the following must be achieved: 0 Verte 2 off - Flood Risk The ground level of the building and access to both the building and the site, are designed (or zoned) so they are at least 600mm above the design flood level of the flood zone in which the assessed development is located. . The final design of the building and the wider site reflects the recommendations made by an appropriate consultant in ordance with the hierarchy approach outlined in section 5 of BS 8533:2011.

Target Score: 36.46% PASS



Refer to Main BREEAM Manual for the Compliance Requirements. The type of evidence which should be provided is detailed below.

Evidence should be collated in individual credit folders (electronically). Highlighted in Grey - Not relevant to scheme.

GREEN: CREDIT ACHIEVED

Target Score: 36.46% PASS



AMBER: FURTHER INFORMATION REQUIRED TO ACHIEVE THE CREDIT

			Refurbishment (RFO)					
<u>Ref.</u> <u>No.</u>	Description	Criteria	<u>Credits</u> Available	<u>Target</u>	Enhanced Credits	Action/Evidence Required	Actionee	Comments
Pol 04	Reduction of night time light pollution	One credit where 1. Where external lighting pollution has been eliminated through effective design that removes the need for external lighting without adversely affecting the safety and security of the site and its users. OR alternatively, where the building does have external lighting, one credit can be awarded as follows: 2. The external lighting strategy has been designed in compliance with Table 2 (and its accompanying notes) of the LP Guidance notes for the reduction of obtrusive light, 2011 3. All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. All safety or security lighting is provided and will be used between 23:00 and 07:00. The lighting system complies with the lower levels of lighting recommended during these hours in Table 2 of the LLP's Guidance notes. Silluminated advertisements, where specified, must be designed in compliance with ILE T Technical Report 5 – The Brightness of Illuminated Advertisements.	1	0	0	Provide: 1) Design drawings OR OR clauses in spec/contract 20 Indicative examples of where and how strategy complies		20/07/2022: Credit not included within current scope of works.
Pol 05	Noise Attenuation	One credit where 1. Where there are, or will be, no noise-sensitive areas or buildings within 800m radius of the assessed development. OR 2. Alternatively, where the building does have noise-sensitive areas or buildings within 800m radius of the development, one credit can be avarded as follows: a. Where a noise impact assessment in compliance with 85 7445. Thas been carried out and the following noise levels measured/determined: I. Existing background noise levels at the nearest or most exposed noise-sensitive development to the proposed development or at a location where background noise levels are ource. 3. The noise level resulting from the new noise source. 3. The noise level from the proposed site/Duilding, as measured in the locality of the nearest or most exposed noise-sensitive development, is a difference no greater than 1-5dB during the day (07:00 to 23:00) and 1-3dB at night (23:00 to 07:00) compared to the background noise level. 5. Where the noise source(s) from the proposed site/Duilding is greater than the levels described in criterion 4, measures have been installed to attenuate the noise at its source to a level where it will comply with criterion 4.	1	1	0	Provde: 1) Drawings indicating existing and proposed noise sensitive buildings within 800m 2) Acoustician's report including qualifications and professional status OR clauses in spectontract OR commitment letter 3) Recommendations for attenuation to be included in above report and incorporated	Acoustician	24/06/2022: Credit considered feasible following feasibility workshop with Morgan Lovell. A background noise assessment has been undertaken, confirming the proposed external condenser will have an improvement in dB rating compared to the existing background noise levels. Planning requirements for noise attenuation are more onerous than BREEAM criteria.