BREEAM NC (Non-Domestic)

Design Stage Assessment (DSA)

Euston Tower Office

65206043-SWE-XX-XX-T-O-001-P013

18/10/2024
P013

Issue	Date	Reason for Issue	Prepared		Checked		Approved	
1	05-Oct-22	Pre-assessment	RC	05-Oct-22	MP	05-Oct-22	KA	05-Oct-22
2	16-Dec-22	For information	RC	16-Dec-22	MP	16-Dec-22	KA	16-Dec-22
3	04-Feb-23	For information	RC	04-Feb-23	MP	04-Feb-23	KA	04-Feb-23
4	10-Apr-23	For information	RC	10-Apr-23	MP	10-Apr-23	KA	10-Apr-23
5	25-Jun-23	For information	RC	25-Jun-23	MP	25-Jun-23	KA	25-Jun-23
6	03-Aug-23	For information	RC	03-Aug-23	MP	03-Aug-23	KA	03-Aug-23
7	15-Sep-23	For information	RC	15-Sep-23	MP	15-Sep-23	KA	15-Sep-23
8	23-Nov-23	For information	RC	23-Nov-23	MP	23-Nov-23	KA	23-Nov-23
9	15-Dec-23	For information	RC	15-Dec-23	MP	15-Dec-23	KA	15-Dec-23
10	04-Jan-24	For information	RC	04-Jan-24	MP	04-Jan-24	KA	04-Jan-24
11	25-Mar-24	Stage 2 Close Out	RC	25-Mar-24	MP	25-Mar-24	KA	25-Mar-24
12	17-Oct-24	Stage 2 Extension	MJ	17-Oct-24	KC	1710/2024	KA	17-Oct-24
13	18-Oct-24	Stage 2 Extension	MJ	18-Oct-24	KC	18-Oct-24	KA	18-Oct-24

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What by When

Project Name:	**Euston Tower Office**
BREEAM Scheme:	**BREEAM NC 2018**
Stage:	**Design Stage Assessment (DSA)**
Target Score:	**87.90%**

Whilst it is important for the client and project team to consider sustainability and the BREEAM criteria at an early stage of design, several specialist appointments and the generation of subsequent reports are very important as they will affect the ability to award these credits in the future if these do not happen. Hence, we have listed here these credits and the necessary actions that the client needs to be aware of.

- Targeted
- Credit awarded
- N/A not targeted
- Potential

Issue	Name	RIBA 1	RIBA 2	RIBA 3	RIBA 4	RIBA 5	RIBA 6
MAN 01	Appointment of BREEAM AP						
TRA 01	Travel Plan						
TRA 02	Travel consultation with local authority						
MAT 06	Materials efficiency analysis						
LE 01	Appointment of contaminated land specialist						
LE 02 - 05	Appointment of suitably qualified ecologist						
LE 02	Survey and evaluation & determining the site wide outcomes						
MAN 01	Have a schedule of responsibilities						
MAN 01	Agreement of BREEAM target						
MAN 01	Start public consultation						
MAN 02	Life cycle costing analysis - elemental						
HEA 05	Appointment of suitably qualified acoustician						
HEA 06	Security Need Assessment						
ENE 04	Passive design analysis with energy specialist						
ENE 04	Appointment of energy specialist for LZC study						
MAT 01	Life cycle Assessment (LCA) submission before planning						
WST 01	Production of pre-demolition audit						
WST 05	Conduct a climate change adaptability report for fabric						
WST 06	Disassembly and functional adaptation study						
MAN 03	Appointment of site based BREEAM AP						
MAN 01	Provide consultation feedback						
MAN 02	Life cycle costing analysis - component level						
MAN 04	Appointment of commissioning manager						
DS	**BREEAM DESIGN STAGE CERTIFICATION**						
LE 05	Landscape Management Plan						
PCR	**BREEAM FINAL CERTIFICATION**						

Early Action

Project Name: **Euston Tower Office**
BREEAM Scheme: **BREEAM NC 2018**
Stage: **Design Stage Assessment (DSA)**
Target score: **87.90%**

Whilst it is important for the client and project team to consider sustainability and the BREEAM criteria at an early stage of design, several specialist appointments and the generation of subsequent reports are very important as they will affect the ability to award these credits in the future if these do not happen. Hence, we have listed here these credits and the necessary actions that the client needs to be aware of.

Ecological Consultant Appointment at RIBA Stage 1

Code	Credits	Title	Credit Criteria / Early Action Required
LE 02	2	Ecological risks and opportunities	New 2018 Criteria: Route 2 - SQE A suitably qualified Ecologist (SQE) needs to be appointed to survey/assess the site for its current ecological value prior to any demolition etc. The ecologist will need to provide recommendations on any existing ecology which will need protection during the demolition and construction phases.
LE 03	3	Managing impacts on ecology	
LE 04	4	Ecological change and enhancement	
LE 05	2	Long term ecological management and maintenance	

Client consideration at RIBA Stage 1 & 2

Code	Credits	Title	Credit Criteria / Early Action Required
Man 01	1	BREEAM AP	BREEAM AP is appointed prior to RIBA Stage 2 and BREEAM target formally agreed with design team.
Man 01	1	Project delivery planning	At RIBA Stage 2 or equivalent the client, building occupier, design team and contractor are involved in contributing to the decision making process for the project. Roles, responsibilities and contributions are defined during each RIBA Stage.
Man 01	1	Stakeholder consultation (interested parties)	During preparation of the brief, all relevant parties and relevant bodies are identified and consulted with by the design team. (Relevant bodies are - Actual intended building users, representative consultation group from the existing community, existing partnerships and networks that have knowledge and experience from existing buildings of the same type, potential users of any shared facilities e.g. operators of clubs and community groups). A consultation plan should have been prepared and includes a timescale and methods of consultation for all relevant parties/bodies and how the relevant parties will be kept informed about progress. Consultation feedback has been given with suggestions made, including how the results of the consultation process have influenced the proposed design. Through consultation and the resulting measures taken any areas of features of historic/heritage value are protected.
Ene 07	1	Energy Efficient Laboratory Systems (Design specification)	Engage with the client during the preparation of the initial project brief to determine occupant requirements and define laboratory performance criteria.
Wst 01	1	Pre-demolition audit	Pre-demolition audit must carried out at RIBA Stage 2 and be referenced in Resource Management Plan (RMP).

Transport Consultant Appointment at RIBA Stage 2

Code	Credits	Title	Credit Criteria / Early Action Required
Tra 01	2	Travel Assessment and Travel Plan	Travel Plan to be commissioned for the development clearly considering the impact onto the surrounding infrastructure etc. due to the site specific travel survey / assessment having been developed.
Tra 02	1	Sustainable Transport Measures (Option 6) - RIBA Stage 1	Consultation with local authority (LA) on the state of the local cycling network and public accessible pedestrian routes, to focus on whichever the LA deems most relevant to the project, and how to improve it. Agree and implement one proposition chosen with the local authority.

Specialists / Others at RIBA Stage 2

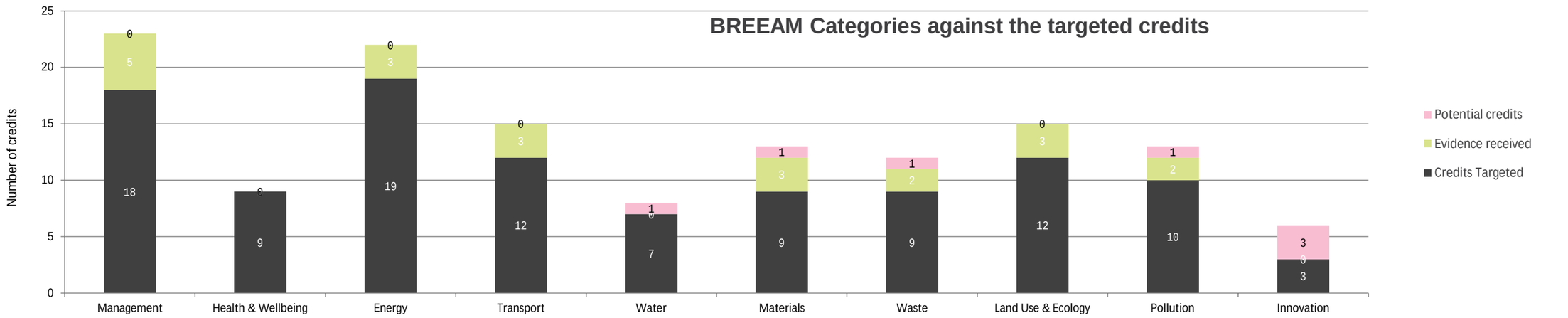
Code	Credits	Title	Credit Criteria / Early Action Required
Man 02	2	Life Cycle Cost & Service Life Planning	An Elemental Life Cycle Cost analysis should be undertaken at Stage 2. A Component Life Cycle Cost analysis should be undertaken at Stage 4..
Hea 02	1	Indoor Air Quality	Appointment of a specialist to carry out an 'Indoor Air Quality Plan' assessment for the development considering neighbouring pollutants, any flue gases etc. proposed and the locations of air intakes and exhausts
Hea 04	1	Thermal modelling & Design for future thermal comfort	Appointment of a specialist to carry out thermal modelling in accordance with CIBSE AM11 and the analysis for the projected climate change scenario.
Hea 06	1	Safety and Security	Consultation with a suitably qualified security consultant (SQSS) should have taken place at RIBA Stage 2. Security Needs Assessment (SNA) to be provided with recommendations from the SQSS. The final design should reflect the recommendations/solutions and implemented in the as-built development.
Ene 04	2	Passive Design	Appointment of a specialist to carry out the analysis for the passive design and energy strategy.
Mat 01	1	Building Life Cycle Assessment (LCA)	A building LCA on of the superstructure design to be carried out by a LCA specialist using an IMPACT Compliant LCA tool according to the methodology. Submit the Mat 01/02 results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for.
Pol 03	2	Flood and surface water management	The commission of a 'Flood Risk Assessment' for the site. This should include an analysis for the 1 in 100 year storm event and attenuation measure recommendations to adhere to adequate discharge flow rates and SUDS techniques.

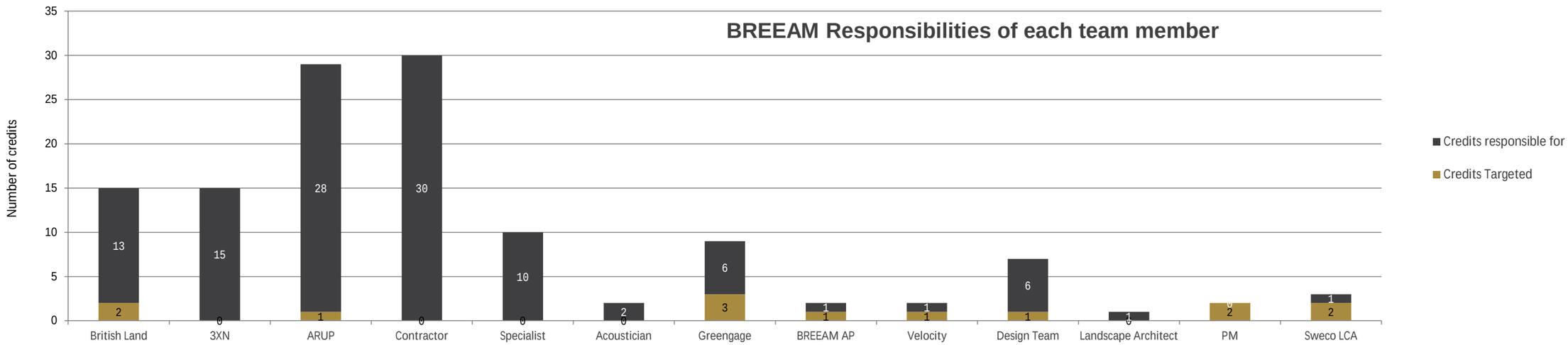
Design team considerations at RIBA Stage 2

Code	Credits	Title	Credit Criteria / Early Action Required
Mat 06	1	Material Efficiency	Pre-fabrication & WRAP compliance to be shown in minutes of meetings and/or drawings mark-ups at each RIBA stage.
Wst 05	1	Adaptation to Climate Change	Assessment of new & existing fabric and it's durability to deal with extremes in weather.
Wst 06	1	Design for disassembly and adaptability	Additional capacities & a well considered plant & fabric replacement strategy to be developed.

Score Summary

Project Name:	**Euston Tower Office**	
BREEAM Scheme:	**BREEAM NC 2018**	
Project Type	**Shell and Core**	
Target Score:	**87.90%**	**Outstanding**
Achieved score:	**17.82%**	**Unclassified**

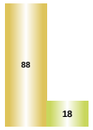




BREEAM NC 2018 Credit Review

18/10/2024	Rev.13
Project Name	**Euston Tower Office**
Building Type	**Office**
Project Type	**Shell and Core**
Assessment Stage	**Design Stage Assessment (DSA)**

Targeted BREEAM rating %	**87.90**	**Outstanding**
Potential BREEAM rating %	**94.32**	**Outstanding**
Achieved scoring %	**17.82**	**Unclassified**



Credit awarded
Credit not targeted
Potential additional credit
Further information required

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
MANAGEMENT		0.61%									
Man 01	**Project brief and design**	Project Delivery Planning	1	1		1		British Land*PM*	2		Design team meetings, scope of work & formal agreements on performance targets with project team members. Evidence Required: - Initial Project Brief - Project Exaction Plan - Communication Strategy - Roles and Responsibilities Matrix - Construction programme - Meeting minutes & the contributions from the team
		Stakeholder Consultation (Interested Parties)	1	1		1		British Land*PM*	2		All relevant third parties (e.g. planning consultation with local authority, local residents, FM staff, representative consultation group from existing community, and any input from end user, etc) been consulted by the design team. Evidence Required: - Stakeholder Consultation covering minimum content - Statement of Community Involvement - Design Access Statement - Planning boards and other content used - Consultation plan / schedule - Consultation feedback to influence the design
		Have project team, including the client, formally agree strategic performance targets?					Yes	British Land*Design Team*			Pre-requisite requirement for AP credits (Concept & Developed Design) Evidence Required: - BREEAM contract including target or letter on signed headed paper confirming BREEAM rating.
		BREEAM AP (Concept Design)	1	1		1		BREEAM AP*	2		BREEAM AP is appointed prior to RIBA Stage 2 and BREEAM target formally agreed with design team.
		BREEAM AP (Developed Design)	1	1		0		BREEAM AP*	3		BREEAM AP is appointed and monitor progress against target throughout the project up to PC Stage. Evidence Required: - BREEAM AP is appointment - BREEAM AP Greenbook Live confirmation - BREEAM AP Stage 3 report - Stage 3 Meeting minutes
Man 02	**Life cycle cost and service life planning**	Elemental LCC	2	2		2		G&T LCC*	2		An Elemental LCC analysis is required to be carried out at RIBA Stage 2 for 20, 30, 50 or 60 years LCC analysis. Evidence Required: - Stage 2 Elemental LCC analysis (20, 30, 50 or 60 years LCC analysis) - Professional CV of LCC consultant
		Component Level LCC options appraisal	1	1		0		G&T LCC*	4		A Component LCC analysis at RIBA Stage 4 including Envelope, e.g. cladding, window, roof. Services, Finishes, e.g. floors or ceilings. External spaces, e.g. landscaping. Evidence Required: - Stage 4 Component LCC analysis (covering Envelope, Services Finished and External Spaces) - Professional CV of LCC consultant - Confirmation with supporting evidence recommendation are included in the final design. Where not justification as to why provided.
		Capital Cost Reporting	1	1		0		British Land*QS*	4		Report a capital cost in £/m2 for BRE purpose only. Evidence Required: - Signed better of confirmation, on letter headed paper, confirming the capital cost in £/m2 GIA.

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
Man 03	Responsible construction practices	**Legal and sustainable timber**					Yes/No?	Contractor*			This is a minimum requirement for achieving any BREEAM rating. Evidence Required: - Signed better of confirmation, on letter headed paper, confirming all timber is FSC or PEFC sourced and certificates, delivery notes and full chain of custardy documents will be provided at PC.
		Environmental Management	1	1		0		Contractor*	4		Contractor operates EMS: certificate of ISO 14001 /EMAS and implement best practice pollution prevention policies and procedures on site in accordance with working at construction and demolition sites: PPG6, Pollution Prevention Guidelines. Evidence Required: - Demolition and Principle Contractor EMS certified (ISO 14001) - Letter of commitment form Demolition and Principle contract to adhere to PPG6 Pollution Prevention Guidelines.
		Have the client & the contractor formally agreed performance targets?					Yes/No?	British Land*Contractor*			Pre-requisite requirement for AP credits (Site) - BREEAM contract including target or letter on signed headed paper confirming BREEAM rating.
		BREEAM AP (Site)	1	1		0		Contractor*	4		A Site Sustainability Manager / BREEAM AP should be appointed to monitor targets during the RIBA Stages 5 & 6. Evidence Required: - BREEAM Site AP is appointment letter (including number) - Letter of commitment for BREEAM Site AP reporting for Stage 5&6.
		Responsible Construction Management **(Minimum Standard: 1 credit for Excellent, 2 for Outstanding)**	2	2		0	Yes/No?	Contractor*	4		Minimum Standard: E-1; O-2. The principal contractor evaluates the risks (on site and off site), plans and implements actions to minimise the identified risks i.e. Considerate Constructors Scheme, Fleet Operator Recognition Scheme. For one credit: Achieve all items listed in Table 4.1 as "Required for one credit". For two credits: As per one credit, plus any six additional items. Evidence Required: - Letter of commitment the principle contractor will sign up to Considerate Constructors Scheme and achieve a minimum score of 39 with 13 in each section. - Letter of commitment the principle contractor will sign up to CLOC's and FORS - Letter of commitment the principle contractor will demonstrate compliance with items g, p and q of the BREEAM table.
		Monitoring of Construction Site Impacts - Utility Consumption	1	1		0		Contractor*	4		Site-based energy and water usage to be monitored. Display figures on site. Evidence Required: - Letter of commitment the AP or site manager will set targets and monitor the energy and water usage on site
		Monitoring of Construction Site Impacts - Transport of Construction Materials & Waste	1	1		0		Contractor*	4		Vehicle monitoring of materials deliveries from point of supply and vehicle monitoring of waste to establish carbon figures. Evidence Required: - Letter of commitment the AP or site manager will set targets and monitor vehicles delivering materials from point of supply and vehicle monitoring of waste to establish carbon figures
Man 04	Commissioning & Handover	Commissioning - Testing Schedule & Responsibilities **(Minimum Standard: 1 credit for Very Good / Excellent / Outstanding)**	1	1		0	Yes/No?	Contractor*Specialist*	4		Minimum Standard: VG/E/O - 1. Third party commissioning manager to be appointed. Testing schedule and responsibilities to be provided. Evidence Required: - Letter of commitment that a Third party commissioning manager will be appointed and will produce a testing schedule
		Commissioning - design and preparation	1	1		0		Contractor*Specialist*	4		Appointment of an appropriate project team member, provided they are not involved in the general installation works provide commissioning management. Evidence Required: - Appointment of an specialist commissioning manager at the design stage - Letter of commitment that the commissioning manager will monitor, review and provide design advise for commissioning in accordance with Building Regulations, BSRIA and CIBSE guidelines and/or other appropriate standards - Commissioning schedule & commissioning programme
		Testing & Inspecting Building Fabric	1	1		0		Contractor*Specialist*	4		Thermographic survey as well as an airtightness test and inspection required. Evidence Required: - Letter of confirmation the contractor will a complete a Thermographic survey as well as an airtightness test with any defect fixed.
		Building User Guide					Yes/No?	British Land*Contractor*			Minimum Standard: VG/E/O - 1. A technical and non-technical building user guides to be developed. Evidence Required: - Letter of confirmation the contractor will produce 2 separate building user guides: A technical and non-technical.
		Handover	1	1		0		Contractor*	4		Building User Guides as above and a non-technical training schedule for the building occupiers. A technical training schedule for the premises facilities managers. Evidence Required: - Letter of confirmation the contractor will conduct 2 separate training scheduled: A technical and non-technical
Man		**TOTAL:**	**18**	**18**	**0**	**5**					
		% of total score:	**11.00%**	**11.00%**	**0.00%**	**3.06%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
HEALTH & WELLBEING		0.73%									
Hea 01	**Visual comfort**	Daylighting	2	0		0		3XN*Specialist*	3		Not Targeted
		View Out	1	1		0		3XN*	3		95% of the floor area in 95% of spaces for each relevant building area is within 8m of an external wall. The window or opening must be ≥ 20% of the surrounding wall area. Or compliance is sought via BS 8206: part 2. Evidence Required: - Provide design drawings demonstrating appropriate view-out in relevant areas (with area information) - Window schedule
		External Lighting Levels & Controls	1	1		0		ARUP*	4		All external lighting located within the construction zone is specified in accordance with BS 5489-1:2013 Code for the practice for the design of road lighting. Lighting of roads and public amenity areas(34) and BS EN 12464-2:2014(35) Light and lighting - Lighting of work places - Part 2: Outdoor work places. External lighting should provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. Evidence Required: - Provide design drawings, and either relevant specification clauses or a formal letter confirming compliance with all standards in relevant areas. - External lighting schedules with luminaire information.
Hea 02	**Indoor air quality**	**Indoor Air Quality Plan**					Yes/No?	Specialist*			Prerequisite requirement when VOC credits are pursued. IAQ Plan to be developed in line with the relevant local authority plans or policies. Evidence Required: - Provide a copy of Indoor Air Quality Plan
		Ventilation	1	1		0		ARUP*	4		Consideration of the ventilation strategy provides adequate ventilation rates in accordance with BS ISO17772-1:2017, providing 14L/p/second. Occupied spaces have carbon dioxide (CO_2) or air quality sensors specified.
Hea 04	**Thermal comfort**	Thermal modelling	1	1		0		ARUP*	3		Carry out dynamic thermal modelling using CIBSE AM11 compliant software. The building shall be designed to be adaptable for a projected climate change scenario. PMV and PPD to be reported. Temperature control strategy for the building is design in line with thermal model. Evidence Required: - Letter of confirmation from the M&E consultants - Relevant clauses of the building specification/contract or correspondence from the team - Thermal modelling report - Drawings/schematics showing thermal zoning
		Design for future thermal comfort	1	1		0		ARUP*	3		Carry out dynamic thermal modelling using CIBSE AM11 compliant software. The building shall be designed to be adaptable for a projected climate change scenario. PMV and PPD to be reported. Temperature control strategy for the building is design in line with thermal model. Evidence Required: - Letter of confirmation from the M&E consultants - Relevant clauses of the building specification/contract or correspondence from the team - Thermal modelling report - Drawings/schematics showing thermal zoning
Hea 05	**Acoustic performance**	Acoustic performance	1	1		0		Acoustician*	3		Appointment of suitably qualified acoustician to undertake calculation & testing requirements. The contractor to confirm that they will remediate any non-conformation. Evidence Required: - Professional CV of SQA - Provide a professional report from the appointed SQA confirming that the building meets the appropriate acoustic performance standards and testing requirements for all relevant areas for the acoustic principles of: A. Sound insulation B. Indoor ambient noise level C. Room acoustics - Letter of confirmation the contractor will remediate any non-conformation.
Hea 06	**Security**	Security of Site & Building	1	1		0		QCIC*	4		Euston Tower Crime Impact Assessment was conducted by QCIC. The SQSS recommendations to be followed and incorporate into design. Any deviation needs to be approved by the SQSS. - Letter of confirmation the contractor will implement the recommendations or solutions proposed by the SQSS.
Hea 07	**Safe and healthy surroundings**	Safe Access	1	1		0		3XN*	4		Dedicated and safe cycle paths are provided from the site entrance to any cycle storage, and connect to off-site cycle paths where applicable. Suitable lighting also required. Evidence Required: - Provide a design landscape drawing - Relevant clauses of the building specification/contract - A letter/report explaining the safe access measures
		Outside Space	1	1		0		3XN*	4		There is an outside space providing building users with an external amenity area. Evidence Required: - Provide a marked up landscape drawing demonstrates the following: A. be an outdoor landscaped area B. have appropriate seating areas and be non-smoking C. be located to ensure it is accessible to all building users and avoids areas that will have disturbances from sources of noise.
Hea		**TOTAL:**	**11**	**9**	**0**	**0**					
		% of total score:	**8.00%**	**6.55%**	**0.00%**	**0.00%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
ENERGY		0.64%									
Ene 01	**Reduction of Energy Use & Carbon Emissions**	Energy Performance Commissioning - implementation **(Minimum Standard: 4 credits for Excellent / 6 credits for Outstanding)**	9	7		0	Yes/No?	ARUP*	4		Minimum Standard: E-4; O-6 Credits achieved through IES Modelling Tool and reduction in regulated CO_2 emissions, in accordance with 2013 building regulations. Evidence Required: - BRUKL listing energy assessor - BRUKL inp.file - Energy Assessor CIBSE Low Carbon Design Confirmation - Output document from design model.
		Prediction of operational energy consumption **(Minimum Standard: 4 credits for Outstanding)**	4	4		0	Yes/No?	ARUP*	4		Minimum Standard: O-4 Undertake additional energy modelling during the design and post-construction stage to generate predicted operational energy consumption figures. Evidence Required: - NABERS or TM54 report including tag 2/3 workshops with the team - Energy Modeller confirmation (degree, experience and member of CIBSE).
Ene 02	**Energy Monitoring**	Sub-Metering of End-use Categories	1	1		0	Yes/No?	ARUP*Contractor*	4		Minimum Standard: VG/E/O-1. Energy metering systems of at least 90% of the estimated annual energy consumption of each fuel is assigned to the end-use categories. Evidence Required: - Confirmation or completed tool confirming end use categories metered, connected to the BMS and estimated percentage load - Schematics showing energy (gas and/or electric) connected to end us. - Specification confirming meters connected to BMS.
		Sub-Metering of High Energy Load & Tenancy Areas	1	1		0		ARUP*Contractor*	4		Sub-metering on a floor by floor basis and tenancy areas. Evidence Required: - Schematics showing meter per tenancy and per floor plate. - Specification confirming meters connected to BMS.
Ene 03	**External Lighting**	External Lighting	1	1		0		ARUP*Specialist*	4		Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt. Automatic control to prevent operation during daylight hours and presence detection in areas of intermittent pedestrian traffic. Evidence Required: - Data collection tool showing all external lighting types, quantities and locations. - Datasheets confirming LL/cW entered into the tool - External lighting drawings showing location of lighting type - Luminaire schedule.
Ene 04	**Low Carbon Design**	Passive Design Analysis	1	1		0		ARUP*	2		Thermal modelling to be achieved first. Implement passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption in line with the passive design analysis findings. Evidence Required: - Passive Design Analysis completed at Stage 2 - Implement passive design measures to reduce the total heating, cooling, mechanical ventilation, lighting loads and energy consumption. The result should be quantified and presented as a percentage reduction in CO2 emissions.
		Free Cooling	1	0		0		ARUP*	4		Not Targeted
		Low Zero Carbon Feasibility Study	1	1		0		ARUP*	2		LZC Study to establish the most appropriate low or zero carbon energy sources and report the reduction on regulated CO_2 emissions. Evidence Required: - LZC report listing LZC assessor - Energy Assessor CIBSE Low Carbon Design Confirmation - Specification confirming LZC - Drawings / Schematics confirming LZC - The result should be quantified and demonstrate a percentage saving in CO2 emissions in the report.
Ene 06	**Energy Efficient Transportation Systems**	Energy Consumption	1	1		1		Sweco Lift Specialist*	4		Lift analysis to determine transportation demand and usage patterns in compliance with BS EN ISO 25745 Part 2 and 3. Sweco VT Stage 2 Report provided, credit awarded.
		Lifts	1	1		1		Sweco Lift Specialist*	4		Energy-efficient features offering the greatest potential energy savings will be part of the system. Sweco VT Stage 2 Report provided, credit awarded.
		Escalators or moving walks	1	1		1		Sweco Lift Specialist*	4		To specify the energy-efficient features for each escalator or moving walk. Sweco VT Stage 2 Report provided, credit awarded.
Ene		**TOTAL:**	**22**	**19**	**0**	**3**					
		% of total score:	**14.00%**	**12.09%**	**0.00%**	**1.91%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
TRANSPORT		0.96%									
Tra 01	**Transport assessment and travel plan**	Transport assessment and travel plan **(The existing AI needs to be calculated and be in the Travel Assessment)**	2	2		2	**AI >= 40**	Velocity*	2		Outline Travel Plan provided. Credits awarded. TfL's online WebCAT tool shows access index is 85.4, indicating a PTAL of 6b (Excellent).
Tra 02	**Sustainable transport measures**	**Prerequisite: Achieve criteria 3-5 in the Tra 01**					Yes	Velocity*			To identify the sustainable transport measures, according to the Accessible Index (AI) of the site and the active measures implemented.
		1. The existing AI calculated in Tra 01 **(The existing AI ≥ 8 for all other building types;** **AI ≥ 4 for prison/MOD sites, rural location sensitive buildings)**	10	10		1	**1**	Velocity*			Velocity Transport Plan confirms the AI=85.4. Credit awarded.
		7. Install compliant cycle storage spaces to meet the minimum levels set out in Table 7.5					**13**	Velocity* British Land*3XN*			Evidence Required: - Provide specification clauses, design drawing or details as appropriate confirming that a compliant cycle storage will be specified to meeting the minimum levels set out in Table 7.5.
		8. Provide at least two compliant cyclists' facilities for the building users, (including pupils where appropriate to the building type) – Showers; – Changing facilities; – Lockers; – Drying spaces.					**14-15**	Velocity* British Land*3XN*			Evidence Required: - Provide specification clauses, design drawing or details as appropriate confirming that at least two compliant cyclists' facilities for the building users to be provided.
		9. At least three existing accessible amenities are present, see Table 7.6.					**16**	Velocity*British Land*			Evidence Required: - Provide specification clauses, design drawing or details as appropriate confirming that at least three existing accessible amenities are present in accordance with Table 7.6.
		10. Enhanced amenities					**18**	Velocity*British Land*			Evidence Required: - Provide specification clauses, design drawing or details as appropriate confirming that a minimum of one or more than one new accessible amenity, in accordance with Table 7.6.
Tra		**TOTAL:**	**12**	**12**	**0**	**3**					
		% of total score:	**11.50%**	**11.50%**	**0.00%**	**2.88%**					
WATER		0.78%									
Wat 01	**Water Consumption**	Water Consumption	5	3	1	0	Yes/No?	ARUP* 3XN*Contractor*	4		Minimum Standard: VG/E-1; O-2 To reduce the consumption of potable water for sanitary use in new buildings through the use of water efficient components and water recycling systems. Evidence Required: - Sanitaryware schedule - Manufacturer's technical data sheets - Completed Wat01 calculator
Wat 02	**Water Monitoring**	Water Monitoring	1	1		0	Yes/No?	ARUP*	4		Minimum Standard: G/VG/E/O- Criterion 1 only - water meter on mains. Install water meters: - On the mains water supply. - On water-consuming plant or building areas consuming 10% or more of the building's total water demand. Each water meter is - Installed with a pulsed or other open protocol communication output and - Connected to BMS. Evidence Required: - Domestic water schematic drawings - Manufacturer's technical data sheets - Documents/reports/letters explaining pulsed or other open protocol communication output and BMS connection.
Wat 03	**Water Leak Detection**	Leak Detection System	1	1		0		ARUP*	4		Install a leak detection system - On the utilities water supply within the buildings, to detect any major leaks within the building and - Between the buildings and the utilities water supply, to detect any major leaks between the utilities supply and the buildings under assessment Evidence Required: - Domestic water schematic drawings - Manufacturer's technical data sheets - Documents/reports/letters explaining leak detection system
		Flow Control Devices	1	1		0		ARUP*	4		Install sanitary supply shut-off valves specified for each toilet area. Evidence Required: - Domestic water schematic drawings - Specification on flow control devices on WCs.
Wat 04	**Water Efficient Equipment**	Water Efficient Equipment	1	1		0		ARUP*	4		Mitigate 'unregulated water usage' (water consumption for uses not assessed under Wat 01) – Swimming pools – Recreational hot tubs and hydrotherapy pools – Equipment used for irrigation – Vehicle wash equipment – Project-specific industrial processes – Water filtration and treatment processes – Building services (e.g. cooling towers and humidification systems) Evidence Required: - Schematic drawings. - Specification on unregulated water usage. - Documents/reports/letters explaining unregulated water usage.
Wat		**TOTAL:**	**9**	**7**	**1**	**0**					
		% of total score:	**7.00%**	**5.44%**	**0.78%**	**0.00%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
MATERIALS		1.25%									
Mat 01	**Environmental impacts from construction products - Building life cycle assessment (LCA)**	Superstructure (all building types)	4	2		2	Yes	Sweco LCA*	2		Stage 2 Whole Life Cycle Assessment (WLCA) has been carried out at Stage 2 to demonstrate how the LCA options appraisal has affected the design. 2.67 credits awarded achieved based on the LCA output. Credits awarded.
		Superstructure - Technical Design	2	1		0		Sweco LCA*	4		Carry out a building LCA on of the superstructure design using either the BREEAM Simplified Building LCA tool or an IMPACT Compliant LCA tool Identify opportunities for reducing environmental impact. Evidence Required: - Life cycle assessment report - Mat 01/02 Results Submission Tool
		Substructure and hard landscaping options appraisal during Concept Design	1	1		1		Sweco LCA*	2		The LCA options appraisal summary document includes substructure and hard landscaping at Stage 2. Credit awarded.
Mat 02	**Environmental impacts from construction products - Environmental Product Declarations (EPD)**	Specification of products with a recognised environmental product declaration (EPD)	1	1		0		Landscape Architect* Sweco LCA*	4		Specify construction products with EPD that achieve a total EPD points score of at least 20, according to BREEAM technical manual. Evidence Required: - Mat 01/02 Results Submission Tool - Material specifications - EPDs of the materials specified.
Mat 03	**Responsible Sourcing of construction products**	**Pre-requisite: Legal and sustainable timber**					Yes/No?	British Land*Contractor*	4		Minimum Standard 100% of timber and timber-based products used on the project are 'Legal' and 'Sustainable' as per the UK Government's Timber Procurement Policy (TPP). Evidence Required: - Commitment/confirmation letter. - List of the timber and timber-based products used on the project. - Certificates & chain of custody documentation. - Delivery notes/tickets/PO no.
		Enabling Sustainable Procurement	1	1		0		British Land*Contractor*	2		A sustainable procurement plan to be issued (before concept design) and used by the design team to guide specification towards sustainable construction products. Evidence Required: - Sustainable procurement plan
		Measuring Responsible Sourcing	3	1	1	0		3XN*Contractor*	4		Materials specified and procured from manufacturers who can provide EMS Certification (ISO 14001 etc.). Evidence Required: - Mat 03 Calculator Tool. - Certificates & chain of custody documentation. - Delivery notes/tickets/PO no.
Mat 05	**Designing for Durability & Resilience**	Designing for Durability & Resilience	1	1		0		3XN*	4		Protecting vulnerable parts of the building from damage and exposed parts of the building from material degradation. Evidence Required: - Mat05 matrix - Specification of measures specified to protect the building from damage and material degradation. - Design drawings of measures to protect against high pedestrian traffic / internal trolley movement / external protection against potential vehicular collision / service yard robustness measures.
Mat 06	**Material Efficiency**	Preparation and Brief	1	1		0	Yes	Design Team*	1		Set targets and report on opportunities and methods to optimize the use of materials for each of the project stages. Develop and record the implementation of material efficiency during developed design, technical design, and construction. Report the targets and actual material efficiencies achieved. Evidence Required: - Mat06 matrix - Technical drawings - Report/letter explaining how the material efficiency measures have been implemented during the developed design, technical design, and construction - Report/letter explaining the material efficiency targets and the actual material efficiencies achieved. - Commitment letter
		Concept Design					Yes		2		
		Developed Design					Yes/No?		3		
		Technical Design					Yes/No?		4		
		Construction					Yes/No?		5		
Mat		**TOTAL:**	**14**	**9**	**1**	**3**					
		% of total score:	**17.50%**	**11.25%**	**1.25%**	**3.75%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
WASTE		0.64%									
Wst 01	**Construction Waste Management**	Pre-demolition audit	1	1		1		Demolition Contractor*	2		Minimum Standard: O-1 Pre-demolition audit report was carried out by Reusefully on 24.08.2022. To be included in Resource Management Plan (RMP). Credit awarded.
		Construction Resource Efficiency	3	2	1	0	Yes/No?	Contractor*	4		RMP to be prepared covering the targets of non-hazardous waste arising from site construction . Contractor to limit waste to less than 6.5tonnes per 100m² gross internal area. Evidence Required: - Letter of confirmation the contractor will prepare a Resource Management Plan confirming the number of credits they are targeted.
		Diversion of Resources from Landfill	1	1		0		Contractor*	4		Contractor to limit waste to landfill. 90% (tonnes) of demolition and 80% non-demolition waste to be diverted from landfill. Evidence Required: - Letter of confirmation the contractor will prepare a Resource Management Plan confirming the number of credits they are targeted.
Wst 02	**Recycled Aggregates**	Project Sustainable Aggregate Points	1	0		0		Structural Engineer*	4		Not Targeted
Wst 03	**Operational Waste**	Operational Waste	1	1		0	Yes/No?	3XN*British Land*	4		Minimum Standard: E/O-1 At least 2 sqm per 1000m² of NIA for recycling bins is required for building <5000m². Additional 2 sqm per 1000m² of NIA when catering is provided. A minimum of 10m² for buildings ≥ 5000m². Evidence Required: - Provide specification clauses/contract/Letter of commitment confirming that dedicated space is provided for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit. - Provide drawings indicating the location of external waste & recycling storage areas to be accessible and clearly labelled.
Wst 04	**Speculative Finishes (Offices only)**	Speculative Floor and Ceiling Finishes	1	1		0		3XN*	4		To install floor and ceiling finishes selected by the known occupant or if occupant not known in show area only. Evidence Required: - Letter of confirmation the client to confirm the future occupant/tenants - Relevant clauses of the building specification/drawings or correspondence from the team
Wst 05	**Adaptation to Climate Change**	Resilience of structure, fabric, building services and renewables installation	1	1		0		Design Team*	4		Conduct a climate change adaptation strategy of new & existing fabric and it's durability to deal with extremes in weather condition. Develop recommendations/ solutions at RIBA Stage 2. To provide an update at RIBA Stage 4.
Wst 06	**Design for disassembly and adaptability**	Design for disassembly and functional adaptability - recommendations	1	1		1		Design Team*	2		Conduct study by the end of RIBA Stage 2 and develop recommendations prior to RIBA Stage 2. (i.e. alternative building uses, functions, major plant replacement, ventilation strategy to adapt to future building occupant needs, adaptability to changes of in-use etc. Credit awarded.
		Disassembly and functional adaptability – implementation	1	1		0		Design Team*	4		Provide an update during RIBA Stage 4, how the recommendations have been implemented - horizontally or vertically expandability, refurbishment potential, local plant and service distribution routes etc. Evidence Required: - Provide an update during RIBA Stage 4, how the recommendations or solutions have been implemented.
Wst		**TOTAL:**	**11**	**9**	**1**	**2**					
		% of total score:	**7.00%**	**5.73%**	**0.64%**	**1.27%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
LAND USE & ECOLOGY	1.15%										
LE 01	**Site Selection**	Previously Occupied Land	1	1		0		3XN*	4		At least 75% of the proposed development is on previously occupied land. Evidence Required: - Site plan showing the previously occupied part of the land and the assessed building's footprint.
		Contaminated Land	1	0		0		Specialist*	4		Not Targeted
LE 02	Comprehensive Route	**Prerequisite - Statutory obligations**					Yes/No?	British Land*Contractor*			Prerequisite: The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site. Evidence Required: - Commitment/confirmation letter
	Ecological risks and opportunities	Survey and evaluation	1	1		1		Greengage*	1		The Preliminary Ecological Apprraisal was undertaken by Greengage in January 2023.
		Determining ecological outcomes of the site	1	1		1		Greengage*	2		The project team liaises and collaborates with representative stakeholders early enough to influence key planning decisions to Identify the optimal ecological outcomes for the site and Identify, appraise and select measures to meet the optimal ecological outcomes for the site. Evidence Required: - Ecology report. - SQE resume. - Letters/meeting minutes/reports/correspondence.
LE 03	**Managing impacts on ecology**	**Prerequisite - Ecological risks and measures on-site**					Yes/No?	British Land*Contractor*			Prerequisite: LE 02 has been achieved.
		Planning and measures on-site	1	1		1		Greengage*	2		Further planning to avoid and manage negative ecological impacts on-site is carried out and on-site measures for managing negative ecological impacts during site preparation and construction are implemented in-practice. Evidence Required: - Ecology report - SQE resume - Letters/meeting minutes/reports/correspondence
		Managing negative impacts	2	2		0		Greengage*	4		The SQE provided recommendation on avoidance of negative impact of the site preparation and construction works according to the hierarchy and no net impact has resulted. According to the Defra Metric 4.0 used to calculate change in biodiversity units, a net gain of 26.9% in biodiversity units on site, 2 credits can be awarded.
LE 04	**Ecological change and enhancement**	**Prerequisite - Managing negative impacts on ecology**					Yes/No?	British Land*Contractor*			Prerequisite: - The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site. - Criterion 6 (for Foundation route) or 8 (for Comprehensive route) in LE 03 has been achieved
		Ecological enhancement	1	1		0		Greengage*	4		Measures have been implemented that enhance ecological value, which are based on input from the project team and SQE in collaboration with representative stakeholders. Evidence Required: - Ecology report - SQE resume - Letters/meeting minutes/reports/correspondence - Drawings/schematics - Technical specification.
		Change and enhancement of ecology (Route 2)	3	3		0		Greengage*	4		SQE to provide calculations of the change in ecological value. Evidence Required: - GN40 - Letters/meeting minutes/reports/correspondence - Drawings/schematics - Technical specification - Completed BREEAM Change in Ecological Value Calculator.
LE 05	**Long Term ecology management and maintenance**	**Prerequisite - Statutory obligations, planning and site implementation**					Yes/No?	British Land*Contractor*	4		Prerequisite: - The client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. - Foundation route (Route 1) - Criterion 6 in LE 03 has been achieved. - Comprehensive route (Route 2) - Criterion 8 in LE 03 has been achieved, and at least one credit under LE 04 for 'Change and Enhancement of Ecology' has been awarded
		Management and maintenance throughout the project	1	1		0		Greengage*Contractor*	4		Measures have been implemented to manage and maintain ecology throughout the project. A section on Ecology and Biodiversity has been included as part of the tenant or building owner information supplied. Evidence Required: -Confirmation letter/appointment letter explaining arrangements for the ongoing management of landscape and habitat connected to the project. - Ecology section at the BUG (Building user guide).
		Landscape and ecology management plan	1	1		0		Greengage* Landscape architect*	4		Landscape and ecology management plan, or similar, is developed in accordance with BS 42020:2013 covering as a minimum the first five years after project completion. Evidence Required: - A copy of the Landscape Habitat Management plan.
LE		**TOTAL:**	**13**	**12**	**0**	**3**					
		% of total score:	**15.00%**	**13.85%**	**0.00%**	**3.46%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
POLLUTION		0.75%									
Pol 01	**Impact of Refrigerants**	**Pre-Requisite: systems with electric compressors**					Yes/No?	ARUP*	4		Prerequisite: All systems with electric compressors comply with the requirements of BS EN 378:2016 (parts 2 and 3). Refrigeration systems containing ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice. Evidence Required: - Confirmation no refrigerants or Manufacture confirmation of BS EN378:2016 part 2 and installer confirmation of BS N378: 2016 part 3. - Confirmation no ammonia or ammonia comply with the Institute of Refrigeration Ammonia Refrigeration Systems code of practice.
		Impact of Refrigerants	2	1	1	0		ARUP*	4		1 credit - Refrigerant's Direct Effect Life Cycle CO_2 equivalent emissions (DELC CO_2e) of ≤ 1000 kgCO_2e/kW cooling/heating capacity. 2 credits - ≤ 100 kgCO_2e/kW. Evidence Required: - Completed POL01 tool, with supporting technical datasheets to confirm chain of custardy for information. - Mechanical schedule that aligns with the above.
		Leak Detection	1	1		0		ARUP*	4		All systems are hermetically sealed or only use environmentally benign refrigerants or a permanent automated refrigerant leak detection system is required. Evidence Required: - Specification confirming system is hermetically sealed OR - Specification confirming automated refrigerant leak detection system, capable of continuously monitoring and capable of automatically responding to limit refrigerant leaks.
Pol 02	**Local air quality**	**Pre-Requisite:**					Yes/No?	ARUP*	4		Is the project required to connect to a District Heating system, that is outside the control of the design team? Evidence Required: - Confirmation of how all heating and hot water is supplied, e.g. all electric or gas boilers.
		Local air quality	2	2		0		ARUP*	4		Emissions from all installed combustion plant that provide space heating and domestic hot water do not exceed the levels as set in BREEAM manual i.e. gas boilers NOx = 24mg/kWh. Evidence Required: - Specification & schedule of space heating system with supporting datasheet of the system. This should confirm NOx and Particulate matter and VOCs measured at 10% & 13% O_2 dry basis
Pol 03	**Flood and surface water management**	Flood Resilience	2	2		2		ARUP*	4		Site specific Flood Risk Assessment prepared by specialist to confirm that if the site is a low, medium or high probability of flooding. Evidence Required: - Flood Risk Assessment covering all sources of flooding (Fluvial, Tidal, Surface water, Groundwater, Sewers & Artificial sources) - Flood Risk Assessor CV
		Surface Water Run Off	2	2		0		ARUP*	4		Prerequisite - Surface water run-off design solutions must be bespoke. Specialist hydrologist to provide calculation and confirm the proposed attenuation measures, i.e. SUDs. Evidence Required: - Site specific Suds report confirming [RATE] peak run off is no great her the natural site (greenfield) or rate 30% improvement for the developed site compared with the pre-developed (brownfield) site at the 1-year and 100-year return period event. Suds report calculations to allow for climate change scenario. - Site specific Suds report confirming [VOLUME] Flooding of property will not occur in the event of local drainage system failure. - SUDS Assessor CV - Confirmation letter Suds management & LT ownership in O&M's.
		Minimising Watercourse Pollution	1	0	0	0		Flood Risk Consultant*	4		Not Targeted
Pol 04	**Reduction of Night Time Light Pollution**	Reduction of Night Time Light Pollution	1	1		0		ARUP*	4		External lighting design is in line with ILP guidance of obtrusive light and can be automatically switched off. Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements. Evidence Required: - Data collection tool showing all external lighting types, quantities and locations. - External lighting drawings showing location of lighting type. - Luminaire schedule. - Specification confirming compliance to ILP guidance including security lighting where present. - Specification confirming all lighting can be automatically switched off 23:00-7:00. - Specification confirming Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisement.
Pol 05	**Reduction of Noise Pollution**	Reduction of Noise Pollution	1	1		0		Acoustician*	4		A BS 4142:2014 compliant noise impact assessment to be carried out by Acoustician. Evidence Required: - Plant noise impact assessment compliant with BS 4142:2014 confirming existing background noise and noise rating from the assessed building - Noise impact of proposed plant confirmed at least 5 dB lower than the background noise throughout the day and night or attenuation measures are fitted to reduce this. - SQA CV confirming 3 yrs. experience within the last 5 yr & member of Institute of Acoustics.
Pol		**TOTAL:**	**12**	**10**	**1**	**2**					
		% of total score:	**9.00%**	**7.50%**	**0.75%**	**1.50%**					
INNOVATION		1.00%									
Inn 01	**Man 03**	Responsible construction practices	1	1		0		Contractor*			Achieve all items in Table 4.1 on the commitment letter.
Inn 04	**Hea 06**	Security of Site & Building	1	0	1	0		QCIC*			TBC_Potential credit if a SABRE assessment is conducted.
Inn 05	**Ene 01**	Exemplary level criteria	5	2		0		ARUP*			The client commits funds to pay for the post-occupancy evaluation. Confirmation of reporting the actual building energy consumption for the first 12 months of normal occupancy for all relevant end users.
Inn 11	**Wst 05**	Responding to Climate Change	1	0	1	0		Team*			TBC_Need to achieve Hea 04 crit. 6, Ene 01 (6 credits), Ene 04 (passive design credit), Wat01 (3 credits), Mat 05 (Crit. 2-4), Pol 03 (1 credit for Flood resilience and 2 credits for surface water run-off).
Inn		**TOTAL:**	**10**	**3**	**3**	**0**					
		% of total score:	**10.00%**	**3.00%**	**3.00%**	**0.00%**					

BREEAM NC (Non-Domestic)

Design Stage Assessment (DSA)

Euston Tower Retail

65206043-SWE-XX-XX-T-O-002-P02

25/11/2024
P02

Issue	Date	Reason for Issue	Prepared	Checked	Approved
1	05-Oct-22	Pre-assessment	RC	MP	KA
2	25-Nov-24	For information	MJ	KC	KA

BREEAM NC (Non-Domestic) - Design Stage Assessment (DSA)
Euston Tower Retail
25/11/2024
P02

Registered Office: Sweco UK Ltd, Grove House, Mansion Gate Drive, Leeds, LS7 4DN. Company Registration No 2888385

What by When

Project Name:	**Euston Tower Retail**
BREEAM Scheme:	**BREEAM NC Version 6.1**
Stage:	**Design Stage Assessment (DSA)**
Target Score:	**63.25%**

Whilst it is important for the client and project team to consider sustainability and the BREEAM criteria at an early stage of design, several specialist appointments and the generation of subsequent reports are very important as they will affect the ability to award these credits in the future if these do not happen. Hence, we have listed here these credits and the necessary actions that the client needs to be aware of.

Targeted
Credit awarded
N/A not targeted
Potential

Issue	Name	RIBA 1	RIBA 2	RIBA 3	RIBA 4	RIBA 5	RIBA 6
MAN 01	Appointment of BREEAM AP						
TRA 01	Travel Plan						
TRA 02	Travel consultation with local authority						
MAT 06	Materials efficiency analysis						
LE 01	Appointment of contaminated land specialist						
LE 02 - 05	Appointment of suitably qualified ecologist						
LE 02	Survey and evaluation & determining the site wide outcomes						
MAN 01	Have a schedule of responsibilities						
MAN 01	Agreement of BREEAM target						
MAN 01	Start public consultation						
MAN 02	Life cycle costing analysis - elemental						
HEA 05	Appointment of suitably qualified acoustician						
HEA 06	Security Need Assessment						
ENE 04	Passive design analysis with energy specialist						
ENE 04	Appointment of energy specialist for LZC study						
MAT 01	Life cycle Assessment (LCA) submission before planning						
WST 01	Production of pre-demolition audit						
WST 05	Conduct a climate change adaptability report for fabric						
WST 06	Disassembly and functional adaptation study						
MAN 03	Appointment of site based BREEAM AP						
MAN 01	Provide consultation feedback						
MAN 02	Life cycle costing analysis - component level						
MAN 04	Appointment of commissioning manager						
DS	**BREEAM DESIGN STAGE CERTIFICATION**						
LE 05	Landscape Management Plan						
PCR	**BREEAM FINAL CERTIFICATION**						

Early Action

Project Name: **Euston Tower Retail**
BREEAM Scheme: **BREEAM New Construction V6.1**
Stage: **Design Stage Assessment (DSA)**
Target score: **63.25%**

Whilst it is important for the client and project team to consider sustainability and the BREEAM criteria at an early stage of design, several specialist appointments and the generation of subsequent reports are very important as they will affect the ability to award these credits in the future if these do not happen. Hence, we have listed here these credits and the necessary actions that the client needs to be aware of.

Ecological Consultant Appointment At RIBA Stage 1

Code	Credits	Title	Credit Criteria / Early Action Required
LE 02	2	Ecological risks and opportunities	New 2018 Criteria: Route 2 - SQE A suitably qualified Ecologist (SQE) needs to be appointed to survey/assess the site for its current ecological value prior to any demolition etc. The ecologist will need to provide recommendations on any existing ecology which will need protection during the demolition and construction phases.
LE 03	3	Managing impacts on ecology	
LE 04	4	Ecological change and enhancement	
LE 05	2	Long term ecological management and maintenance	

Client Consideration At RIBA Stage 1 & 2

Code	Credits	Title	Credit Criteria / Early Action Required
Man 01	1	BREEAM AP	BREEAM AP is appointed prior to RIBA Stage 2 and BREEAM target formally agreed with design team.
Man 01	1	Project delivery planning	At RIBA Stage 2 or equivalent the client, building occupier, design team and contractor are involved in contributing to the decision making process for the project. Roles, responsibilities and contributions are defined during each RIBA Stage.
Man 01	1	Stakeholder consultation (interested parties)	During preparation of the brief, all relevant parties and relevant bodies are identified and consulted with by the design team. (Relevant bodies are - Actual intended building users, representative consultation group from the existing community, existing partnerships and networks that have knowledge and experience from existing buildings of the same type, potential users of any shared facilities e.g. operators of clubs and community groups). A consultation plan should have been prepared and includes a timescale and methods of consultation for all relevant parties/bodies and how the relevant parties will be kept informed about progress. Consultation feedback has been given with suggestions made, including how the results of the consultation process have influenced the proposed design. Through consultation and the resulting measures taken any areas of features of historic/heritage value are protected.
Ene 07	1	Energy Efficient Laboratory Systems (Design specification)	Engage with the client during the preparation of the initial project brief to determine occupant requirements and define laboratory performance criteria.
Wst 01	1	Pre-demolition audit	Pre-demolition audit must carried out at RIBA Stage 2 and be referenced in Resource Management Plan (RMP).

Transport Consultant Appointment At RIBA Stage 2

Code	Credits	Title	Credit Criteria / Early Action Required
Tra 01	2	Travel Assessment and Travel Plan	Travel Plan to be commissioned for the development clearly considering the impact onto the surrounding infrastructure etc. due to the site specific travel survey / assessment having been developed.
Tra 02	1	Sustainable Transport Measures (Option 6) - RIBA Stage 1	Consultation with local authority (LA) on the state of the local cycling network and public accessible pedestrian routes, to focus on whichever the LA deems most relevant to the project, and how to improve it. Agree and implement one proposition chosen with the local authority.

Specialists / Others At RIBA Stage 2

Code	Credits	Title	Credit Criteria / Early Action Required
Man 02	2	Life Cycle Cost & Service Life Planning	An Elemental Life Cycle Cost analysis should be undertaken at Stage 2. A Component Life Cycle Cost analysis should be undertaken at Stage 4..
Hea 02	1	Indoor Air Quality	Appointment of a specialist to carry out an 'Indoor Air Quality Plan' assessment for the development considering neighbouring pollutants, any flue gases etc. proposed and the locations of air intakes and exhausts
Hea 04	1	Thermal modelling & Design for future thermal comfort	Appointment of a specialist to carry out thermal modelling in accordance with CIBSE AM11 and the analysis for the projected climate change scenario.
Hea 06	1	Safety and Security	Consultation with a suitably qualified security consultant (SQSS) should have taken place at RIBA Stage 2. Security Needs Assessment (SNA) to be provided with recommendations from the SQSS. The final design should reflect the recommendations/solutions and implemented in the as-built development.
Ene 04	2	Passive Design	Appointment of a specialist to carry out the analysis for the passive design and energy strategy.
Mat 01	1	Building Life Cycle Assessment (LCA)	A building LCA on of the superstructure design to be carried out by a LCA specialist using an IMPACT Compliant LCA tool according to the methodology. Submit the Mat 01/02 results Submission Tool to BRE at the end of Concept Design, and before planning permission is applied for.
Pol 03	2	Flood and surface water management	The commission of a 'Flood Risk Assessment' for the site. This should include an analysis for the 1 in 100 year storm event and attenuation measure recommendations to adhere to adequate discharge flow rates and SUDS techniques.

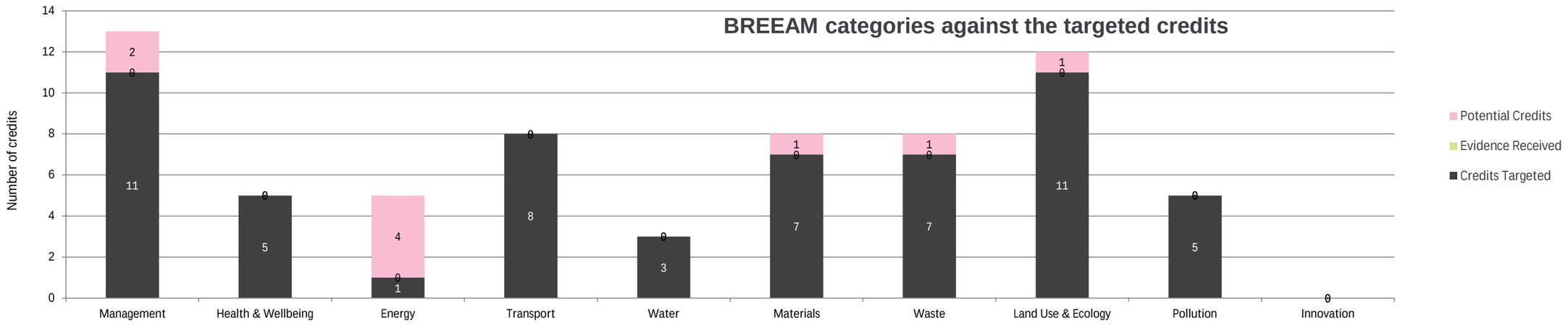
Design Team Considerations At RIBA Stage 2

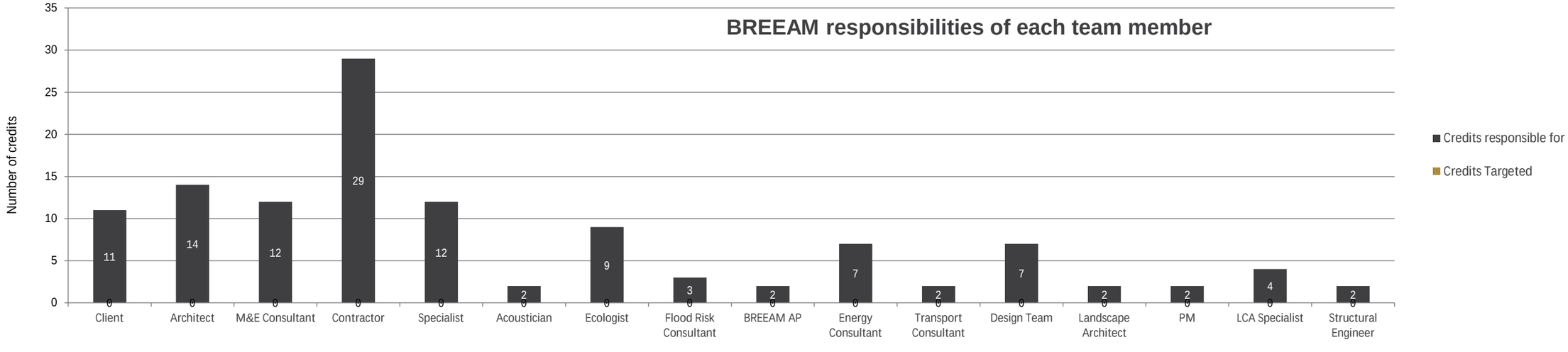
Code	Credits	Title	Credit Criteria / Early Action Required
Mat 06	1	Material Efficiency	Pre-fabrication & WRAP compliance to be shown in minutes of meetings and/or drawings mark-ups at each RIBA stage.
Wst 05	1	Adaptation to Climate Change	Assessment of new & existing fabric and it's durability to deal with extremes in weather.
Wst 06	1	Design for disassembly and adaptability	Additional capacities & a well considered plant & fabric replacement strategy to be developed.

Score Summary

Project Name:	**Euston Tower Retail**	
BREEAM Scheme:	**BREEAM NC Version 6.1**	
Project Type	**Shell Only**	
Target Score:	**63.25%**	**Very Good**
Achieved score:	**0.00%**	**Unclassified**

Target % for each stage			
Stage 1	Stage 2	Stage 3	Stage 4
1.46	24.55	1.68	35.56
Target % achieved for each of stage			
0.00	0.00	0.00	0.00





BREEAM NC V6.1 Credit Review

25/11/2024 Rev.2

Project Name **Euston Tower Retail**

Building Type **Retail**

Project Type **Shell Only**

Assessment Stage **Design Stage Assessment (DSA)**

Targeted BREEAM rating %	**63.25**	**Very Good**
Potential BREEAM rating %	**71.61**	**Excellent**
Achieved scoring %	**0.00**	**Unclassified**

Credit awarded
Credit not targeted
Potential additional credit
Further information required

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
MANAGEMENT		0.80%									
Man 01	**Project brief and design**	Project Delivery Planning	1	1		0		Client*PM*	2		Design team meetings, scope of work & formal agreements on performance targets with project team members. Evidence Required: - Initial Project Brief - Project Exaction Plan - Communication Strategy - Roles and Responsibilities Matrix - Construction programme - Meeting minutes & the contributions from the team
		Stakeholder Consultation (Interested Parties)	1	1		0		Client*PM*	2		All relevant third parties (e.g. planning consultation with local authority, local residents, FM staff, representative consultation group from existing community, and any input from end user, etc) been consulted by the design team. Evidence Required: - Stakeholder Consultation covering minimum content - Statement of Community Involvement - Design Access Statement - Planning boards and other content used - Consultation plan / schedule - Consultation feedback to influence the design
		Have project team, including the client, formally agree strategic performance targets?					Yes/No?	Client*Design Team*			Pre-requisite requirement for AP credits (Concept & Developed Design) Evidence Required: - BREEAM contract including target or letter on signed headed paper confirming BREEAM rating.
		BREEAM AP (Concept Design)	1	1		0		BREEAM AP*	2		BREEAM AP is appointed prior to RIBA Stage 2 and BREEAM target formally agreed with design team.
		BREEAM AP (Developed Design)	1	1		0		BREEAM AP*	3		BREEAM AP is appointed and monitor progress against target throughout the project up to PC Stage. Evidence Required: - BREEAM AP is appointment - BREEAM AP Greenbook Live confirmation - BREEAM AP Stage 3 report - Stage 3 Meeting minutes
Man 02	**Life cycle cost and service life planning**	Elemental LCC	2	0	1	0		LCC Specialist*	2		An Elemental LCC analysis is required to be carried out at RIBA Stage 2 for 20, 30, 50 or 60 years LCC analysis. Evidence Required: - Stage 2 Elemental LCC analysis (20, 30, 50 or 60 years LCC analysis) - Professional CV of LCC consultant
		Component Level LCC options appraisal	1	0	1	0		LCC Specialist*	4		A Component LCC analysis at RIBA Stage 4 including Envelope, e.g. cladding, window, roof. Services, Finishes, e.g. floors or ceilings. External spaces, e.g. landscaping. Evidence Required: - Stage 4 Component LCC analysis (covering Envelope, Services Finished and External Spaces) - Professional CV of LCC consultant - Confirmation with supporting evidence recommendation are included in the final design. Where not justification as to why provided.
		Capital Cost Reporting	1	1		0		Client*QS*	4		Report a capital cost in £/m2 for BRE purpose only. Evidence Required: - Signed better of confirmation, on letter headed paper, confirming the capital cost in £/m2 GIA.

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
Man 03	**Responsible construction practices**	**Legal and sustainable timber**					Yes/No?	Contractor*			This is a minimum requirement for achieving any BREEAM rating. Evidence Required: - Signed better of confirmation, on letter headed paper, confirming all timber is FSC or PEFC sourced and certificates, delivery notes and full chain of custardy documents will be provided at PC.
		Environmental Management	1	1		0		Contractor*	4		Contractor operates EMS: certificate of ISO 14001 /EMAS and implement best practice pollution prevention policies and procedures on site in accordance with working at construction and demolition sites: PPG6, Pollution Prevention Guidelines. Evidence Required: - Demolition and Principle Contractor EMS certified (ISO 14001) - Letter of commitment form Demolition and Principle contract to adhere to PPG6 Pollution Prevention Guidelines.
		Have the client & the contractor formally agreed performance targets?					Yes/No?	Client*Contractor*			Pre-requisite requirement for AP credits (Site) - BREEAM contract including target or letter on signed headed paper confirming BREEAM rating.
		BREEAM AP (Site)	1	1		0		Contractor*	4		A Site Sustainability Manager / BREEAM AP should be appointed to monitor targets during the RIBA Stages 5 & 6. Evidence Required: - BREEAM Site AP is appointment letter (including number) - Letter of commitment for BREEAM Site AP reporting for Stage 5&6
		Responsible Construction Management **(Minimum Standard: 1 credit for Excellent, 2 for Outstanding)**	2	2		0	Yes/No?	Contractor*	4		Minimum Standard: E-1; O-2. The principal contractor evaluates the risks (on site and off site), plans and implements actions to minimise the identified risks i.e. Considerate Constructors Scheme, Fleet Operator Recognition Scheme. For one credit: Achieve all items listed in Table 4.1 as "Required for one credit". For two credits: As per one credit, plus any six additional items. Evidence Required: - Letter of commitment the principle contractor will sign up to Considerate Constructors Scheme and achieve a minimum score of 39 with 13 in each section. - Letter of commitment the principle contractor will sign up to CLOC's and FORS - Letter of commitment the principle contractor will demonstrate compliance with items g, p and q of the BREEAM table.
		Monitoring of Construction Site Impacts - Utility Consumption	1	1		0		Contractor*	4		Site-based energy and water usage to be monitored. Display figures on site. Evidence Required: - Letter of commitment the AP or site manager will set targets and monitor the energy and water usage on site
		Monitoring of Construction Site Impacts - Transport of Construction Materials & Waste	1	1		0		Contractor*	4		Vehicle monitoring of materials deliveries from point of supply and vehicle monitoring of waste to establish carbon figures. Evidence Required: - Letter of commitment the AP or site manager will set targets and monitor vehicles delivering materials from point of supply and vehicle monitoring of waste to establish carbon figures
Man 04	**Commissioning & Handover**	Testing & Inspecting Building Fabric	1	0		0		Contractor*Specialist*	4		Not Targeted
Man		**TOTAL:**	**15**	**11**	**2**	**0**					
		% of total score:	**12.00%**	**8.80%**	**1.60%**	**0.00%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
HEALTH & WELLBEING 0.88%											
Hea 01	**Visual comfort**	Daylighting	2	0		0		Architect*Specialist*	3		Not Targeted
		View Out	1	0		0		Architect*	3		Not Targeted
		External Lighting Levels & Controls	1	1		0		M&E Consultant*	4		All external lighting located within the construction zone is specified in accordance with BS 5489-1:2013 Code for the practice for the design of road lighting. Lighting of roads and public amenity areas and BS EN 12464-2:2014 Light and lighting - Lighting of work places - Part 2: Outdoor work places. External lighting should provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. Evidence Required: - Provide design drawings, and either relevant specification clauses or a formal letter confirming compliance with all standards in relevant areas. - External lighting schedules with luminaire information.
Hea 05	**Acoustic performance**	Acoustic performance	1	1		0		Acoustician*	3		Appointment of suitably qualified acoustician to undertake calculation & testing requirements. The contractor to confirm that they will remediate any non-conformation. Evidence Required: - Professional CV of SQA - Provide a professional report from the appointed SQA confirming that the building meets the appropriate acoustic performance standards regarding indoor ambient noise level and testing requirements for the relevant areas. - Letter of confirmation the contractor will remediate any non-conformation.
Hea 06	**Security**	Security of Site & Building	1	1		0		Security Specialist*	2		A suitably qualified security specialist (SQSS) is required to conduct an evidence-based Security Needs Assessment at RIBA Stage 2. Evidence Required: - Appointment of a SQSS at Stage 2 - Professional CV of SQSS - Provide a copy of the recommendations or solutions set out by the Suitably Qualified Security Specialist (SQSS). These recommendations or solutions must aim to ensure that the design of buildings, public and private car parks and public or amenity space are planned, designed and specified to address the issues identified in the preceding Security Needs Assessment (SNA). - Letter of confirmation the contractor will implement the recommendations or solutions proposed by the SQSS.
Hea 07	**Safe and healthy surroundings**	Safe Access	1	1		0		Architect*	4		Dedicated and safe cycle paths are provided from the site entrance to any cycle storage, and connect to off-site cycle paths where applicable. Suitable lighting also required. Evidence Required: - Provide a design landscape drawing - Relevant clauses of the building specification/contract - A letter/report explaining the safe access measures
		Outside Space	1	1		0		Architect*	4		There is an outside space providing building users with an external amenity area. Evidence Required: - Provide a marked up landscape drawing demonstrates the following: A. be an outdoor landscaped area B. have appropriate seating areas and be non-smoking C. be located to ensure it is accessible to all building users and avoids areas that will have disturbances from sources of noise.
Hea		**TOTAL:**	**8**	**5**	**0**	**0**					
		% of total score:	**7.00%**	**4.38%**	**0.00%**	**0.00%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
ENERGY		0.73%									
Ene 01	**Reduction of Energy Use & Carbon Emissions**	Energy Performance Commissioning - implementation **(Minimum Standard: 4 credits for Excellent / 6 credits for Outstanding)**	9	0	4	0	Yes/No?	Energy Consultant*	4		Minimum Standard: E-4; O-6 Credits achieved through IES Modelling Tool and reduction in regulated CO_2 emissions, in accordance with 2021 building regulations. Evidence Required: - BRUKL listing energy assessor - BRUKL inp.file - Energy Assessor CIBSE Low Carbon Design Confirmation - Output document from design model.
Ene 03	**External Lighting**	External Lighting	1	1		0		M&E Consultant*Specialist*	4		Average initial luminous efficacy of not less than 70 luminaire lumens per circuit Watt. Automatic control to prevent operation during daylight hours and presence detection in areas of intermittent pedestrian traffic. Evidence Required: - Data collection tool showing all external lighting types, quantities and locations. - Datasheets confirming LL/cW entered into the tool - External lighting drawings showing location of lighting type - Luminaire schedule.
Ene 04	**Low Carbon Design**	Passive Design Analysis	1	0		0		Energy Consultant*	2		Not Targeted
		Free Cooling	1	0		0		M&E Consultant*	4		Not Targeted
		Low Zero Carbon Feasibility Study	1	0		0		Energy Consultant*	2		Not Targeted
Ene		**TOTAL:**	**13**	**1**	**4**	**0**					
		% of total score:	**9.50%**	**0.73%**	**2.92%**	**0.00%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
TRANSPORT		1.21%									
Tra 01	**Transport assessment and travel plan**	Transport assessment and travel plan **(The existing AI needs to be calculated and be in the Travel Assessment)**	2	2		0	**AI >= 40**	Transport Consultant*	2		Travel Plan to be commissioned for the development clearly considering the impact onto the surrounding infrastructure etc. due to the site specific travel survey / assessment having been developed. To assess availability of transport links, frequency and amenities in proximity to the site. Evidence Required: - Appointment of a transport consultant at Stage 2. - Provide a copy of the site-specific Transport Survey/Assessment. - Provide a copy of Travel Plan.
Tra 02	**Sustainable transport measures**	**Prerequisite: Achieve criteria 3-5 in the Tra 01**					Yes/No?	Transport Consultant*	2		To identify the sustainable transport measures, according to the Accessible Index (AI) of the site and the active measures implemented.
		1. The existing AI calculated in Tra 01 **(The existing AI ≥ 8 for all other building types; AI ≥ 4 for prison/MOD sites, rural location sensitive buildings)**	10	6			**1**	Transport Consultant*	2		Evidence Required: - To identify the sustainable transport measures, according to the Accessible Index (AI) of the site and the active measures implemented.
		2. Demonstrate an increase over the existing Accessibility Index.					**Transport Measures?**	Transport Consultant*Client*			Evidence Required: - Evidence of negotiation with local bus, train or tram companies to increase the frequency of the local services for the development. i.e. Meeting minutes, email correspondence, etc.
		3. Provide a public transport information system in a publicly accessible area, to allow building users access to up-to-date information on the available public transport and transport infrastructure.					**Transport Measures?**	Transport Consultant*Client*			Evidence Required: - Provide specification clauses, design drawing or details as appropriate confirming that a public transport information system located in a publicly accessible area - This may include signposting to public transport, cycling, walking infrastructure or local amenities.
		4. Provide electric recharging stations of a minimum of 3kw for at least 10% of the total car parking capacity for the development.					**Transport Measures?**	Transport Consultant*Client*			Evidence Required: - Provide specification clauses, design drawing or details as appropriate confirming that electric recharging stations of a minimum of 3kw provided for at least 10% of the total car parking capacity for the development.
		5. Set up a car sharing group or facility to facilitate and encourage building users to car share. Raise awareness of the sharing scheme.					**Transport Measures?**	Transport Consultant*Client*			Evidence Required: - Provide specification clauses/documents as appropriate confirming that there is a car sharing scheme to encourage building users to share car.
		6. During preparation of the brief, the design team consults with the local authority (LA) on the state of the local cycling network and public accessible pedestrian routes, to focus on whichever the LA deems most relevant to the project, and how to improve it.					**Transport Measures?**	Transport Consultant *Client*Architect*	1		Evidence Required: - Evidence of consolation with the local authority (LA) that one proposition chosen with the local authority. The proposition supported by the development is additional to existing local plans and has a significant impact on the local cycling network or on pedestrian routes open to the public. i.e. Meeting minutes, email correspondence, etc.
		7. Install compliant cycle storage spaces to meet the minimum levels set out in Table 7.5					**13**	Transport Consultant *Client*Architect*			Evidence Required: - Provide specification clauses, design drawing or details as appropriate confirming that a compliant cycle storage will be specified to meeting the minimum levels set out in Table 7.5.
		8. Provide at least two compliant cyclists' facilities for the building users, (including pupils where appropriate to the building type) – Showers; – Changing facilities; – Lockers; – Drying spaces.					**Transport Measures?**	Transport Consultant*Client*			Evidence Required: - Provide specification clauses, design drawing or details as appropriate confirming that at least two compliant cyclists' facilities for the building users to be provided.
		9. At least three existing accessible amenities are present, see Table 7.6.					**16**	Transport Consultant*Client*			Evidence Required: - Provide specification clauses, design drawing or details as appropriate confirming that at least three existing accessible amenities are present in accordance with Table 7.6.
		10. Enhanced amenities					**Transport Measures?**	Transport Consultant*Client*			Evidence Required: - Provide specification clauses, design drawing or details as appropriate confirming that a minimum of one or more than one new accessible amenity, in accordance with Table 7.6.
		11. Implement one site-specific improvement measure, not covered by the options already listed in this issue, in line with the recommendations of the travel plan.					**Transport Measures?**	Transport Consultant*Client*	4		Evidence Required: - Evidence of implement one site-specific improvement measure in line with the recommendations of the travel plan.
Tra		**TOTAL:**	**12**	**8**	**0**	**0**					
		% of total score:	**14.50%**	**9.67%**	**0.00%**	**0.00%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
WATER		0.67%									
Wat 02	**Water Monitoring**	Water Monitoring	1	1		0	Yes/No?	M&E Consultant*	4		Minimum Standard: G/VG/E/O- Criterion 1 only - water meter on mains. Install water meters: - On the mains water supply. - On water-consuming plant or building areas consuming 10% or more of the building's total water demand. Each water meter is - Installed with a pulsed or other open protocol communication output and - Connected to BMS. Evidence Required: - Domestic water schematic drawings - Manufacturer's technical data sheets - Documents/reports/letters explaining pulsed or other open protocol communication output and BMS connection.
Wat 03	**Water Leak Detection**	Leak Detection System	1	1		0		M&E Consultant*	4		Install a leak detection system - On the utilities water supply within the buildings, to detect any major leaks within the building and - Between the buildings and the utilities water supply, to detect any major leaks between the utilities supply and the buildings under assessment Evidence Required: - Domestic water schematic drawings - Manufacturer's technical data sheets - Documents/reports/letters explaining leak detection system
Wat 04	**Water Efficient Equipment**	Water Efficient Equipment	1	1		0		M&E Consultant*	4		Mitigate 'unregulated water usage' (water consumption for uses not assessed under Wat 01) – Swimming pools – Recreational hot tubs and hydrotherapy pools – Equipment used for irrigation – Vehicle wash equipment – Project-specific industrial processes – Water filtration and treatment processes – Building services (e.g. cooling towers and humidification systems) Evidence Required: - Schematic drawings. - Specification on unregulated water usage. - Documents/reports/letters explaining unregulated water usage.
Wat		**TOTAL:**	**3**	**3**	**0**	**0**					
		% of total score:	**2.00%**	**2.00%**	**0.00%**	**0.00%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
MATERIALS		1.57%									
Mat 01	**Environmental impacts from construction products - Building life cycle assessment (LCA)**	Superstructure (all building types)	4	2		0	Yes/No?	LCA Specialist*	2		Carry out a building LCA on of the superstructure design using either the BREEAM Simplified Building LCA tool or an IMPACT Compliant LCA tool. Identify opportunities for reducing environmental impact. Evidence Required: - Life cycle assessment report - Mat 01/02 Results Submission Tool
		Superstructure - Technical Design	2	1		0		LCA Specialist*	4		Carry out a building LCA on of the superstructure design using either the BREEAM Simplified Building LCA tool or an IMPACT Compliant LCA tool Identify opportunities for reducing environmental impact. Evidence Required: - Life cycle assessment report - Mat 01/02 Results Submission Tool
		Substructure and hard landscaping options appraisal during Concept Design	1	1		0		LCA Specialist*	2		Carry out building LCA options appraisal of a combined total of at least six significantly different substructure or hard landscaping design options. Evidence Required: - Life cycle assessment report - Mat 01/02 Results Submission Tool
Mat 02	**Environmental impacts from construction products - Environmental Product Declarations (EPD)**	Specification of products with a recognised environmental product declaration (EPD)	1	0		0		Landscape Architect* LCA Specialist*	4		Not Targeted
Mat 03	**Responsible Sourcing of construction products**	**Pre-requisite: Legal and sustainable timber**					Yes/No?	Client*Contractor*	4		Minimum Standard 100% of timber and timber-based products used on the project are 'Legal' and 'Sustainable' as per the UK Government's Timber Procurement Policy (TPP). Evidence Required: - Commitment/confirmation letter. - List of the timber and timber-based products used on the project. - Certificates & chain of custody documentation. - Delivery notes/tickets/PO no.
		Enabling Sustainable Procurement	1	1		0		Client*Contractor*	2		A sustainable procurement plan to be issued (before concept design) and used by the design team to guide specification towards sustainable construction products. Evidence Required: - Sustainable procurement plan
		Measuring Responsible Sourcing	3	1	1	0		Architect*Contractor*	4		Materials specified and procured from manufacturers who can provide EMS Certification (ISO 14001 etc.). Evidence Required: - Mat 03 Calculator Tool. - Certificates & chain of custody documentation. - Delivery notes/tickets/PO no.
Mat 05	**Designing for Durability & Resilience**	Designing for Durability & Resilience	1	1		0		Architect*	4		Protecting vulnerable parts of the building from damage and exposed parts of the building from material degradation. Evidence Required: - Mat05 matrix - Specification of measures specified to protect the building from damage and material degradation. - Design drawings of measures to protect against high pedestrian traffic / internal trolley movement / external protection against potential vehicular collision / service yard robustness measures.
Mat		**TOTAL:**	**14**	**7**	**1**	**0**					
		% of total score:	**22.00%**	**11.00%**	**1.57%**	**0.00%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
WASTE		0.80%									
Wst 01	**Construction Waste Management**	Pre-demolition audit	1	1		0		Demolition Contractor*	2		Minimum Standard: O-1 Pre-demolition audit must carried out at RIBA Stage 2 and included in Resource Management Plan (RMP). Evidence Required: - Provide a copy of pre-demolition audit report
		Construction Resource Efficiency	3	1	1	0	Yes/No?	Contractor*	4		RMP to be prepared covering the targets of non-hazardous waste arising from site construction . Contractor to limit waste to less than 6.5tonnes per 100m² gross internal area. Evidence Required: - Letter of confirmation the contractor will prepare a Resource Management Plan confirming the number of credits they are targeted.
		Diversion of Resources from Landfill	1	1		0		Contractor*	4		Contractor to limit waste to landfill. 90% (tonnes) of demolition and 80% non-demolition waste to be diverted from landfill. Evidence Required: - Letter of confirmation the contractor will prepare a Resource Management Plan confirming the number of credits they are targeted.
Wst 02	**Recycled Aggregates**	Project Sustainable Aggregate Points	1	0		0		Structural Engineer*	4		Not Targeted
Wst 03	**Operational Waste**	Operational Waste	1	1		0	Yes/No?	Architect*Client*	4		Minimum Standard: E/O-1 At least 2 sqm per 1000m² of NIA for recycling bins is required for building <5000m². Additional 2 sqm per 1000m² of NIA when catering is provided. A minimum of 10m² for buildings ≥ 5000m². Evidence Required: - Provide specification clauses/contract/Letter of commitment confirming that dedicated space is provided for the segregation and storage of operational recyclable waste volumes generated by the assessed building/unit. - Provide drawings indicating the location of external waste & recycling storage areas to be accessible and clearly labelled.
Wst 05	**Adaptation to Climate Change**	Resilience of structure, fabric, building services and renewables installation	1	1		0		Design Team*Specialist*	2		Conduct a climate change adaptation strategy of new & existing fabric and it's durability to deal with extremes in weather condition. Develop recommendations/ solutions at RIBA Stage 2. Provide an update at RIBA Stage 4. Evidence Required: - Provide a climate change adaptation strategy
Wst 06	**Design for disassembly and adaptability**	Design for disassembly and functional adaptability - recommendations	1	1		0		Design Team*	2		Conduct study by the end of RIBA Stage 2 and develop recommendations prior to RIBA Stage 2. (i.e. alternative building uses, functions, major plant replacement, ventilation strategy to adapt to future building occupant needs, adaptability to changes of in-use etc. Evidence Required: - A copy of study to explore the ease of disassembly and the functional adaptation potential of different design scenarios by the end of Concept Design.
		Disassembly and functional adaptability – implementation	1	1		0		Design Team*	4		Provide an update during RIBA Stage 4, how the recommendations have been implemented - horizontally or vertically expandability, refurbishment potential, local plant and service distribution routes etc. Evidence Required: - Provide an update during RIBA Stage 4, how the recommendations or solutions have been implemented.
Wst		**TOTAL:**	**10**	**7**	**1**	**0**					
		% of total score:	**8.00%**	**5.60%**	**0.80%**	**0.00%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
LAND USE & ECOLOGY 1.46%											
LE 01	**Site Selection**	Previously Occupied Land	1	1		0		Architect*	4		At least 75% of the proposed development is on previously occupied land. Evidence Required: - Site plan showing the previously occupied part of the land and the assessed building's footprint.
		Contaminated Land	1	0		0		Specialist*	4		Not Targeted
LE 02	Comprehensive Route	**Prerequisite - Statutory obligations**					Yes/No?	Client*Contractor*			Prerequisite: The client or contractor confirms compliance is monitored against all relevant UK and EU or international legislation relating to the ecology of the site. Evidence Required: - Commitment/confirmation letter
	Ecological risks and opportunities	Survey and evaluation	1	1		0		Ecologist*	1		A Suitably Qualified Ecologist (SQE) carries out a survey and evaluation for the site early enough to influence site preparation works, layout, and, strategic planning decisions. Evidence Required: - Ecology report - SQE resume - Letters/meeting minutes/reports/correspondence.
		Determining ecological outcomes of the site	1	1		0		Ecologist*	2		The project team liaises and collaborates with representative stakeholders early enough to influence key planning decisions to Identify the optimal ecological outcomes for the site and Identify, appraise and select measures to meet the optimal ecological outcomes for the site. Evidence Required: - Ecology report. - SQE resume. - Letters/meeting minutes/reports/correspondence.
LE 03	**Managing impacts on ecology**	**Prerequisite - Ecological risks and measures on-site**					Yes/No?	Client*Contractor*			Prerequisite: LE 02 has been achieved.
		Planning and measures on-site	1	1		0		Ecologist*	2		Further planning to avoid and manage negative ecological impacts on-site is carried out and on-site measures for managing negative ecological impacts during site preparation and construction are implemented in-practice. Evidence Required: - Ecology report - SQE resume - Letters/meeting minutes/reports/correspondence
		Managing negative impacts	2	1	1	0		Ecologist*	4		SQE to provide recommendation on avoidance of negative impact of the site preparation and construction works according to the hierarchy and no net impact has resulted (1 or 2 credits). Evidence Required: Ecology report and letters/meeting minutes/reports/correspondence.
LE 04	**Ecological change and enhancement**	**Prerequisite - Managing negative impacts on ecology**					Yes/No?	Client*Contractor*			Prerequisite: - The client or contractor confirms compliance is monitored against all relevant UK, EU or international legislation relating to the ecology of the site. - Criterion 6 (for Foundation route) or 8 (for Comprehensive route) in LE 03 has been achieved.
		Ecological enhancement	1	1		0		Ecologist*	4		Measures have been implemented that enhance ecological value, which are based on input from the project team and SQE in collaboration with representative stakeholders. Evidence Required: - Ecology report - SQE resume - Letters/meeting minutes/reports/correspondence - Drawings/schematics - Technical specification.
		Change and enhancement of ecology (Route 2)	3	3		0		Ecologist*	4		SQE to provide calculations of the change in ecological value. Evidence Required: - GN40 - Letters/meeting minutes/reports/correspondence - Drawings/schematics - Technical specification - Completed BREEAM Change in Ecological Value Calculator.

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
LE 05	**Long Term ecology management and maintenance**	**Prerequisite - Statutory obligations, planning and site implementation**					Yes/No?	Client*Contractor*	4		Prerequisite: - The client or contractor has confirmed that compliance is being monitored against all relevant UK, EU and international standards relating to the ecology of the site. - Foundation route (Route 1) - Criterion 6 in LE 03 has been achieved. - Comprehensive route (Route 2) - Criterion 8 in LE 03 has been achieved, and at least one credit under LE 04 for 'Change and Enhancement of Ecology' has been awarded.
		Management and maintenance throughout the project	1	1		0		Ecologist*	4		Measures have been implemented to manage and maintain ecology throughout the project. A section on Ecology and Biodiversity has been included as part of the tenant or building owner information supplied. Evidence Required: -Confirmation letter/appointment letter explaining arrangements for the ongoing management of landscape and habitat connected to the project. - Ecology section at the BUG (Building user guide).
		Landscape and ecology management plan	1	1		0		Landscape Architect*Ecologist*	4		Landscape and ecology management plan, or similar, is developed in accordance with BS 42020:2013 covering as a minimum the first five years after project completion. Evidence Required: - A copy of the Landscape Habitat Management plan.
LE		**TOTAL:**	**13**	**11**	**1**	**0**					
		% of total score:	**19.00%**	**16.08%**	**1.46%**	**0.00%**					
POLLUTION		1.00%									
Pol 03	**Flood and surface water management**	Flood Resilience	2	2		0		Flood Risk Consultant*	4		Site specific Flood Risk Assessment prepared by specialist to confirm that if the site is a low, medium or high probability of flooding. Evidence Required: - Flood Risk Assessment covering all sources of flooding (Fluvial, Tidal, Surface water, Groundwater, Sewers & Artificial sources) - Flood Risk Assessor CV
		Surface Water Run Off	2	2		0		Flood Risk Consultant*	4		Prerequisite - Surface water run-off design solutions must be bespoke. Specialist hydrologist to provide calculation and confirm the proposed attenuation measures, i.e. SUDs. Evidence Required: - Site specific Suds report confirming [RATE] peak run off is no great her the natural site (greenfield) or rate 30% improvement for the developed site compared with the pre-developed (brownfield) site at the 1-year and 100-year return period event. Suds report calculations to allow for climate change scenario. - Site specific Suds report confirming [VOLUME] Flooding of property will not occur in the event of local drainage system failure. - SUDS Assessor CV - Confirmation letter Suds management & LT ownership in O&M's.
		Minimising Watercourse Pollution	1	0		0		Flood Risk Consultant*	4		Not Targeted
Pol 04	**Reduction of Night Time Light Pollution**	Reduction of Night Time Light Pollution	1	1		0		M&E Consultant*	4		External lighting design is in line with ILP guidance of obtrusive light and can be automatically switched off. Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisements. Evidence Required: - Data collection tool showing all external lighting types, quantities and locations. - External lighting drawings showing location of lighting type. - Luminaire schedule. - Specification confirming compliance to ILP guidance including security lighting where present. - Specification confirming all lighting can be automatically switched off 23:00-7:00. - Specification confirming Illuminated advertisements are designed in compliance with ILP PLG05 The Brightness of Illuminated Advertisement.
Pol		**TOTAL:**	**6**	**5**	**0**	**0**					
		% of total score:	**6.00%**	**5.00%**	**0.00%**	**0.00%**					

Credit Ref.	Credit Title	Credit Name	Credits Available	Credits Targeted	Potential Additional	Credits Achieved	Mandatory Elements	Responsibilities	Deadline / RIBA Stage	Status	Evidence Required
EXEMPLARY		1.00%									
Inn 01	**Man 03**	Responsible construction practices	1	0		0		Contractor*			Not Targeted
Inn 03	**Hea 01**	Visual Comfort	1	0		0		Architect*			Not Targeted
Inn 03	**Hea 02**	Emissions by construction products	0	0		0		Architect*Contractor*			Not Targeted
Inn 04	**Hea 06**	Security of Site & Building	1	0		0		Specialist*			Not Targeted
Inn 05	**Ene 01**	Exemplary level criteria	0			0		Energy Consultant*			Not Targeted
Inn 06	**Wat 01**	Water consumption	0	0		0		Architect*			Not Targeted
Inn 07	**Mat 01**	Environmental impacts from construction products - Building life cycle assessment (LCA)	3	0		0		LCA Specialist*			Not Targeted
Inn 08	**Mat 03**	Responsible Sourcing of construction products	1	0		0		Architect*Contractor*			Not Targeted
Inn 09	**Wst 01**	Construction waste management	1	0		0		Contractor*			Not Targeted
Inn 10	**Wst 02**	Use of recycled and sustainably sourced aggregates	1	0		0		Structural Engineer*			Not Targeted
Inn 12	**LE 02**	Ecological value of site and protection of ecological features	1	0		0		Ecologist*Contractor*			Not Targeted
Inn 13	**LE 04**	Ecological change and enhancement	1	0		0		Ecologist*			Not Targeted
Inn		**TOTAL:**	**10**	**0**	**0**	**0**					
		% of total score:	**10.00%**	**0.00%**	**0.00%**	**0.00%**					

WELL v2 Core Certification Q4 2022 - Scorecard

EUSTON TOWER

65204023
06/12/2024
Revision7

SWECO

Issue	Date	Reason for Issue	Prepared		Checked		Approved	
1	24-Nov-22	Preassessment	DB	06-Nov-22	DB	07-Nov-22	DB	08-Nov-22
2	13-Jan-23	Preassment Workshop	DB	13-Jan-23	DB	13-Jan-23	DB	13-Jan-23
3	13-Mar-23	Route to Platinum (8.5 uplift)	DB	13-Mar-23	DB	13-Mar-23	DB	13-Mar-23
4	28-Jun-23	Sound Concept review-Hann	DB	28-Jun-23	DB	28-Jun-23	DB	28-Jun-23
5	10-Jul-23	Architect Workshop	KT	30-Jun-23	DB	10-Jul-23	DB	10-Jul-23
6	07-Sep-23	Evidence Trackers update	KT	07-Sep-23	DB	07-Sep-23	DB	07-Sep-23
7	06-Dec-24	Planning Update	DB	06-Dec-24	DB	06-Dec-24	DB	06-Dec-24

EUSTON TOWER - WELL v2 Core Certification Q4 2022 - Scorecard
65204023
06/12/2024
Revision7

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EUSTON TOWER

Architect Evidence Tracker Rev00

WELL v2 Core Certification Q4 2022- GOLD
Revision7
06/12/2024

		Score	Rating	
Targeted		**65.5**	GOLD	(60 - 79 Points)
Potential		**58.5**	PLATINUM	(80 - 100 Points)

Targeted
Potential to achieve Platinum
Not targeted
Evidence

		Feature	Part	Scope	Points Available	Targeted	Potential to Achieve Platinum	Mandatory	Evidence	Responsibility	Comments
AIR	P	A01. Air Quality	A01.1 Meet Thresholds for Particulate Matter	Non-Leased Spaces	Mandatory			Yes	**Performance Test**	**ALL**	Air quality tests will be carried out by the WELL Performance testing Agent (independent from the project team) in the common areas of the building (entrance lobby, staircases, etc.). Air flush is highly advised prior to the air quality tests if undergoing certification. **PLATINUM Target: PM2.5:** 15 µg/m3 / **PM10**: 50 µg/m3 or lower. **GOLD Target**: **PM2.5:** 25 µg/m3 / **PM10:** 50 µg/m3 or lower. **PM2.5: 14 -16 ug/m3** **PM10: 25 -28 ug/m3** **Website: https://www.londonair.org.uk/london/asp/annualmaps.asp?species=O3&LayerStrength=95&lat=51.5008010864&lon=-0.124632000923&zoom=19**
			A01.2 Meet Thresholds for Organic Gases	Non-Leased Spaces				Yes	**Performance Test**	**ALL**	**Benzene :** 10 µg/m³ or lower. **Formaldehyde :** 50 µg/m³ or lower. **Toluene :** 300 µg/m³ or lower.
			A01.3 Meet Thresholds for Inorganic Gases	Non-Leased Spaces				Yes	**Performance Test**	**ALL** **CNTR**	**Carbon monoxide:** 10 mg/m³ or lower. **Ozone:** 100 µg/m³ or lower. **O3: 32 -34 ug/m3** **Option 2: Mechanical Ventilation - All regularly occupied spaces at or below grade meet Feature A03, Part 1,** **Radon is less than 1% in the area** as per https://www.ukradon.org/information/ukmaps
			A01.4 Meet Radon Threshold	Non-Leased Spaces				Yes	**LOA M&E**	**M&E**	
			A01.5 Monitor Air Parameters	Non-Leased Spaces				Yes	**On-going Data Report**	**FM** **CLNT**	Air pollutant concentrations in non-leased spaces must be monitored/tested at least once a year and results sent to IWBI (certification body). ****Annual Air Quality Testing via WELL Performance testing organisation OR** **** Indoor Air Quality Monitors can be installed as per feature A08**
	P	A02. Smoke-Free Environment	A02.1 Prohibit Indoor Smoking	Whole Building	Mandatory			Yes	**Policy/Operations Schedule**	**FM**	**Smoking and use of e-cigarettes should be banned inside the building, Confirm via Operations Schedule or Policy Document.**
			A02.2 Prohibit Outdoor Smoking	Whole Building				Yes	**On-site Photographs LOA Owner**	**CLNT** **ARCH**	Smoking to be banned within **7.5 m** of all entrances, openable windows, building air intakes and outdoors (including the roof terraces). Signage to communicate vaping and cigarette smoking ban . (If the project has no outdoor spaces, you can demonstrate compliance by providing a Letter of Assurance that states the project has no outdoor spaces.) ****No Smoking/No Vaping Signs.**
	P	A03. Ventilation Design	A03.1 Ensure Adequate Ventilation	Whole Building	Mandatory			Yes	**LOA M&E**	**M&E**	**M&E confirmed compliance with CIBSE guide A:2007 for mechanical ventilation**
	P	A04. Construction Pollution Management	A04.1 Mitigate Construction Pollution	Extent of Developer Buildout	Mandatory			Yes	**LOA Contractor**	**CNTR**	Ducts to be cleaned post construction If ventilation system operating, MERV 8 filters to be be used and filters to be replaced. Moisture and dust management in place. (carpets, insulation etc to be stored seperately, Sealed doorways etc, matt, dust guards)
	O	A05. Enhanced Air Quality	A05.1 / 2 Points Meet Enhanced Thresholds for Particulate Matter	Whole Building	2	2		T	**Performance Test**	**ALL**	**Organic and inorganic gases such as Benxene Caprolactam Formaldehyde Carbon Monoxide, Nitrogen Dioxide etc to be tested by the Performance testing agent.**
			A05.2 / 1 Points Meet Enhanced Thresholds for Organic Gases	Whole Building	1	INN		T	**Performance Test**	**ALL**	**Specification of low** VOC, E1 class materials.
			A05.3 / 1 Points Meet Enhanced Thresholds for Inorganic Gases	Whole Building	1	INN		T	**Performance Test**	**ALL**	**Carbon monoxide:** 7 mg/m³ or lower. **Nitrogen dioxide**: 40 µg/m³ or lower. **NO2: 43 -46ug/m3** **NOTE: Risk to lost this point, NOx quite high in the area as per 2016 data (PreCovid).**
	O	A06. Enhanced Ventilation	A06.1 / 3 Points Increase Outdoor Air Supply	Whole Building	2	2		T	**LOA M&E**	**M&E**	**13.01.2023 - M&E to confirm ventialtion rate in all occupiable spaces XX l/s/per/person.** **Ventilation strategy under review.**
	O	A07. Operable Windows	A07.1 / 2 Points Provide Operable Windows	Whole Building	2		2	T/NT?	**On-site Photographs LOA Architect**	**ARCH**	**10.07.2023 - To be confirmed at a later stage**
			A07.2 / 2 Points Manage Window Use	Whole Building	2		2	T/NT?	**Professional Narrative On-site Photographs LOA Engineer**	**M&E**	
	O	A08. Air Quality Monitoring & Awareness	A08.1 / 0.5 Points Install Indoor Air Monitors	Non-Leased Spaces	0.5	INN		T	**On-site Photographs LOA M&E On-going Data Report**	**M&E**	**10.07.2023 - To be discussed with QS and Arup.** **Air quality monitors to be installed only in the non leased spaces regularly occupied spaces. Any RESET B certified air quality monitors will comply.** ****Air Quality Monitors** to be confirmed by the client.
			A08.2 / 1 Points Promote Air Quality Awareness	Non-Leased Spaces	1	INN		T	**On-site Photographs, LOA Client**	**CLNT**	**Dependent on meeting A08.Part 1.** ***Signs directing occupants to the phone app where air quality data can be accessed at a density of at least one sign per 325m2 of regularly occupied space (tenant accessible areas)**
	O	A09. Pollution Infiltration Management	A09.1 / 2 Points Design Healthy Entryways	Whole Building	2		2	T/NT?	**Photographs, LOA Architect Policy/Operations Schedule**	**FM** **ARCH**	**10.07.2023 - To be reviewed later.** For all r**egularly used entrances** that have pedestrian traffic to the building surroundings (not including balconies or terraces),The building includes an **entryway system composed of grilles, grates, slots or rollout mats or removable carpet tiles that are at least the width of the entrance and 3m long in the primary direction of travel (sum of indoor and outdoor length).** **ONE** of the below is in place to slow the movement of air from outdoors to indoors: **a. Building entry vestibule with two typically closed doorways. OR**

		Feature	Part	Scope	Points Available	Targeted	Potential to Achieve Platinum	Mandatory	Evidence	Responsibility	Comments
			A09.2 / 2 Points Perform Envelope Commissioning	Whole Building	2	2		T	**Technical Document**	**CNTR**	**Equivalent to Man04 Commissioning and Handover and Hea 02 IAQ** **Air Leakage testing to be undertaken post completion.**
	O	A10. Combustion Minimization	A10.1 / 2 Points Manage Combustion	Whole Building	2	2		T	**Photographs** **LOA Client** **LOA M&E**	**CLNT** **ARCH**	**Low emission** combustion sources. **Generators to meet requirement if used for more than 200 hrs per year.** **No Idling Signage** at pick up and drop off points.
	O	A11. Source Separation	A11.1 / 0.5 Points Manage Pollution and Exhaust	Non-Leased Spaces	0.5	INN		T	**Technical Document**	**M&E**	**M&E to confirm all bathrooms, toilets, cleaner cupboards to be negatively pressurised and exhaust fans to be installed.** **Or ARCH to confirm self closing doors and exhaust fans.**
	O	A12. Air Filtration	A12.1 / 2 Points Implement Particle Filtration	Whole Building	2	2		T	**Photographs** **LOA M&E** **On-going Maintenance report**	**FM** **M&E**	**M&E to confirm media filter specification** **FM: Filters to be maintained as per manufacturer recommendations and records submitted on WELL digital platform.**
	O	A13. Enhanced Supply Air	A13.1 / 2 Points Improve Supply Air	Whole Building	2	2		T	**Photographs** **LOA M&E** **On-going Maintenance report**	**FM** **M&E**	**M&E to confirm 100% outdoor air (local recirculation in fan coil units acceptable)** **FM:** Filters to be maintained as per manufacturer recommendations and records submitted on WELL digi platform.
					Total Available Points	Total Targeted	Total Potential				
		AIR 12 Point can reached			25	12	6				
WATER	P	W01. Water Quality Indicators	W01.1 Verify Water Quality Indicators	Whole Building	Mandatory			Yes	**Performance Test**	**M&E**	Water delivered to the project and intended for HUMAN CONTACT (e.g.: Drinking, cooking, dishwashing, handwashing, showering or bathing to meet the thresholds for Turbidity and Coliform) **Water quality to be tested as soon as there is a connection on site.**
	P	W02. Drinking Water Quality	W02.1 Meet Chemical Thresholds	Whole Building	Mandatory			Yes	**Performance Test**	**ARCH**	Water quality to be tested once there is a connection onsite. All drinking water dispensers (in non leased spaces) to meet the parameters for Chlorine, TTHM and Haloacetic Acids. **Water quality to be tested as soon as there is a connection on site.** **10.07.2023 - ONE water dispenser to be provided should be accessible to all occupants (including tenants)**
			W02.2 Meet Thresholds for Organics and Pesticides	Whole Building				Yes	**Technical Document**	**M&E**	As above
	P	W03. Basic Water Management	W03.1 Monitor Chemical and Biological Water Quality	Non-Leased Spaces	Mandatory			Yes	**On-going Data Report**	**FM**	The following water parameters are sampled at intervals of no less than once per year: Turbidity / pH./ Residual (free) chlorine/ Total coliforms, only if residual chlorine is below detection limits. Any other water parameter found at 80% or above its threshold listed in W02 Part 1, as stated in the Final WELL Report or in subsequent annual sampling. Testing occurs only at the locations where parameters were found to be at 80% or above its threshold and testing takes place at least annually until the sample is below 80% of the threshold. The number and location of sampling points for on-going monitoring complies with the requirements outlined in the Performance Verification Guidebook. ****Water Quality to be tested once a year and results submitted annually through the WELL digital platform.**
			W03.2 Implement Legionella Management Plan	Whole Building				Yes	**Technical Document**	**FM** **M&E**	**Requirements close to standard practice.** **To be confirmed by Sweco M&E.**
	O	W04. Enhanced Water Quality	W04.1 / 2 Points Meet Thresholds for Drinking Water Taste	Whole Building	2	2		T	**Performance Test**	**M&E / CNTR**	**Water quality to be tested as soon as there is a connection on site.**
	O	W05. Drinking Water Quality Management	W05.1 / 2 Points Assess and Maintain Drinking Water Quality	Whole Building	2	2		T	**Technical Document** **On-going Data Report**	**CNTR** **M&E**	**Water quality to be tested as soon as there is a connection on site.** **Pre-test of water quality one month before PV.** Sampling occurs at the following locations (with filters or other water treatment devices removed, if present): The water dispenser that is closest to the pipe that delivers water into the project.For projects with more than two floors, a drinking water dispenser on the highest floor and the drinking water dispenser located farthest from the location in requirement b(1) above to which the project has access.For projects of 12 or more floors, one additional drinking water dispenser for every 10 floors. AND Water is tested quarterly in drinking water dispensers and meets the following thresholds. If any sample exceeds these thresholds, remediation and re-testing occur within a month:
			W05.2 / 1 Point Promote Drinking Water Transparency	Non-Leased Spaces	1	INN		T	**Policy/Operations Schedule**	**FM**	The following information is prominently displayed near sources of drinking water (or on a website available to occupants): Water quality results from the most recent sampling, including date of testing and compliance with WELL thresholds. If filters or other treatment units are in use, information about the treatment technologies and most recent date of device maintenance and/or filter cartridge replacement.
	O	W06. Drinking Water Promotion	W06.1 / 1 Points Ensure Drinking Water Access	Whole Building	1	1		T	**Technical Document** **Policy/Operations Schedule**	**ARCH / M&E**	**M&E to review and confirm** **1: Dispenser availability:** One wa**ter supply and drainage point that can be connected to a drinking water dispenser within each 930 m² of leased space.**
	O	W07. Moisture Management	W07.1 / 2 Points Design Envelope for Moisture Protection	Whole Building	2	2		T	**Professional Narrative**	**ARCH / M&E**	**Sweco WELL AP to provide template to collate evidence.**
			W07.2 / 2 Points Design Interiors for Moisture Management	Whole Building	2	2		T	**Professional Narrative** **On-site Photographs** **LOA M&E**	**ARCH / M&E**	**Sweco WELL AP to provide template to collate evidence.** **Architect to address:** a. Protection of moisture-sensitive building materials and selection of moisture-resistant materials or finishes in surfaces likely to be exposed to liquid water (e.g., finished floors) or that may absorb moisture such as interior sheathing in basements, areas at or below grade, bathrooms, janitorial rooms or kitchens. b. Condensation on cold surfaces such as basements, slab-on-grade floors, the inside of exterior walls and glazing.
			W07.3 / 2 Points Implement Mold and Moisture Management Plan	Whole Building	2	2		T	**Policy /Operations Schedule** **On-going Maintenance Report**	**FM**	**Operational Moisture Management for building operations**: Schedule of periodic inspections
	O	W08. Hygiene Support *WELL H&S Rating Feature	W08.2 / 1 Points Enhance Bathroom Accommodations	Extent of Developer Buildout	1		1	T/NT?	**On-site Photographs** **LOA Architect**	**ARCH**	**10.07.2023 - To be reviewed by ARUP SMART BUILDINGS** **All bathrooms meet the following:** **a. Toilets are equipped with hands-free flushing.**
			W08.3 / 1 Point Support Effective Handwashing	Extent of Developer Buildout	1		1	T/NT?	**On-site Photographs** **LOA Architect**	**ARCH**	**10.07.2023 - Architects to review and confirm** ***One of the WELL H&S rating features.** All sinks where handwashing is expected (e.g., kitchens, bathrooms, break rooms and wellness rooms), meet the following requirements: a. The faucet design prevents the water column from flowing directly into the drain or a **sink drain stopper is installed.** b. Water does not splash outside the sink when the faucet is fully open. c. Newly installed sinks meet the following design parameters:
			W08.4.1/1 Point Provide Handwashing Supplies and Signage	Extent of Developer Buildout	1	1		T	**Policy /Operations Schedule**	**FM** **ARCH**	**10.07.2023 - confirmed achievable** a. **Fragrance-free liquid hand soap dispensed** through **one** of the following: 1. Sealed dispensers equipped with disposable soap cartridges. 2. **Dispensers with detachable and closed containers for soap refill. Soap containers must be washed and disinfected when emptied, before refilling.** b. **One** of the following methods for hand drying: **1. Paper towels. (Size of the bins to be discussed with the architects)** 2. Hand dryers equipped with a HEPA filter. Filter replacement and equipment maintenance are carried out permanufacturer's instructions. (not recommended due to energy uplift) 3. Fabric hand towel rolls with dispensers, with rolls replaced before reaching their end of service. c. **Signage displaying steps for proper hand washing**
					Total Available Points	Total Tageted	Total Potential				
					18	12	2				
NOU	P	N01. Fruits and Vegetables	N01.1 Provide Fruits and Vegetables	Non-Leased Spaces	Mandatory			Yes	**LOA Client**	**CLNT**	**Option 1 applicable to the café.**

		Feature	Part	Scope	Points Available	Targeted	Potential to Achieve Platinum	Mandatory	Evidence	Responsibility	Comments
NOURISHMENT		Fruits and Vegetables	N01.2 Promote Fruit and Vegetable Visibility	Non-Leased Spaces					On-site Photographs, LOA Client	CLNT	
	P	N02. Nutritional Transparency	N02.1 Provide Nutritional Information	Non-Leased Spaces	Mandatory			Yes	On-site Photographs LOA Client	CLNT	Option 1 applicable to the café.
			N02.2 Address Food Allergens	Non-Leased Spaces					Policy/Operations Schedule	CLNT	Not applicable
			N02.3 Label Sugar Content	Non-Leased Spaces					On-site Photographs LOA Client	CLNT	Not applicable
	O	N07. Nutrition Education	N07.1 / 1 Points Provide Nutrition Education	Whole Building	1		1	T/NT?	Policy/Operations Schedule	FM	*Quaterly cooking demos OR Nutrition/dietary education workshops
	O	N08. Mindful Eating	N08.1 / 1 Points Support Mindful Eating	Non-Leased Spaces	1	1		T	Technical Document Policy/Operations Schedule	FM ARCH	10.07.2023 - Designated eating space. * Designated eating space for at least 25% of regular building occupants (FM staff) that has tables and chairs, should be protected from environment or should be in a climate controlled space.
	O	N10. Food Preparation	N10.1 / 0.5 Points Provide Meal Support	Non-Leased Spaces	0.5	0.5		T	On-site Photographs LOA Client	ARCH / CLNT	10.07.2023 - Part of the designated eating space **Applies to communal spaces only (i.e. kitchenette with fridge, microwave, etc, for employees working at the reception and facility mangement teams)
	O	N12. Food Production	N12.1 / 1 Points Provide Gardening Space	Non-Leased Spaces	1		1	T/NT?	Technical Document	ARCH	13.03.2023 - Gardening space to be reviewed and confirmed. Permanent and accessible space for food production within 800 m of the project boundary. To be provided for FM team members only. If the area of the gardening space is 70m2 or more then the additional point will be awarded. **Gardening space and gardening support (plants, soil, water, tools)
	O	N13. Local Food Environment	N13.1 / 2 Points Ensure Food Access	Whole Building	2	2		T	Technical Document	SWECO	Supermarket or store with a fresh fruit and vegetable section at 200m walking distance from the project boundary. Sainsbury's Local, 21 Hampstead Rd, London NW1 3JA at 16m from the project boundary
					Total Available Points	Total Targeted	Total Potential				
					14.5	3.5	2				
LIGHT	P	L01. Light Exposure and Education	L01.1 Provide Indoor Light	Whole Building	Mandatory			Yes	Technical Document	ARCH	Architects to confirm. Option 2: At least 30% of the regularly occupied area is within a 6 m horizontal distance of envelope glazing in each floor 10.07.2023 - Option1 daylight simulation under review with lighting consultants.
	P	L02. Visual Lighting Design	L02.1 Provide Visual Acuity	Non-Leased Spaces	Mandatory	1		Yes	Technical Document Performance Test	M&E	M&E confirmed the specifications will comply with EN 12464- 2021 Requirements to be addressed in the specifications. 1 Core Point to meet requirements in the whole building.
	O	L04. Electric Light Glare Control	L04.1 / 1 Points Manage Glare from Electric Lighting	Non-Leased Spaces	1		1	T/NT?	Technical Document	M&E	M&E to review and discuss with Lighiting Manufacturers. The following requirement is met in all regularly occupied spaces:
	O	L05. Daylight Design Strategies	L05.1 / 3 Points Implement Daylight Plan	Whole Building	3	2	1	T	Technical Document	ARCH	10.07.2023 - Calculation to be undertaken to confirm any one of the below 3 Points - Envelope glazing is no less than 25% of the regularly occupied floor area or individual unit. Visible light transmittance (VLT) of windows is greater than 40%. 2 Points - Envelope glazing is no less than 15% of the regularly occupied floor area or individual unit. Visible light transmittance (VLT) of windows is greater than 40%.
	O	L06. Daylight Simulation	L06.1 / 3 Points Conduct Daylight Simulation	Whole Building	3		3	T/NT?	Technical Document	ARCH / M&E	The entire floorplate, except circulation areas in non-leased spaces, is to be considered regularly occupied.
	O	L07. Visual Balance	L07.1 / 0.5 Points Balance Visual Lighting	Non-Leased Spaces	0.5	0.5		T	Professional Narrative	M&E	Horizontal and vertical luminance contrast ratios for an ambient light system is no more than 10 between adjacent independently controlled zones. Illuminance uniformity ratio of at least 0.4 or 1:2.5 (minimum light level: average light level) is achieved on any horizontal task plane within a space. Automatic changes in lighting characteristics, such as light levels, changes in color and distribution take place over a period of at least 10 minutes.
	O	L08. Electric Light Quality	L08.1 / 0.5 Points Enhance Color Rendering Quality	Non-Leased Spaces	0.5		0.5	T/NT?	Technical Document	M&E	M&E currently reviewing it in terms of cost effectiveness
			L08.2 / 1 Points Manage Flicker	Non-Leased Spaces	1	1		T	Technical Document	M&E CNTR	M&E to confirm with Manufacturer LED lights compliant with IEEE or NEMA standards.
	O	L09. Occupant Lighting Control	L09.1 / 1 Points Enhance Occupant Controllability	Non-Leased Spaces	1		1	T/NT?	Technical Document	M&E	M&E to review and confirm if requirements can be met.
			L09.2 / 0.5 Points Provide Supplemental Lighting	Non-Leased Spaces	0.5	0.5		T	Performance Test Policy/Operations Schedule	FM M&E	Occupants are provided supplemental lighting, the light fixtures provided increase the light level on the task surface to at least twice the recommended light levels based on the reference used to meet Feature L02: Visual Lighting Design, Part 1. *Task lights to be provided for the reception desk, FM office and additional task light to be made avaiable on request within eight weeks.
					Total Available Points	Total Targeted	Total Potential				
					17.5	5	6.5				
MO	P	V01. Active Buildings and Communities	V01.1 Design Active Buildings and Communities	Whole Building	Mandatory			Yes		CLNT	Feature 04 Facilities for Active Occupants and Feature V05: Site Planning and Selection targeted.

		Feature	Part	Scope	Points Available	Targeted	Potential to Achieve Platinum	Mandatory	Evidence	Responsibility	Comments
MOVEMENT	P	V02. Ergonomic Workstation Design	V02.1 Support Visual Ergonomics	Non-Leased Spaces	Mandatory			Yes	**Photographs LOA Client**	**CLNT**	****Monitors with flexible height and angle adjustment or Monitor stands**
			V02.2 Provide Height-Adjustable Work Surfaces	Non-Leased Spaces				Yes	**On-site Photographs LOA Client**	**CLNT**	25% of the workstation in non leased spaces to meet the requirement. ****Manual or Electric height adjustable workstation or Supplemental solutions, such as stand, that can be raised or lowered.**
			V02.3 Provide Chair Adjustability	Non-Leased Spaces				Yes	**On-site Photographs LOA Client**	**CLNT**	****Adjustable ergonomically designed chair at reception and Facility Management office.**
			V02.4 Provide Support at Standing Workstations	Non-Leased Spaces				Yes	**On-site Photographs LOA Client**	**CLNT**	**Option 1 Support for Standing Workers** - Any desks for security staff who are required to stand for more than 50% or more of their working hours, A footrest or Footrail under the desk, recessed toe space at least 4inches in depth and height. **Option 2 No standing workers** - There are no workstations in which users are regularly required to stand for 50% or more of their working hours. ****Foot rest or footrail under the desk**
			V02.5 Provide Workstation Orientation	Non-Leased Spaces				Yes	**Policy/Operations Schedule**	**FM**	****Ergonomic education via video, smart phone app or in person training: FM organisation to address.**
	O	V03. Circulation Network	V03.1 / 2 Points Design Aesthetic Staircases	Whole Building	2	2		T	**Technical Document**	**M&E** **ARCH**	10.07.2023 - Strategy to be confirmed ONE staircase, connecting all floors to have **any two** of the following, Music/**Artwork/ Light levels 215lux/ Natural design elements**, plants water features.
	O	V04. Facilities for Active Occupants	V04.1 / 3 Points Provide Cycling Infrastructure	Whole Building	3	2		T	**Technical Document LOA Architect**	**FM** **CNTR** **ARCH**	**Assuming occupants for Gross Floor Area(GEA) of m2** **1. Cycling Network: Project located right by Cycle Super Highway 7.** **2. Cycling Infrastructure: 193 Long term parking spaces to be provided.** **13Short term spaces (1:7 approx, can be changed to suit project)** **Bicycling Maintenance tools to be provided.**
			V04.2 / 2 Points Provide Showers, Lockers and Changing Facilities	Whole Building	2	2		T	**Technical Document**	**ARCH**	**15 showers and 75 Lockers to be provided. Showers and lockers to be co-located.**
	O	V05. Site Planning and Selection	V05.1 / 3 Points Select Sites with Pedestrian-friendly Streets	Whole Building	3	3		T	**Technical Document**	**Transport Consul**	**1: Pedestrian-friendly streets**: Within a 400 m distance of the project boundary, 90% of the total street length has continuous sidewalks on both sides and two of the following are met: At least eight existing use types (as defined in Appendix V1) are present. Speed limits of 40 kmh or less and street has buffer protections along sidewalks (e.g., curb extension, bioswales, bike lane, parked cars, benches, trees, planters). Street segments intersect one another (excluding alleys) at least every 80-100 m. **2: Pedestrian-friendly environment** Exterior building walls facing the pedestrian network incorporate one or more of the following on the first floor or first 5.5 vertical m (whichever is less): Windows or glazing that provide transparency into the space. Overhangs such as canopies, awnings, eaves or shades. Murals or other artistic installations. Biophilic design elements (e.g., plants, water features, nature patterns, natural building materials). Mixed building textures, colors and/or other design elements.
			V05.2 / 3 Points Select Sites with Access to Mass Transit	Whole Building	3	3		T	**Technical Document**	**SWECO**	**PTAL Score of 5 and above.** **Will be achieved as PTAL Score is 6b.**
	O	V06. Physical Activity Opportunities	V06.1 / 1 Point Offer Physical Activity Opportunities	Building Management Staff	1		1	T/NT?	**Policy/Operations Schedule**	**FM**	**Physical activity programs to be offered to regular occupants.**
	O	V08. Physical Activity Spaces and Equipment	V08.2 / 2 Points Provide Outdoor Physical Activity Space	Whole Building	2	INN		T	**Technical Document**	**SWECO**	Targeted as INNOVATION POINT Option 1: The project provides regular occupants access to a physical activity within a 400 m walk distance of the project boundary at no cost. **The Regent's Park, London at 400m walking distance from project boundary**
					Total Available Points	Total Targeted	Total Potential				
		MOVEMENT 12 point cap reached			25.5	12	1				
THERMAL COMFORT	P	T01. Thermal Performance	T01.1 Provide Acceptable Thermal Environment	Whole Building	Mandatory			Yes	**Technical Document Performance Test LOA M&E**	**M&E**	(Option 1) Range of PMV of +/- 0.5 for at least 90% occupied hours and at least in 90% of regularly occupied spaces.
			T01.2 Monitor Thermal Parameters	Non-Leased Spaces				Yes	**On-going Data Report**	**FM**	***Indoor thermal parameters to be measured twice a year or via T06. Thermal monitors**
	O	T04. Individual Thermal Control	T04.1 / 0.5 Points Provide Personal Cooling Options	Non-Leased Spaces	0.5	0.5		T	**On-site Photographs LOA M&E**	**FM**	****Desk fan or ceiling fan that doesn not increase air speed for other occupants or chairs with mechanical cooling system .**
			T04.2 / 0.5 Points Provide Personal Heating Options	Non-Leased Spaces	0.5	0.5		T	**On-site Photographs LOA Client**	**FM**	****Adjustable thermostat, Electric parabolic space heater, Heated chair or footwarmers.**
	O	T06. Thermal Comfort Monitoring	T06.1 / 0.5 Points Monitor Thermal Environment	Non-Leased Spaces	0.5	0.5		T	**On-site Photographs LOA M&E On-going Report**	**M&E**	****Additional monitors and displays would be required (at least 1 per core per floor)**
	O	T09. β Outdoor Thermal Comfort	T09.2/ 2 Points Avoid Excessive Wind	Whole Building	2		2	T/NT?	**Technical Document**	**M&E**	**A computational fluid dynamic model of the building and any adjacent buildings that takes into account at least one day per season (i.e., per quarter) demonstrates the following:** **Winds are not expected to exceed 5 m/s for more than 5% of hours in the year in seating areas or 10% of hours on paths and parking lots.** **Winds are not expected to exceed 15 m/s on paths, parking lots or seating areas for more than 0.05% of hours in the year.**
					Total Available Points	Total Targeted	Total Potential				
					21	1.5	2				
SOUND	P	S01. Sound Mapping	S01.1 Label Acoustic Zones	Whole Building	Mandatory			Yes	**Technical Document**	**ARCH / ACOUT**	To be met in the whole building based on any knowledge of anticipated use. An annotated document avaiable to all occupants showing labeled zones throughout the project: Loud, Quiet, Mixed and circulation. Mitigation for loud zones that border quiet zones. **28.06.2023 - Architect to provide speculative floor plans to the Acoustician.**
			S01.2 Provide Acoustic Design Plan					Yes	**Professional Narrative**		
	O	S02. Maximum Noise Levels	S02.1 / 1.5 Points Limit Background Noise Levels	Non-Leased Spaces	1.5	1.5		T	**Technical Document**	**ACOUT**	**28.06.2023 - Confirmed achievable by Hann Tucker. To be included within the first draft report.**
	O	S06. Minimum Background Sound	S06.1 / 2 Points Provide Minimum Background Sound	Whole Building	2		2	T/NT?	**Technical Document**	**ACOUT**	**28.06.2023 - Sweco WELL AP to query if requirements can be achieved via ventilation design.**

		Feature	Part	Scope	Points Available	Targeted	Potential to Achieve Platinum	Mandatory	Evidence	Responsibility	Comments
					Total Available Points	Total Targeted	Total Potential				
					16.5	1.5	2				
MATERIALS	P	X01. Material Restrictions	X01.1 Restrict Asbestos	Extent of Developer Buildout	Mandatory			Yes	**Technical Document LOA Contractor**	**CNTR**	No use of products containing asbestos
			X01.2 Restrict Mercury	Extent of Developer Buildout				Yes	**Technical Document LOA Architect LOA M&E**	**M&E**	**M&E to confirm:** Limiting mercury content in illuminated signs, thermostats, switches, etc. Mercury free technology
			X01.3 Restrict Lead	Extent of Developer Buildout				Yes	**Technical Document LOA Architect**	**CNTR**	**M&E to confirm:** Restriction on lead in plumbing systems. Products to meet **EU Council Directive 98/83/EC** as verified by the **KIWA** mark **Architects to confirm:** Restrictions on lead in paint.
										M&E	
										ARCH	
	P	X02. Interior Hazardous Materials Management	X02.1 Manage Asbestos Hazards	Extent of Developer Buildout	Mandatory			Yes	**LOA Client**	**CLNT**	**Option 2: New spaces** - Project was built after the enactment of an asbestos ban in construction products.
			X02.2 Manage Lead Hazards	Extent of Developer Buildout				Yes	**LOA Client**	**CLNT**	**Option 2: New spaces** - Project was built after the enactment of lead paint ban. Lead Paint banned in 1992.
			X02.3 Manage Polychlorinated Biphenyl (PCB) Hazards	Extent of Developer Buildout				Yes	**LOA Client**	**CLNT**	**Option 2: No PCB remediation** - Project is in a building constructed or last renovated after the institution of any applicable laws banning or restricting PCBs. PCBs Banned in 1981 and exsisting equipment containing in excess of 5 litres of PCBs were stopped in dec 2000.
	P	X03. CCA and Lead Management	X03.1 Manage Exterior CCA Hazards	Extent of Developer Buildout	Mandatory			Yes	**LOA Client**	**CLNT**	**Option 2: CCA assessment not required - Meet <u>one</u> of the following.** a. All existing wood structures that lie outside the building envelope but within the project boundary where human presence is expected (e.g., wooden decks, fences near walkways, playgrounds and outdoor furniture) were installed after the enactment of laws banning chromated copper arsenate (CCA). b. The project does not have wood structures that lie outside the building envelope but within the project boundary. c. The project does not have spaces outside the building envelope but within the project boundary.
			X03.2 Manage Lead Hazards	Extent of Developer Buildout				Yes	**Professional Narrative LOA Client**	**CLNT**	**Option 2: Lead assessment not applicable** a. Project does not have existing post-construction outdoor bare soil (e.g., not covered by grass, vegetation or mulch). b. Project does not have artificial turf. c. Project does not have loose-fill rubber from recycled tires. d. Paint applied to existing playground equipment was installed and painted after the enactment of banning laws, or no playground equipment is present.
	O	X05. Enhanced Material Restrictions	X05.1 / 1 Points Select Compliant Interior Furnishings	Extent of Developer Buildout	1	1		T	**Technical Document LOA Architect**	**ARCH**	**Architects to review and confirm if achievable**
									Technical Document LOA Contractor	**CNTR**	
			X05.2 / 1 Points Select Compliant Architectural and Interior Products	Extent of Developer Buildout	1	1		T	**Technical Document LOA Contractor**	**ARCH / CNTR**	**Architects to review and confirm if achievable**
	O	X06. VOC Restrictions	X06.1 / 2 Points Limit VOCs from Wet-Applied Products	Extent of Developer Buildout	2	2		T	**LOA Contractor**	**CNTR**	**Architects to review and confirm if achievable** Interior Wet applied paints , coatings, adhesives, sealants and finished poured floorings used inside the builidng envelope meet EU **Ecolabel for indoor and outdoor paints and varnishes** and **75% of products** are tested by a third party lab to meet testing methods and thresholds established by **EU LCI VOC Thresholds** following **EN16516-1:2018 testing methods.**
										ARCH	
			X06.2 / 2 Points Restrict VOC Emissions from Furniture, Architectural and Interior Products	Extent of Developer Buildout	2	2		T	**LOA Contractor**	**CNTR**	**Architects to review and confirm if achievable**
										ARCH	
	O	X09. Waste Management	X09.1 / 2 Points Implement a Waste Management Plan	Whole Building	2	2		T	**Policy/Operations Schedule**	**CLNT**	**To be reviewed by waste consultants.** **Waste management plan**. For batteries pesticides, lamps that may contain mercury
	O	X10. Pest Management and Pesticide Use	X10.1 / 2 Points Manage Pests	Whole Building	2		2	T/NT?	**Policy/Operations Schedule**	**FM**	Pest management plan for pest control based on integrated pest management (IPM) principles is implemented for all indoor and outdoor spaces,
	O	X11. Cleaning Products and Protocols *WELL H&S Rating Feature	X11.1 / 0.5 Points Improve Cleaning Practices *WELL H&S Rating Feature	Non-Leased Spaces	0.5		0.5	T/NT?	**Policy/Operations Schedule**	**FM**	**Cleaning protocol** to be followed by FM team. **FM Organisation to review and confirm**
			X11.2 / 0.5 Points Select Preferred Cleaning Products *WELL H&S Rating Feature	Non-Leased Spaces	0.5		0.5	T/NT?	**Policy/Operations Schedule**	**FM**	**Low Hazard or Ecolabel or Third party certification** recognised by the local government where the project is located. Safety datasheet disclosed ingredieants as per EU regulations 2015/230 (CLP) **FM Organisation to review and confirm**
	O	X12. β Contact Reduction *WELL H&S Rating Feature	X12.1 / 1 Point Reduce Respiratory Particle Exposure	Non-Leased Spaces	1		1	T/NT?	**Professional Narrative**	**FM**	One of the features in the **WELL Health and Safety rating.** **FM Organisation to review and confirm**
			X12.2 / 1 Point Address Surface Hand Touch	Non-Leased Spaces	1		1	T/NT?	**Policy/Operations Schedule**	**FM**	To be reviewed if it can be achieved.
					Total Available Points	Total Targeted	Total Potential				
					20	8	7				

		Feature	Part	Scope	Points Available	Targeted	Potential to Achieve Platinum	Mandatory	Evidence	Responsibility	Comments
MIND	P	M01. Mental Health Promotion	M01.1 Promote Mental Health and Well-being	Direct Staff	Mandatory			Yes	**Policy/Operations Schedule**	**FM**	****FM Staff to be provided Education or awareness on mental health and well being quarterly in person or online.** Email with helpful material sleep habits etc. and Healthy working house policy outlining max hours in 24 hour and 7 day period.
	P	M02. Nature and Place	M02.1 Provide Connection to Nature	Non-Leased Spaces	Mandatory			Yes	**Professional Narrative**	**ARCH**	Integrate natural materials, patterns shapes colours images or sounds, along with any one of the following: Plants Water, Nature Views. In Non leased spaces.
			M02.1 / 1 Points Provide Connection to Place	Non-Leased Spaces				Yes	**Professional Narrative**	**ARCH**	Provide a narrative that explains how the design elements address celebration of culture, place, integration of art and human delight.
	O	M03. Mental Health Services	M03.1 / 0.5 Points Offer Mental Health Screening	Direct Staff	0.5	0.5		T	**Policy/Operations Schedule**	**FM**	Offered by NHS compliant with WELL requirments.
			M03.2 / 0.5 Points Offer Mental Health Services	Direct Staff	0.5	0.5		T	**Policy/Operations Schedule**	**FM**	Offered by NHS compliant with WELL requirements Look up the nearest GP .
			M03.3 / 0.5 Points Offer Workplace Support	Direct Staff	0.5		0.5	T/NT?	**Policy/Operations Schedule**	**FM**	**FM Org to review the requirements and confirm** **Support employees with sick leaves for mental health needs, short or long term leaves, interpersonal support, works sch adjustments, adjustment of physical environment etc.**
			M03.4 / 0.5 Points β Support Mental Health Recovery WELL H&S Rating	Direct Staff	0.5		0.5	T/NT?	**Policy/Operations Schedule**	**FM**	**FM Org to review the requirements and confirm**
	O	M04. Mental Health Education	M04.1 / 1 Points Offer Mental Health Education	Direct Staff	0.5		0.5	T/NT?	**Policy/Operations Schedule**	**FM**	**FM Org to review the requirements and confirm**
			M04.2 / 1 Points Offer Mental Health Education for Managers	Direct Staff	0.5		0.5	T/NT?	**Policy/Operations Schedule**	**FM**	**FM Org to review the requirements and confirm**
	O	M05. Stress Management	M05.1 / 1 Points Develop Stress Management Plan	Direct Staff	1		1	T/NT?	**Professional Narrative**	**FM**	**FM Org to review the requirements and confirm**
		M06. Restorative Opportunities	M06.1 / 0.5 Points Support Healthy Working Hours	Direct Staff	0.5		0.5	T/NT?	**Policy/Operations Schedule**	**FM**	**FM Org to review the requirements and confirm**
	O	M07. Restorative Spaces	M07.1 / 2 Points Provide Restorative Space	Whole Building	2		2	T/NT?	**Technical Document**	**ARCH**	**10.07.023 - To be reviewed and confirmed if achievable** **3784 Occupants Hence 385m2 . MAX space of 186m2 to be provided.** **a. Is designated for relaxation and restoration. Space may be multi-purpose but is not to be used for work.** **b. Totals at least 7 m² plus 0.1 m² per regular occupant, up to a maximum of 186 m².** **c. Provides a restorative environment that considers at least five of the following:** **Lighting (e.g., dimmable light levels for indoor spaces).**
	O	M08. Restorative Programming	M08.1 / 0.5 Points Provide Restorative Programming	Direct Staff	0.5		0.5	T/NT?	**Policy/Operations Schedule**	**FM**	**FM Org to review the requirements and confirm** **Free or subsidized by 50% mindfulness programming such as guided meditation, yoga etc offered live in person or virtually once a week in a quiet zone. Digital Mindfullness offereings (Mindfulness apps such as calm, headspace etc)**
	O	M09. Enhanced Access to Nature	M09.2 / 2 Points Provide Nature Access Outdoors	Whole Building	2		1	T/NT?	**Technical Document**	**ARCH**	**10.07.023 - To be reviewed and confirmed by Landscape.** **1: Outdoor nature: Nearby nature access facilitated by the conditions below:** **1. At least one green space or blue space is within a 200 m walk distance from the project boundary and available to all regular occupants during open hours of the space(s).** **2. Total combined green space must be at least 0.5 hectare** **2: Outdoor nature access: The following requirement is met:** **a. Occupants are encouraged to access outdoor nature (e.g., presence of signage or maps to outdoor nature, availability of breaks during the workday to go visit outdoor nature).**
	O	M11. Substance Use Services	M11.1 / 0.5 Points Offer Substance Use Education	Direct Staff	0.5		0.5	T/NT?	**Policy/Operations Schedule**	**FM**	**FM Org to review the requirements and confirm**
			M11.2 / 0.5 Points Provide Substance Use and Addiction Services	Direct Staff	0.5		0.5	T/NT?	**Policy/Operations Schedule**	**FM**	**FM Org to review the requirements and confirm**
					Total Available Points	Total Targeted	Total Potential				
					13.5	1	8				
COMMUNITY	P	C01. Health and Wellness Promotion	C01.1 Provide WELL Feature Guide	Whole Building	Mandatory			Yes	**Policy/Operations Schedule**	**CLNT / SWECO**	Digital or physical guide describing all the WELL features achieved on the project prominently displayes or widely made avaibale to all the occupants. Quaterly communications, part of on boarding package.
	P	C02. Integrative Design	C02.1 Facilitate Stakeholder Charrette	Whole Building	Mandatory			Yes	**Professional Narrative**	**ALL**	Early consideration of all WELL features, environmental and sustainaility goals. Mins of the meeting to be shared with WELL AP.
			C02.2 Promote Health-Oriented Mission	Whole Building				Yes	**Policy/Operations Schedule**	**CLNT**	Outline objectives for health promotion, incorporate relecvant project goals or strategeies, incorporates the ten WELL concepts. Health orented mission is made avaiable to all occupants and is detailed in the WELL guide CO1.1.
	P	C03. Emergency Preparedness *WELL H&S Rating	C03.1 Develop Emergency Preparedness Plan	Direct Staff	Mandatory			Yes	**Policy/Operations Schedule**	**CLNT**	Develop a emergency preparedness plan *** Emergency preparedness plan.**
	P	C04. Occupant Survey	C04.1 Select Project Survey	Direct Staff	Mandatory			Yes	**Professional Narrative LOA Client**	**FM**	**Option 1:** Third party survey to be adopted such as BUS wellbeing survey, SHE **OR** **Option 2:** Create a custom survey **OR** **Option 3:** If there are fewer than 10 eligible employees in the project, a letter of assurance to be signed to confirm the same.
			C04.2 Administer Survey and Report Results	Direct Staff	Mandatory			Yes	**Technical Document On-going Data Report**	**FM**	Survey to be administered to all direct staff, maintaining privacy, and analysis to be undertaken by qualified survey professional. Results of the survey to be reported annually through the WELL platform.
			C06.1 / 1 Point Promote Health Benefits	Direct Staff	0.5	0.5		T	**Policy/Operations Schedule**	**FM**	A health benefits plan is available to all eligible employees and their designated dependents (e.g., spouse, domestic partner, child, parent, parent-in-law, grandparent, grandchild, sibling) at no cost or subsidized **Can be achieved via NHS** - Confidential benefits consultations are available with clearly identified and qualified support staff (e.g., benefits counselor, human resources representative).
			C06.2 / 0.5 Points Offer On-Demand Health Services	Direct Staff	0.5	0.5		T	**Technical Document Policy/Operations Schedule**	**FM**	**FM Org to review the requirements and confirm** **Access to in person health services are provided alternatively, access to a health app.**

		Feature	Part	Scope	Points Available	Targeted	Potential to Achieve Platinum	Mandatory	Evidence	Responsibility	Comments
	O	C06. Health Services and Benefits	C06.3 / 0.5 Points Offer Sick Leave	Direct Staff	0.5		0.5	T/NT?	Policy/Operations Schedule	FM	FM Org to review the requirements and confirm
			C06.4 / 0.5 Points Support Community Immunity	Direct Staff	0.5		0.5	T/NT?	Policy/Operations Schedule	FM	FM Org to review the requirements and confirm
	O	C07. Enhanced Health and Wellness Promotion	C07.1 / 0.5 Points Promote Culture of Health	Direct Staff	0.5		0.5	T/NT?	Policy/Operations Schedule	FM	FM Org to review the requirements and confirm
			C07.2 / 0.5 Points Establish Health Promotion Leader	Direct Staff	0.5		0.5	T/NT?	Policy/Operations Schedule	FM	FM Org to review the requirements and confirm
	O	C08. New Parent Support	C08.1 / 1.5 Points Offer New Parent Leave	Direct Staff	1.5		1.5	T/NT?	Policy/Operations Schedule	FM	FM Org to review the requirements and confirm
	O	C09. New Mother Support	C09.1 / 0.5 Points Offer Workplace Breastfeeding Support	Direct Staff	0.5		0.5	T/NT?	Policy/Operations Schedule	FM	FM Org to review the requirements and confirm
			C09.2 / 1 Points Design Lactation Room	Direct Staff	1		1	T/NT?	Technical Document	ARCH	FM Org to review the requirements and confirm
	O	C10. Family Support	C10.1 / 0.5 Points Offer Childcare Support	Direct Staff	0.5		0.5	T/NT?	Policy/Operations Schedule	FM	FM Org to review the requirements and confirm
			C10.2 / 0.5 Points Offer Family Leave	Direct Staff	0.5		0.5	T/NT?	Policy/Operations Schedule	FM	FM Org to review the requirements and confirm
			C10.3 / 0.5 Points Offer Bereavement Support	Direct Staff	0.5		0.5	T/NT?	Policy/Operations Schedule	FM	FM Org to review the requirements and confirm
	O	C11. Civic Engagement	C11.1 / 0.5 Points Promote Community Engagement	Direct Staff	0.5		0.5	T/NT?	Policy/Operations Schedule	FM	FM Org to review the requirements and confirm
			C11.2 / 1 Points Provide Community Space	Whole Building	1		1	T/NT?	Technical Document Professional Narrative	FM ARCH	Option 2: Access to one or more indoor or outdoor spaces within the project boundary is provided to the public, such as local community groups, student clubs or non-profit organizations, at no cost that meets the following requirements: a. Has the capacity to hold to least 10 people. b. Is available for meetings and events on a weekly basis at minimum.
	O	C13. Accessibility and Universal Design	C13.1 / 3 Points Integrate Universal Design	Whole Building	3		3	T/NT?	Professional Narrative	ARCH	10.07.2023 - Requirements to be reviewed by Architect Best practices in Univeral design are considered. To include any one strategy from the following categories: Physical Access. Developmental and intellectual health, wayfinding, operations, technology and safety, information of emergency procedures avaiable to all occupants/visitor on entering building(via app). Emergency Training and personnel: Security or crist response team.Annual CPR/First aid course. Training to promote indivual and family ermergy prepareness avaible to all occupants.
	O	C14. Emergency Resources *WELL H&S Rating	C14.1 / 2 Points Promote Emergency Resources	Whole Building	2		2	T/NT?	Professional Narrative Policy /Operations Schedule	ARCH FM	10.07.2023 - Client to review and confirm Any three emergency response support services are in place, such Notification system with auditory or visual indicators, One first aid kit per floor,
	O	C15. β Emergency Resilience and Recovery *WELL H&S Rating	C15.1 / 1 Points Promote Business Continuity	Non-Leased Spaces	1		1	T/NT?	Policy/Operations Schedule	CLNT	FM Org to review the requirements and confirm
			C15.2 / 1 Points Support Emergency Resilience	Non-Leased Spaces	1		1	T/NT?	Policy/Operations Schedule	FM	FM Organisation to review and confirm Designated outdoor or indoor space is made available to emergency responders, relief organizations or other equivalent institutions at no cost for alternative use in case of emergency (e.g., shelter during a natural disaster, treatment area during a pandemic).
			C15.3 / 1 Points Facilitate Healthy Re-entry	Whole Building	1		1	T/NT?	Professional Narrative	FM	FM Organisation to review and confirm Projects establish a plan for re-entry into the project after an emergency event
			C15.4 / 1 Points Establish Health Entry Requirements	Whole Building	1		1	T/NT?	Professional Narrative	FM	
					Total Available Points	Total Targeted	Total Potential				
					30	1	17				
INNOVATIONS	O	I01. Innovate WELL	I01.1 / 10 Points Propose Innovations	Whole Building	10	7		T	Technical Document	ALL	Innovative design solutions or target optimizations beyond shell and core scope. 1. A05.2 / Meet Enhanced Thresholds for Organic Gases 2. A05.3 / Meet Enhanced Thresholds for Inorganic Gases 3. A08.1 / Install Indoor Air Monitors 4. A08.2/ Air quality awareness 5. A11.1 / Manage Pollution and Exhaust 6. W05.2 / Promote Drinking Water Transparency 7. V08.2 / Provide Outdoor Physical Activity Space
	O	I02. WELL Accredited Professional	I02.1 / 1 Points Achieve WELL AP	Whole Building	1	1		T	Technical Document	CLNT	WELL AP Diaa Bahopia Appointed.
	O	I05. Green Building Rating Systems	I05.1 / 5 Points Achieve Sustainable Building Certification	Whole Building	5		5	T/NT?	Technical Document	CLNT	5 points will be awarded if the project achieves BREEAM certification (PC certificate)
					Total Available Points	Total Targeted	Total Potential				
					18	8	5				

WLCA – Method Statement

10th December 2024
RIBA 2

Euston Tower

RIBA Stage 2 Whole Life Carbon assessment note.

This Whole Life Carbon Assessment (WLCA) update summarises the revisions made to the pending strategic application for Full Planning Permission (ref. 23/5240/P), submitted in December 2023 for the Proposed Development at Euston Tower (286 Euston Road, London).

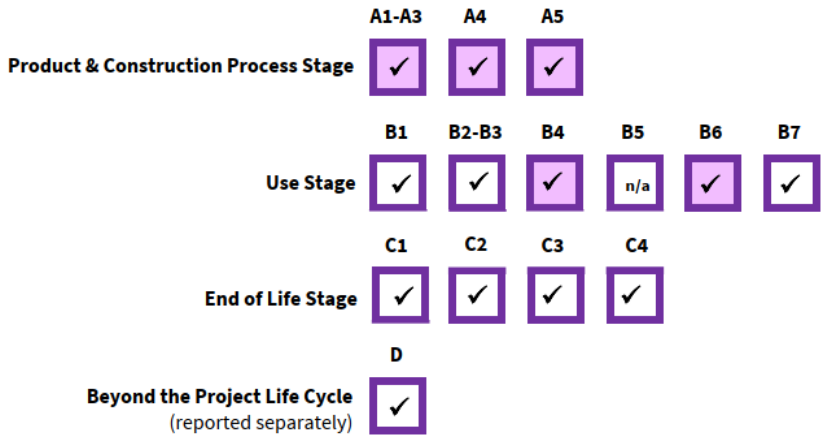
The Applicant has undertaken extensive consultation during both the pre-application and determination stages of the Proposed Development and has sought to respond positively to the responses received. The scheme has been revised in response to feedback from Officers, local stakeholders and residents, including the Regents Park Conservation Area Advisory Committee and statutory consultees, including Historic England and the Greater London Authority.

This WLCA has been prepared detailing the revisions to the pending scheme (the "Proposed Development"). For the avoidance of doubt, the WLCA which accompanied the December 2023 Submission is considered superseded by this WLCA which considers the revised Proposed Development. This report also clarifies and provides further details responding to consultation responses received since the submission of the application for Full Planning Permission in December 2023.

This Method Statement is constructed to accord with the methodological requirements of the RICS Professional Statement Whole life carbon analysis for the built environment (2017) publication.

EN 15978 Module Coverage

As per the requirements of the RICS PS 1st Edition Table 2, a WLCA must cover core modules of EN 15978:2011, typically representing where the majority of WLC impacts fall. As an absolute minimum, a Sweco WLCA assessment will cover these modules in full. Sweco look to include all possible EN 15978:2011 modules, subject to the limitations of the One Click LCA tool, the RIBA stage/timing of the assessment and the availability of data/scenario information from the industry at the time of writing. The below demonstrates which modules have been included in this study.



Reference Study Period

The RICS Professional Statement has set requirements for the reference study period (RSP) which must be used for the WLC assessment process. For domestic and non-domestic projects, the RSP is **60 years**. The RSPs are fixed to provide a level of comparability between WLC results for different projects, and to enable better future interrogation and interpretation of results.

Building Elements Coverage

The table presented below shows the percentage of costs covered by the G&T Cost Plan for each elemental category. In cases where the coverage is less than 100%, an adjustment factor was applied to provide an allowance for the carbon impacts of the missing elements or components as per the RICS WLCA PS 1st Edition recommendation. For instance, if the coverage is 95%, then the adjustment factor for carbon of those elements quantified in that category would be 1.05.

For certain building element categories, based on the current stage in design and availability of information, benchmarked carbon values were used on a per m^2 basis. These categories are indicated below.

Table 1.0: Building elements coverage for ET at RIBA 2.

	Building parts/ Element groups	Building Elements	Coverage (%)
0	Facilitating works	0.1 Temporary/Enabling works/ Preliminaries	Benchmarked Value
		0.2 Specialist groundworks	N/A
1	Substructure	1.1 Substructure	95%
2	Superstructure	2.1 Frame 2.2 Upper floors incl. balconies 2.3 Roof 2.4 Stairs and ramps	99%
	Superstructure	2.5 External Walls 2.6 Windows and External Doors	100% (Contingency factors added separately as part of CWCT process)
	Superstructure	2.7 Internal Walls and Partitions 2.8 Internal Doors	100%
3	Finishes	3.1 Wall finishes 3.2 Floor finishes 3.3 Ceiling finishes	97%
4	Fittings, furnishings, and equipment (FF&E)	Building-related Non-building-related	59%
5	Building services / MEP	5.1 - 5.14 Building-related services	75%
		Non-building-related	N/A
6	Prefabricated Buildings and Building Units	6.1 Prefabricated Buildings and Building Units	N/A
7	Work to Existing Building	7.1 Minor Demolition and Alteration Works	Benchmarked Value

	Building parts/ Element groups	Building Elements	Coverage (%)
8	External works	8.1 Site preparation works 8.2 Roads, Paths, Paving and Surfacing 8.3 Soft landscaping, Planting, and Irrigation Systems 8.4 Fencing, Railings and Walls 8.5 External fixtures 8.6 External drainage 8.7 External Services 8.8 Minor Building Works and Ancillary Buildings	Benchmarked Value

Measurement Source References

Table 2.0: Key material quantities data sources (non-exhaustive).

Data Source	Data Source Type	Comments
Euston Tower - Cost Plan (29.10.24)	Cost Plan	Source for majority of quantities.
241018 Material Quantities - Arup	Structural Material Quantity Breakdown and carbon factors	Informed carbon factors where not already confirmed
Euston Tower Planning Area Schedule (16.10.24)	Area Schedule	Latest area schedule provided by G&T.
ARUP Structures correspondence	Emails	Further clarifications on structural material carbon factors and reduction opportunities.
CWCT Façade Calculations	Excel data sheet	CWCT compliance calculations for façades provided by 3XN.
WLCA Main Mech Plant Weights – 24.10.2410.24	Excel data sheet.	Arup MEP provided a provisional/high level equipment schedule that formed the basis of their initial Stage 2 Design.
Arup Operational Energy Prediction Figures – 25.11.24	Email	Used to inform B6 module. Aligned with the submitted Energy Statement Be Seen TM54 results for the Baseline Office/Lab scenario.
65206043_VT_Equipment_Summary_Schedule_Rev02WIP Euston Tower, Lifting Strategy Diagrammatic, Rev P04	Schedule and diagrammatic	Informed the number of lifts, escalators and travel heights.
241024 Euston Tower - WLCA - B1 Refrigerant Calc	Excel data sheet.	Arup MEP filled in refrigerant schedule based on initial Stage 2 Design.

Product and Construction Process Stage

At Stage 2, there was insufficient design information in certain categories to derive reliable quantities from the cost plan of material specifications from other reference material. In these cases, an overall carbon rate per m² GIA, that was established earlier in the design, was applied as a placeholder allowance. This is relevant to the following elemental categories:

- Demolition impacts of existing building: **20 $kgCO_2e/m^2$ GIA.**
- Temporary works (which included Works to Existing Building): **15 $kgCO_2e/m^2$GIA.**
- Site activities: **26 $kgCO_2e/m^2$ GIA.**
- External works: **20 $kgCO_2e/m^2$ GIA.** For this elemental category specifically, a combined approach was used. The materials that could be quantified from the cost plan were included in the assessment, however due to uncertainties at this stage as to sufficient detail for external works, the carbon reporting still uplifted the overall impact to this benchmarked rate.

Carbon factors used (A1-A3)

Structural Components

The baseline carbon factors for structural materials were confirmed to Sweco as follows:

- **Structural steel:** steel truss, bracing, columns, floors, bolt on podium structure and roof – a blended rate of 30:70 electric arc furnace (EAF): ArcelorMittal's (AM) XCarb product with the respective A1-A3 carbon factors of **0.84: 0.33 $kgCO_2e/kg$.**
- **Specials allowance** – Blended rate of 56:44 basic oxygen furnace (BOF): EAF – combined factor of **1.74 $kgCO_2e/kg$.**
- **Structural steel:** Connections– **2.45 $kgCO_2e/kg$ –** BOF UK typical.
- **Steel reinforcement**: 0.3 $kgCO_2e/kg$ – AM XCarb Rebar product.
- **Piles, concrete liner wall to sheet wall concrete carbon factor:** RC 32/40 50% GGBS - 0.0888 $kgCO_2e/kg$.
- **Basement slabs, pile caps, concrete encasement to steel columns, RC Walls, columns, upper floors concrete carbon factor:** RC 32/40 25% GGBS – 0.12 $kgCO_2e/kg$.
- **Composite steel decking concrete carbon factor:** RC 32/40 25% GGBS – 0.12 $kgCO_2e/kg$.
- **Composite steel decking steel carbon factor**
    - **Labs:** 31.7 $kgCO_2e/m^2$ Kingspan Multideck 50
    - **Offices:** 23.1 $kgCO_2e/m^2$ blended rate of 80: 20 AM XCarb + magnelis coating: BOF.
- Arup structures provided structural steel intumescent paint rate of 9.22 m^2/tonne of steel at 1mm thick.
- **Basement slab waterproofing**: Sweco material library default input polyethene membrane.
- **Basement slab:** Sweco material library default input **150mm EPS.**
- **Precast stair reinforcement** rate assumed at **130 kg/m^3.**

Facades

- **BMU** – only 'number of' highlighted in Cost Plan – generic Sweco input used for this with material weights. BMU track materials measured from roof plan.
- **Internal lining of external wall** assumed as 2 x 15mm plasterboard with steel studwork at 1.3kg/m². Applied to opaque area of external façades.

CWCT calculations provided by 3XN. Some key notes and assumptions from these calculations:

- The carbon performance of the **Podium Façade** was modelled as per the same impact of the Typical Bay at this stage in design.
- A **5% material scale up** factor was applied to all material components, then a separate **façade scale up factor of 5%** was also applied.
- The facades were assumed to be assembled **offsite in European factory.**
- **The aluminium extrusions** were based on the **Hydro Reduxa EPD** value for billet only at **4 $kgCO_2e/kg$** plus a placeholder allowance for extruding (**0.5 $kgCO_2e/kg$**), pre anodisation (**2.24 $kgCO_2e/kg$**) and PPC coating (**0.13 $kgCO_2e/kg$**).
- An allowance of **263 $kgCO_2e/m^2$ FSA (A1-A5)** was assumed for the **soffits** with the area for this element being taken from the Cost Plan.

The performance of the other façade types, including all contingencies (i.e., material and overall façade scale up) for modules A1-A5:

- **Typical Bay:** 477 $kgCO_2e/m^2$ FSA
- **Spine:** 705 $kgCO_2e/m^2$ FSA
- **Podium Façade:** 447$kgCO_2e/m^2$ FSA (as per Typical Bay)
- **Amenity:** 527 $kgCO_2e/m^2$ FSA

Internal Walls, Finishes & Fittings

- Sweco material library defaults for **drylining build-ups** in model i.e., **plasterboard, acoustic insulation and metal studwork.**
- Sweco material library defaults for **bike racks and lockers.** Number of units taken from Cost Plan.
- **Internal doors:** allowance in cost plan on a cost per m² GIA basis rather than the number of doors itemised. Therefore, Sweco looked at the number of internal doors per m² GIA on other office developments and used this as a means to estimate the number of doors in Euston Tower.
- **Reused RAF for S&C areas** (excluding the WC's) – input based on RMF e-coated (0.71 $kgCO_2e/m^2$) with pedestals assumed 4kg/m² of material.
- **RAF for WC's and office CAT A** - input based on Kingspan RMG 600 (40.56 $kgCO_2e/m^2$) in first instance (worst case) with pedestals assumed 4kg/m² of material.
- **Screed**
    - Basement Areas: 50mm thick.
    - 80mm thick to terraces.

    - 80mm thick to podium floor.
    - 80mm thick to proportion of laboratory upper floor plate where equipment could be allocated.
- **Metal decking edge trim**: assumed 400mm high, 2mm thick, drawings used to measure perimeter on each floor plate.
- **Metal decking shear studs:** assumed 1.2kg per m^2 of upper floor.

Where not directly provided in architectural responses following assumptions made to finishes:

- **Void formers** at 100mm.
- **Ceramic floor tiles** at 10mm thick and associated adhesive at 10mm thick.
- **0.4mm epoxy resin** finish to **plant and bike store areas.**
- **Natural stone** 10mm thick and associated adhesive at 10mm thick for enhanced finishes to **lifts.**
- **Raised access Floor pedestals:** 4 kg/m^2.

Building Services

Main plant items as per the basis of design in ARUP indicative MEP schedule.

- **Distribution MEP materials** in base build areas based on per m^2 inputs i.e. pipework, ductwork and containment.
- **Rule of thumb inputs** informed by Stage 4 level information (scaled on GIA) from another commercial project in Sweco's portfolio with a similar HVAC strategy used for buffer vessels, water treatment, pump systems, water treatment, thermal stores and busbars.
- **200 m^2 of PV** confirmed in cost plan.

CAT A fit out assumptions:

- CAT A office areas: **floor area** from latest cost plan **(4 floors).**
- CAT A for office and Lab **specific equipment** based on **per m^2 inputs** for areas above e.g., **ductwork, cabling, lighting, sprinklers, containment**.
- **No localised building services** materials assumed in Office or lab enabled tenant areas that are to be fitted to **shell and core** specification.
- No level of fitout beyond base build has been assumed for the lab enabled floors (3-11)

Assumptions for Transportation Distances (A4)

For the vast majority of modelling inputs, the transport distances have been based on the RICS WLCA PS defaults. A summary of these assumptions are provided in the table below.

Table 3.0: RICS WLCA PS (2017) Default transport distances.

Assumed Transport Distance (km)	Product group/material in project WLC analysis
50 (local)	Concrete, screed, aggregates
300 (UK)	Formwork, steel deck, timber terrace decking, pavers, balustrades & handrails, stone pavers, resin-bonded gravel, internal timber doors, blockwork, cement mortar, plasterboard, acrylic paint, carpet, vinyl flooring, RAF, suspended metal ceiling, baffle ceiling, ceramic tiles, concrete sealant, terrazzo.
1500 (EU)	Insulation, bitumen membranes, pedestals, sanitaryware, steel studwork, pipe/duct insulation, lighting, waterproofing membranes for structure, rebar, riser doors, revolving door sets, aluminium/glass internal doors, stair core doors, glazed internal screens, cycle racks & lockers, ductwork & pipework, all other building services items not assumed in UK (300km) list above.

An exception to this is the precast concrete elements (i.e. stairs), where two transport distances have been applied (300 km x2 concrete and 1500 km + 300 km for rebar). These additional distances provide an allowance for to account for upstream transportation movements prior to leaving the factory to site i.e., it avoids the underestimation of transport impacts where A2 impacts are lacking from the EPD used.

In a similar vein, any building services product or system that has been built up by Sweco from individual materials, and not taken directly from a product EPD, two transport distances have again been provided to make an allowance for movements of raw materials/products to the factory, and then from factory to site (1500 km x 2).

As noted in previous sections, some elemental categories at this stage have been based on benchmarked A1-A5 carbon intensity values. Therefore, the transport impacts are included within this benchmarked figure. However, as the majority of the data that underpins the intensity allocations came from internal portfolios (particularly from Sweco), based on design information from other projects, it is reasonable to state that all values for transport are in accordance with the design values set out within the RICS PS WLCA (2017) methodology.

Predicted Construction Site Energy Use and Waste (A5)

This section can be separated into two parts: construction site emissions (A5s) and construction site waste (A5w). The methodology for each is set out below.

The emission rate of 26 $kgCO_2e/m^2$ GIA for A5s it was suggested by Sweco based on a target rate for a 100% new build and the modification was made based on the difference in construction program length between the 'Retain the Core' option being proposed for planning and a hypothetical new build. It's important to note that this emission rate only takes into account site emissions and doesn't include waste.

The A5w data uses default WRAP waste values as applied within software such as One Click and is included within reported A1-A5 values. Again, for those elements based on benchmarked values the same default rates are included in the A1-A5 value in the sense that the same methodology was used in the projects that provided these benchmarked values.

Use Stage

Assumption for Refrigerants (B1)

The refrigerant information was provided by ARUP, while the annual and end-of-life leakage rates have been taken from the CIBSE TM65 Table 4.13 values for the relevant systems, as set out below.

Table 4.0: Systems & refrigerants used in WLCA Stage 2 baseline.

System	Refrigerant Type	GWP ($kgCO_2e/kg$)	Service Life (yrs.)	Total Charge (kg)	Annual Leakage Rate (%)	EoL Leakage Rate (%)
ASHP	R513A	656.45	15	2,760	2	1
Chillers	R513A	656.45	15	1,000	2	1
DX Units	R-32	675	15	315	6	3

Assumptions for Maintenance and Repair (B2 & B3)

Modules B2 and B3 includes the embodied carbon associated with maintenance and repairs over the duration of the building's RSP. Greater London Authority (GLA) updated "London Plan Guidance – Whole Life-Carbon Assessments" publication, released in March 2022 provides some guidance on assumptions for Modules B2 and B3 when they are unknown at an early stage within section 2.5.15, and to encourage some assessment of the impact of these modules provides the following guidance:

"…for module B2 emissions, a total figure of 10 kgCO2e/m2 gross internal area (GIA) may be used to cover all building element categories, or 1 per cent of modules A1-A5, whichever is greater. For module B3 emissions, these may be estimated as 25 per cent of module B2, as per the RICS PS (item 3.5.3.3). "

These additions are not added between all buildings parts as some will require either minor maintenance and repairs only during its life span, or no maintenance/repairs at all. The following categories are used for the additions as stated in RICS PS section 3.5.3.2; roof, façade and external doors, finishes, and services.

Assumptions for Lifecycles of materials (B4)

The assumptions for life cycle replacement of materials have been made in accordance with RICS PS, except for building services, which adheres to CIBSE Guide M, and for the facade, which follows the CWCT methodology.

Assumption for Operational Energy and Water (B6 & B7)

The predicted energy consumption for Euston Tower was provided by ARUP, and are provided in Table 5.0 below.

Table 5.0: Predicted Energy Consumption for ET.

Baseline Office/Lab	Predicted Energy Consumption (MWh/year)		
	Base Build	Tenant	Total
	6,001,507	5,364,385	11,365,891

For the baseline water consumption calculation, Sweco have used the Better Building Partnership's 2020 Real Estate Energy Benchmarking (REEB) publication, released in August 2021. The 'Typical Practice' water use intensity (WUI) for offices of 636 (litres/m2 NLA/year) was used, in the absence of more specific data. The emissions factors associated with water use and treatment are derived from Thames Water, and the consequent emissions factors, published in 2023/2024, are 0.199 $kgCO_2e/m^3$ for water supply, and 0.212 $kgCO_2e/m^3$ for water treatment (assuming 90% of potable water ends up going to sewer).

End of Life Stage

Assumption for End of Life (C1-C4)

The end-of-life waste streams, and their associated C1-C4 impact, is based on the pre-set typical practice UK scenarios for each material type.

Results

The A1-A3 section summarises the key assumptions made within each building element category. However, prior to presenting the results it is worth reiterating the specific carbon reducing intervention measures that are included in these results as it relates to material specifications. These specifications have been committed to by the client for inclusion in the Baseline position. These specific intervention measures are listed as follows:

- The rolled or standard steel sections (6,887 tonnes) comprising: steel truss, bracing, columns, floors, bolt on podium structure and roof – have been modelled as 30:70 electric arc furnace (EAF): ArcelorMittal's (AM) XCarb product with the respective A1-A3 carbon factors of 0.84: 0.33 $kgCO_2e/kg$.
- AM XCarb rebar has also been included for steel reinforcement within the associate concrete elements within the substructure and superstructure.
- The base build raised access flooring (RAF) (19,808 m^2), which excludes WC areas, is based on the RMF Eco range tiles.
- Concrete elements are based on the GGBS proportions, and associated carbon factors, as confirmed to Sweco and set out in the A1-A3 inputs section earlier in this note.

Table 6.0 below shows the performance, provided at three levels – whole life carbon (A-C including B6 & B7), life cycle embodied carbon (A-C excluding B6 & B7) and upfront embodied carbon (A1-A5).

Table 6.0: Summary of Baseline RIBA Stage 2 WLC performance of ET at the three levels of detail, with all values as intensity ($kgCO_2e/m^2$ GIA) according to GLA.

EN 15978:2011 Modules	Whole Building (inc. contingencies) $kgCO_2e/m^2$ GIA
Whole Life Carbon (A-C inc. B6 & B7) **Including sequestration**	**2,397**
Life Cycle Embodied (A-C ex. B6 & B7) **Including sequestration**	**1,225**
Upfront Carbon (A1-A5)	**703**

Contingencies

As this assessment is still at an early design stage, suitable contingencies have been allowed for in the results. However, there are different types of contingencies applied, and these contingencies are only applicable to specific elements. For transparency, Table 7.0 below sets out the results across the various building elements, in intensity terms, and segregates the various contingencies applied. All of these contingencies then culminate in the total A1-A5 figures.

The façade scale-up factors are in line with CWCT guidance. The cost coverage factors reflect the coverage of building elements, as stated at the start of this note. Additionally, a 15% contingency is applied to account for early-stage design, which is deemed by the assessor an appropriate contingency to use at this stage.

This last contingency applies to all elements except for those elements where either separate contingencies have been applied (e.g. CWCT approach for façades), benchmarked data (e.g. external works, site activities and temporary works) and finally demolition of the existing building materials where a 10% contingency has been applied. This slightly reduced contingency applied to demolition is deemed appropriate as a thorough Pre-Refurbishment/Demolition Audit has been carried out during the initial design stages.

Table 7.0: A1-A5 results intensity ($kgCO_2e/m^2$ GIA) segregated out to highlight the various contingencies including in the reporting.

Building Element	Stage 2 - A1-A5 ($kgCO_2e/m^2$)					
	Results Intensity	Façade Scale up Factors (CWCT)		Cost Plan Coverage Factors	15% Contingency *	Total Intensity with Contingencies
Demolition	20			0	2	22
Substructure	22			1	3	26
Superstructure	216			2	33	250
External walls, windows & doors	145	7	7	0	0.6	160
Internal Walls & Doors	18			0	3	20
Finishes	23			1	4	28
Fittings	3			1	0	4
Building Services	109			27	20	157
External Works	17			0	0	17
Site Activities	26			0	0	26
Temporary Works	15			0	0	15
Total	**613**	**7**	**7**	**32**	**66**	**725**

*excludes: demolition, CWCT façade, external works, site activities and temporary works.

Reduction Opportunities

Further opportunities to reduce the upfront embodied carbon impact of the Proposed Development have been presented in the waterfall below. They cover modules A1-A5 only at this stage, given the current industry focus on upfront embodied carbon. All reductions are in intensity ($kgCO_2e/m^2$ GIA) and are measured against the base specification material.

The table below provides an estimated quantification of these further reductions in A1-A5 intensity terms. They are also illustrated in the subsequent waterfall chart. It should be noted that in a number of cases these reductions reported are cumulative i.e., the quantified reduction cannot be taken separately from the other associated reductions before it.

Material use efficiencies.

Material specification.

Site activities.

Table 8.0: Cumulative reduction opportunities for upfront carbon with estimated reduction quantities provided in A1-A5 intensity.

Item	Reduction Measure (Description)	Intensity Reduction $kgCO_2e$ A1-A5
1	High recycle content for substructures elements - in-situ concrete - Piles 70% GGBS (137.3 $kgCO_2e/m^3$ A1-A5). Other elements - 50% GGBS (206 $kgCO_2e/m^3$).	**-4.3**
2	High recycled content superstructure - in-situ concrete-50% GGBS (206 $kgCO_2e/m^3$).	**-13.8**
3	Optimise column grid - Reduce to a 9x6 Grid instead of 9x12	**-8.4**
4	Cantilever reduction	**-1.7**
5	Residual moment connection - this would allow a reduction in steel weight	**-1.7**
6	Review of the floor to ceiling height - cable trays under the beam implies no rectangular openings into beams	**-1.7**
7	Columns - CFT columns instead of S460	**-1.7**
8	Steel design optimisation (omit 10%) from the new tonnage excluding connections and specials allowances	**-3.6**
9	10% of steel tonnage as per reused steel specification (e.g. EMR Steel)	**-1.2**
10	Office Metal Decking 100% XCarb + Magnelis	**-5.2**
11	Metal Decking - Optimisation of concrete and rebar quantity	**-8.0**

Item	Reduction Measure (Description)	Intensity Reduction $kgCO_2e$ A1-A5
12	Extrusions made with high recycled content (Hydro Circal75 billet)	-5.6
13	RAF - RMG600+ at WC'S and CAT A areas	-1.3
14	Lendlease Data - electrified site apart from HVO concrete pumps	-17.9

- **Items 3,4,5,6 and 7** – provided by ARUP.
- **Item 14**– provided by Lendlease.
- Other items calculated by Sweco.

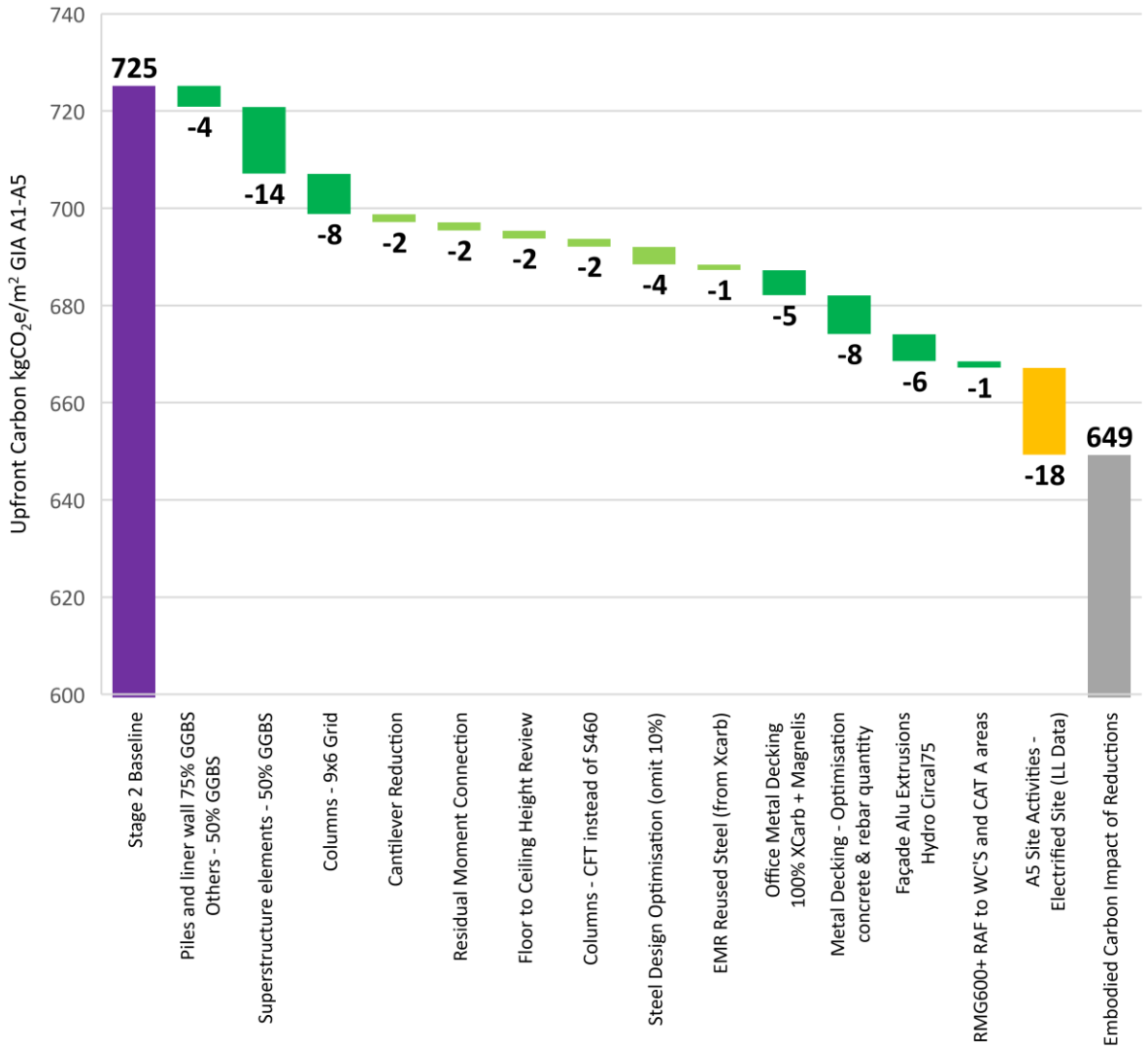


Figure 1.0: Cumulative waterfall chart with further reduction opportunities for upfront carbon with estimated reduction quantities provided in A1-A5 intensity. Y axis starts at 600 $kgCO_2e/m^2$ GIA to make reductions easier for the reader to view.

All of the reduction opportunities above are based on information available at this stage in the design. However, is worth noting that they will need to be re validated with updated information as the design progresses and more detail is known for certain elements i.e., there is no guarantee that these quantified reductions will remain static throughout the design stages. They should instead be seen as indicative opportunities to be reviewed and revisited as the project moves through the design stages and a greater granularity in detail is available. It is also worth reiterating that the reductions shown in Table 8 and Figure 1 are cumulative, and in some instances the specific reduction figure calculated is dependent upon, or influenced by, the reduction measures that precede it in the list. For example, item 9 would change if items 4-8 were not realised, as this would impact on the resulting steel tonnage where the 10% reduction is then calculated.

It is worth highlighting current industry shifts in relation to the use of GGBS as a means to reduce carbon emissions in concrete. Firstly, Sweco has been made aware of forthcoming increase to the carbon content of GGBS, based on a reallocation of its status as a coproduct, rather than a biproduct, in the steel manufacturing process.

Secondly there is a general understanding that, as a constrained or limited resource, the over specification of GGBS in one project may limit its availability in others. Hence a question is raised over its effectiveness to reduce greenhouse gas (GHG) emissions at a global scale. This is all to say that the reductions above, which are based on GGBS percentages currently, may be better understood in terms of their respective carbon factors rather than stated GGBS percentages. That way emerging cement replacement technologies i.e., alternatives to GGBS, can be considered in the context of delivering the same carbon factor. This is an aspect that would be closely monitored throughout progressed design stages.

This chapter has reported on the WLCA for the Proposed Development as part of the Applicant's planning submission. Monitoring, predicting, and striving to optimise operational and embodied carbon has been a key part of the clients brief for the Proposed Development from the outset, and this has therefore underpinned the design of the development up until this application submission. This statement is evidenced by the significant number of low carbon material optimisation measures that are described and reported in this chapter. This same impetus will continue to be the focus for the scheme moving forwards into more progressed stages in design.

Project details	
Project name	Euston Tower
Planning application reference number / if available	ref: 23/5242/F
Principal building function	Workspace (Class E(g)), Retail (Class E) and Enterprise Space (Class E/F)
Brief description of the project	Redevelopment of Euston Tower comprising retention of parts of the existing building (including central core, basement and foundations) and erection of a new building incorporating these retained elements, to provide a 32-storey mixed-use building providing offices and research and development floorspace (Class E(g)) and office, retail, café and restaurant space (Class E) and Enterprise space (Class E/ F) at ground and first, and associated external terraces; public realm enhancements, including new landscaping and provision of new publicly accessible steps and ramp; short and long stay cycle storage; servicing; refuse storage; plant and other ancillary and associated work.
GIA (m²)	79,825

Assessment details	
Assessor Organisation (if applicable)	Steve Down, Sweco UK
Date of assessment	15 November 2024
Operational modelling methodology for Module B6 results	TM54
Reference study period (if not 60 years)	[This cell should only be filled in if the reference study period, i.e. the assumed building life expectancy, exceeds or is less than 60 years. Applicants should state the reference study period in this cell. While the assessment should still be done to 60 years, applicants may, if they choose to, submit an additional assessment of the modules B, C and D for the actual reference study period by copying and pasting an additional 'GWP potential for all life-cycle modules' table, see below].
Software tool used	One Click LCA
Types of EPDs and carbon database used	Gabi, Ecoinvent
Please confirm if 95% of the cost allocated to each building element category has been accounted for in the assessment	Yes
Explanation of mechanisms which have been adopted to quality assure the submission	Internal QA from Sweco Head of Buildings Whole Life Carbon Matthew Mapp, review of all quantities with QS Gardiner & Theobald, wider review of material quantities and base inputs from the whole design team, third party review of feasibility studies, findings of which informed some of the approaches in the WLCA.
Please confirm whether you have submitted this assessment to the Built Environment Carbon Database (https://www.becd.co.uk/) or if you give permission for the GLA to do this on your behalf by checking one of the following boxes	I have submitted this assessment to the BECD ☐ I give permission for the GLA to submit this assessment to the BECD on my behalf ☐

Key	
	Data automatically calculated - no direct input required
	Cells that require information / data inputting
	N/A

Estimated WLC emissions
N.B. This forms the WLC baseline for the development. The green cells will automatically populate from the tables below

	Module A1-A5 (excluding sequestered carbon)	Modules B-C (excl B6 & B7)	Modules A-C (excl B6 & B7, including sequestered carbon)	Module B1-B5	Module B6-B7	Module C1-C4	Module D
TOTAL kg CO_2e	56,131,519 kg CO2e	42,834,125 kg CO2e	97,779,940 kg CO2e	37,822,438 kg CO2e	93,522,015 kg CO2e	5,011,687 kg CO2e	-24,969,985 kg CO2e
TOTAL kg CO_2e/m² GIA	703	537	1,225	474	1,172	63	-313
Please select most appropriate benchmark from drop-down menu	Offices						
WLC Benchmark	<950	<450	<1400				
Aspirational WLC Benchmark	<600	<370	<970				
Comparison with WLC benchmarks (see Appendix 2 of the guidance)	The WLCA results presented during the application stage all fall below the GLA WLCA Guidance targets for both upfront and total whole life cycle (WLC) carbon. Notably, the upfront embodied carbon is well below the GLA WLC benchmark. The planning documentation outlines opportunities to further reduce carbon emissions and move closer to the GLA's 'aspirational' performance benchmarks. However, it's important to note that the targets are not directly comparable due to the lab-enabled requirements for some floors; this increases the emissions associated with MEP equipment in particular, which skews the B1-C4 values in a fairly significant way due to the inclusion of this use type. This is why there is a disparity between the reported value and the benchmark in this area only.						

Retention of existing buildings and structures	
Confirmation that options for retaining existing buildings and structures have been fully explored before considering substantial demolition	The carbon figures presented on this document represent the 'partial retention and extension (retain the core)' option represented within the feasibility studies that have been prepared for the planning application submission. Please refer to this document and the Sustainability and Circular Economy Statements for further details on this key point.
Carbon emissions associated with pre-construction demolition (kgCO2)	1,756,149
Estimate of the percentage of the new build development which will be made up of existing elements	10%

Summary of key actions to reduce whole life-cycle carbon emissions that have informed this assessment, including the WLC reductions	Actions included in WLC assessment results reported	WLC reduction (kg CO_2e/m² GIA)
	XO70 EAF/Xcarb structural steel	-171
	Xcarb rebar	-16
	Clouted RAF for landlord areas (excluding WCs)	-9
	High recycled content in substructures elements (50%GGBS)	-2

Specify further opportunities to reduce the development's whole life-cycle carbon emissions, including the WLC reduction potential	Further potential opportunities	WLC reduction potential (kg CO_2e/m² GIA)
	High recycled content in substructures elements	-4
	Office Metal Decking: 150% XCarb + Magnetis	-5
	Metal Decking - Optimisation concrete and rebar quantity	-8
	Steel Design Optimisation (omit 10%)	-4
	Structural Steel Reuse - 10%	-1
	Optimise Column Grid - Module to a 9x9 Grid instead of 9x12	-9
	Optimise Column Grid - Grid of 5400	-2
	Cantilever Reduction	-2
	Residual Moment Connection - Residual Moment Connections would allow to reduce steel weights	-2
	Storeye of the Floor to Ceiling Height - Cable Trays under the beam implies no rectangular openings into beams	-2
	High recycled content in superstructures elements	-14
	Extrusions made with high recycled content (Hydro Circal75 billet)	-6
	DAF - RMG650+ for WCS and CAT A areas	-1

MATERIAL QUANTITY AND END OF LIFE SCENARIOS		Product and Construction Stage (Module A)		Assumptions made with respect to maintenance, repair and replacement cycles (Module B)	Material 'end of life' scenarios (Module C)	Benefits and loads beyond the system boundary (Module D)	
Building element category		Material type	Material quantity (kg)			Estimated reusable materials (kg)	Estimated recyclable materials (kg)
Note/example		Breakdown of material type in each category (insert more lines if needed) E.g. Concrete a e.g. Reinforcement e.g. Formwork	65000 kg 5000 kg 250 kg	For all primary building systems (structure, substructure, envelope, MEP services, internal finishes) including assumed material/product lifespans and annual maintenance/repair %	Declare 'end of life' scenario as per project's Circular Economy Statement, and used in the WLC assesement to produce Module C results	0 kg 2 kg 0 kg	25 kg 8 kg 0 kg
0.1	Demolition: Toxic/Hazardous/Contaminated Material Treatment	None - Category not required	0		n/a	0 kg	0 kg
0.2	Major Demolition Works	Based on benchmarks - insufficient detail to quantify	0		n/a	0 kg	0 kg
0.3	Temporary Support to Adjacent Structures	Based on benchmarks - insufficient detail to quantify	0		n/a	0 kg	0 kg
0.4	Specialist Ground Works	None - Category not required	0		n/a	0 kg	0 kg
1	Substructure	Concrete - C32/40	10,408,042	60 years	Concrete crushed to aggregate	0 kg	10,147,841 kg
		EPS	10,126	60 years	Plastic based material incineration	0 kg	0 kg
		Excavation	10,324,160	n/a	Beneficial use of excavated materials	0 kg	0 kg
		Rebar	641,672	60 years	Steel recycling	0 kg	628,838 kg
		Steel	174,215	60 years	Steel recycling	12,195 kg	162,020 kg
		Waterproof Membrane	814	60 years	Plastic based material incineration	0 kg	0 kg
2.1	Superstructure: Frame	Concrete - C32/40	2,860,416	60 years	Concrete crushed to aggregate	0 kg	2,788,906 kg
		Intumescent Paint	123,200	60 years	Inert material - landfilling	0 kg	0 kg
		Rebar	209,081	60 years	Steel recycling	0 kg	362,020 kg
		Structural Steel	8,492,644	60 years	Steel recycling	594,485 kg	7,898,159 kg
2.2	Superstructure: Upper Floors	Concrete - C32/40	28,137,408	60 years	Concrete crushed to aggregate	0 kg	28,675,157 kg
		EPS	12,408	60 years	Plastic based material incineration	0 kg	0 kg
		Galvanized steel	83,822	60 years	Steel recycling	0 kg	86,469 kg
		Hot-dip galvanized steel sheets	25,752	60 years	Steel recycling	0 kg	25,237 kg
		Laminated high density polyethylene membrane	740	60 years	Plastic based material incineration	0 kg	0 kg
		Metal deck	1,110,720	60 years	Steel recycling	0 kg	1,227,138 kg
		Rebar	1,178,252	60 years	Steel recycling	0 kg	1,037,045 kg
		Screed	2,267,132	60 years	Cement/mortar use in a backfill	0 kg	2,267,132 kg
2.3	Superstructure: Roof	Concrete - C32/40	1,053,911	60 years	Concrete crushed to aggregate	0 kg	1,027,563 kg
		Galvanized steel	3,426	60 years	Steel recycling	0 kg	3,358 kg
		Gravel	307,392	30 years	Do nothing	0 kg	0 kg
		Hot-dip galvanized steel sheets	1,776	60 years	Steel recycling	0 kg	1,740 kg
		Metal deck	48,625	60 years	Steel recycling	0 kg	47,653 kg
		Precast concrete paving	93,295	30 years	Rebar separated (2 %), concrete to aggregate	0 kg	88,630 kg
		Rebar	33,206	60 years	Steel recycling	0 kg	32,542 kg
		Sand	19,238	30 years	Do nothing	0 kg	0 kg
		Screed	366,379	60 years	Cement/mortar use in a backfill	0 kg	348,060 kg
		Steel Pedestals	6,450	30 years	Steel recycling	323 kg	5,999 kg
		Storange tank	832	30 years	Do nothing	0 kg	0 kg
		Waterproof Membrane	15,087	30 years	Plastic based material incineration	0 kg	0 kg
		XPS Insulation	34,852	30 years	Plastic based material incineration	0 kg	0 kg
2.4	Superstructure: Stairs and Ramps	Concrete - C32/40	13,478	60 years	Concrete crushed to aggregate	0 kg	13,141 kg
		Rebar	739	60 years	Steel recycling	0 kg	724 kg
		Steel Stair	240,753	60 years	Steel recycling	16,853 kg	223,900 kg
		Wood handrail	4,579	30 years	Wood incineration	0 kg	0 kg
2.5	Superstructure: External Walls	Actuators	8,995	30 years	Glass Recycling / Aluminium Recycling	0 kg	8,545 kg
		Aluminium	289,676	60 years	Aluminium recycling	0 kg	278,089 kg
		Aluminium profiles glass railings	2,050	60 years	Aluminium recycling	0 kg	1,968 kg
		BMU (cable, eletric motor	23,598	60 years	Metal-containing product recycling (90 % metal)	0 kg	21,238 kg
		Brackets	42,763	60 years	Steel recycling	2,138 kg	39,769 kg
		Galvanised Steel	172,473	60 years	Steel recycling	8,624 kg	160,400 kg
		GRC	1,117,954	60 years	Concrete crushed to aggregate	0 kg	1,078,826 kg
		Mineral wool	6,054	60 years	Landfilling (for inert materials)	0 kg	0 kg
		Plasterboard	360,705	30 years	Gypsum recycling	0 kg	61,320 kg
		Rockwool	170,786	60 years	Landfilling (for inert materials)	0 kg	0 kg
		Steel	21,150	60 years	Steel recycling	1,057 kg	19,669 kg
		Steel Studwork	17,200	30 years	Steel recycling	860 kg	15,996 kg
		Ventilation louvres	21,911	60 years	Steel recycling	1,096 kg	20,377 kg
2.6	Superstructure: Windows and External Doors	Aluminium & Glass Door	11,033	30 years	Glass Recycling / Aluminium Recycling	0 kg	10,481 kg
		Aluminium Profile	178,151	60 years	Aluminium recycling	0 kg	171,025 kg
		Laminated Glass	511,086	30 years	Glass recycling	0 kg	311,762 kg
2.7	Superstructure: Internal Walls and Partitions	Aluminium and Glass partitioning	48,546	30 years	Glass Recycling / Aluminium Recycling	0 kg	46,119 kg
		Cement Mortar	146,344	60 years	Cement/mortar use in a backfill	0 kg	139,027 kg
		Insulation	113,151	30 years	Landfilling (for inert materials)	0 kg	0 kg
		Plasterboard	1,505,225	30 years	Gypsum recycling	0 kg	255,888 kg
		Precast Blockwork	1,431,384	60 years	Concrete crushed to aggregate	0 kg	1,395,599 kg
		Stainless steel	4,922	30 years	Steel recycling	246 kg	4,577 kg
		Steel Studwork	220,375	30 years	Steel recycling	11,019 kg	204,949 kg
2.8	Superstructure: Internal Doors	Aluminium Doors	1,226	30 years	Glass Recycling / Aluminium Recycling	0 kg	1,164 kg
		Timber Doors	106,010	30 years	Wood incineration	0 kg	0 kg
3	Finishes	Adhesive	136,012	10 years	Inert material - landfilling	0 kg	0 kg
		Carpet	23,194	10 years	Plastic-based material incineration	0 kg	0 kg
		Ceramic Tile	95,150	10 years	Brick/stone crushed to aggregate	0 kg	90,393 kg
		Dust Sealant	39	10 years	Inert material - landfilling	0 kg	0 kg
		Epoxy Paint	5,688	10 years	Inert material - landfilling	0 kg	0 kg
		HDPE	1,007	10 years	Plastic based material incineration	0 kg	0 kg
		Insulation	12,202	30 years	Plastic based material incineration	0 kg	0 kg
		Natural Stone	310,548	20 years	Brick/stone crushed to aggregate	0 kg	295,021 kg
		Paint (general)	11,762	10 years	Inert material - landfilling	0 kg	0 kg
		Plasterboard	221,188	20 years	Gypsum recycling	0 kg	37,602 kg
		RAF	646,938	30 years	Steel recycling, plastic-based material incineration & chipboard incineration (various)	0 kg	614,591 kg
		Screed	463,023	30 years	Cement/mortar use in a backfill	0 kg	439,872 kg
		Steel Studwork	26,553	20 years	Steel recycling	1,328 kg	24,694 kg
4	Fittings, furnishings & equipment (FFE)	Lockers	8,835 kg	30 years	Various - constituent material dependant.	0 kg	0 kg
		Galvanised Steel - Bike racks	30,960 kg	20 years	Steel recycling	1,548 kg	28,793 kg
		Turnstile	5,166 kg	30 years	Metal-containing product recycling (90 % metal)	0 kg	4,649 kg
5	Services (MEP)	AHU	191,772	20 years	Metal-containing product recycling	0 kg	76,709 kg
		ASHP	68,700	15 years	Metal-containing product recycling	0 kg	48,090 kg
		Buffer storage (stainless steel)	34,116	15 years	Metal-containing product recycling	0 kg	23,881 kg
		Busbar	28,788	35 years	Various - constituent material dependant.	0 kg	0 kg
		Cable tray	40,630	40 years	Steel recycling	0 kg	38,599 kg
		Cast Iron Pipes	58,605	35 years	Steel recycling	0 kg	52,744 kg
		Ceiling heating and cooling system	80,475	25 years	Metal-containing product recycling (90 % metal)	0 kg	72,428 kg
		Chillers	17,320	15 years	Metal-containing product recycling (90 % metal)	0 kg	15,588 kg
		Circulating Pump	18,615	20 years	Metal-containing product recycling (90 % metal)	0 kg	16,753 kg
		Copper Pipe	5,309	45 years	Copper recycling	0 kg	4,778 kg
		Diffusers	10,687	25 years	Aluminium recycling	0 kg	4,275 kg
		Electric water heater	6,944	25 years	Metal-containing product recycling (90 % metal)	0 kg	6,250 kg
		Electricity Cabling	139,974	35 years	Metal-containing product recycling	0 kg	69,987 kg
		Electronic soap	2,333	25 years	Metal-containing product recycling (90 % metal)	0 kg	2,100 kg
		Escalator	13,440	20 years	Metal-containing product recycling (90 % metal)	0 kg	12,096 kg
		Fan	809	20 years	Metal-containing product recycling (90 % metal)	0 kg	728 kg
		Fire and lightning protection system	17,371	30 years	Various - constituent material dependant.	0 kg	0 kg
		GFRP	838	60 years	Metal-containing product recycling (90 % metal)	0 kg	754 kg
		Glass Wool Insulation	33,659	30 years	Landfilling - inert	0 kg	0 kg
		HDPE Pipe	4,917	25 years	Plastic based material incineration	0 kg	0 kg
		Hot water radiator	5,025	10 years	Metal-containing product recycling (90 % metal)	0 kg	4,522 kg
		Lifts	423,622	20 years	Metal-containing product recycling (90 % metal)	0 kg	381,260 kg
		Lighting	43,151	20 years	Landfilling (for inert materials)	0 kg	19,418 kg
		Lighting control	45,154	20 years	Landfilling (for inert materials)	0 kg	20,319 kg
		MVHR	3,872	20 years	Metal-containing product recycling (90 % metal)	0 kg	3,485 kg
		PV system	6,317	25 years	Metal-containing product recycling (90 % metal)	0 kg	5,685 kg
		PVC Pipe	11,304	35 years	Plastic based material incineration	0 kg	0 kg
		Security system	2,484	30 years	Various - constituent material dependant.	0 kg	0 kg
		Shower Screen	4,579	25 years	Glass-containing product recycling (80 % glass)	0 kg	3,663 kg
		Shower Trays	2,160	25 years	Landfilling (for inert materials)	0 kg	0 kg
		Stainless steel	1,005	25 years	Metal-containing product recycling (90 % metal)	0 kg	953 kg
		Standby Generator Flue	276	35 years	Metal-containing product recycling (90 % metal)	0 kg	248 kg
		Steel Duct	96,448	40 years	Steel recycling	0 kg	38,579 kg
		Steel Pipe	88,728	30 years	Steel recycling	0 kg	79,855 kg
		Steel sinks	173	25 years	Steel recycling	0 kg	164 kg
		Stone wool/mineral wool insulation	14,444	30 years	Landfilling - inert	0 kg	0 kg
		Taps	1,709	25 years	Metal-containing product recycling (90 % metal)	0 kg	1,538 kg
		Transformer	24,636	30 years	Various - constituent material dependant.	0 kg	0 kg
		Trench Heaters	51,968	15 years	Various - constituent material dependant.	0 kg	0 kg
		Underfloor heating system	1,451	30 years	Metal-containing product recycling (90 % metal)	0 kg	1,306 kg
		Washbasins	5,000	25 years	Landfilling (for inert materials)	0 kg	0 kg
		Water tanks (Cat 1, Cat 5 etc.)	7,104	35 years	Plastic based material incineration	0 kg	0 kg
		WCs	13,464	25 years	Landfilling (for inert materials)	0 kg	0 kg
6	Prefabricated Buildings and Building Units	None - Category not required	0	0	n/a	0 kg	0 kg
7	Work to Existing Building	None - Category not required	0	0	n/a	0 kg	0 kg
8	External works	Kerbs/Edging	52,536	30	Brick/stone crushed to aggregate (for sub-base layers)	0 kg	52,536 kg
		Drainage Piping	2730.29	30	Plastic-based material incineration	0 kg	0 kg
		Waterproof membrane	5976.52	30	Landfilling (for inert materials)	0 kg	0 kg
		Bedding for paving - aggregate	1194240	30	Back filling for inert material	0 kg	1,164,384 kg
		Natural Sone Pavers	811187.52	30	Brick/stone crushed to aggregate (for sub-base layers)	0 kg	790,908 kg
		Hot dip galvanised steel sheet	21265.65	30	Steel recycling	1,063 kg	19,777 kg
		Precast seating/edging - stainless steel	22997.71	30	Stainless steel recycling	1,150 kg	21,388 kg
		Precast seating/edging - concrete	38301.12	30	Concrete crushed to aggregate (for sub-base layers), Portland Cement 200 kg / m3	0 kg	37,344 kg
		Precast seating/edging - timber	16120.47	30	Wood incineration	0 kg	0 kg
		Precast seating/edging - powder coating	40.17	30	Landfilling (for inert materials)	0 kg	0 kg
		Timber decking	2424.4	30	Wood incineration	0 kg	0 kg
		LED strip lighting	198.47	30	Metal-containing product recycling (90 % metal)	0 kg	89 kg
Refrigerants		**Refrigerant name**	**Initial Charge(kg)**	**Annual leakage rate %**	**Refrigerant GWP (kgCO_2e/kg)**	**End of Life recovery rate %**	
a	Refrigerants Type 1 (if applicable) - please see CIBSE TM65 for methodology	R513A	2,760 kg	2%	656.45	99%	
b	Refrigerants Type 2 (if applicable) - please see CIBSE TM65 for methodology	R513A	1,000 kg	2%	656.45	99%	
c	Refrigerants Type 3 (if applicable) - please see CIBSE TM65 for methodology	R-32	315 kg	6%	675	97%	
		TOTAL	80,637.120 kg			653,984 kg	65,974,857 kg
		Material intensity (kg/m2 GIA)	1,010 kg/m2 GIA			8 kg/m2 GIA	826 kg/m2 GIA

Please add rows where more than 1 material type exists per building element category

Please add rows if required

GWP POTENTIAL FOR ALL LIFE-CYCLE MODULES ($kgCO_2e$) [See Note 1 below if you entered a reference study period in cell C12]		Sequestered (or biogenic) carbon (negative value) ($kgCO_2e$)	Product stage ($kgCO_2e$)	Construction process stage ($kgCO_2e$)		Use stage ($kgCO_2e$)							End of Life (EoL) stage ($kgCO_2e$)				TOTAL Modules A-C $kgCO_2e$	Benefits and loads beyond the system boundary ($kgCO_2e$)
			Module A			Module B							Module C					Module D
Building element category			[A1] to [A3]	[A4]	[A5]	[B1]	[B2]	[B3]	[B4]	[B5]	[B6]	[B7]	[C1]	[C2]	[C3]	[C4]		
0.1	Demolition: Toxic/Hazardous/Contaminated Material Treatment												0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e
0.2	Major Demolition Works												1,756,149 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	1,756,149 kg CO2e	0 kg CO2e
0.3	Temporary Support to Adjacent Structures	0 kg CO2e	0 kg CO2e	0 kg CO2e	1,197,374 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	1,197,374 kg CO2e	0 kg CO2e
0.4	Specialist Ground Works	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e
0.5	Temporary Diversion Works	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e
1	**Substructure**	0 kg CO2e	1,700,843 kg CO2e	297,249 kg CO2e	83,472 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			9,767 kg CO2e	71,375 kg CO2e	32,342 kg CO2e	0 kg CO2e	2,195,048 kg CO2e	-334,662 kg CO2e
2.1	Superstructure: Frame	0 kg CO2e	8,420,846 kg CO2e	1,604,006 kg CO2e	381,338 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			48,356 kg CO2e	384,255 kg CO2e	22,384 kg CO2e	338 kg CO2e	10,861,524 kg CO2e	-3,949,708 kg CO2e
2.2	Superstructure: Upper Floors	0 kg CO2e	7,106,399 kg CO2e	652,277 kg CO2e	306,290 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			40,808 kg CO2e	202,863 kg CO2e	47,840 kg CO2e	0 kg CO2e	8,356,476 kg CO2e	-3,839,672 kg CO2e
2.3	Superstructure: Roof	0 kg CO2e	569,829 kg CO2e	47,376 kg CO2e	31,543 kg CO2e	0 kg CO2e	17,265 kg CO2e	4,316 kg CO2e	310,065 kg CO2e	0 kg CO2e			3,272 kg CO2e	8,645 kg CO2e	97,926 kg CO2e	23 kg CO2e	1,090,261 kg CO2e	-295,253 kg CO2e
2.4	Superstructure: Stairs and Ramps	-7,424 kg CO2e	746,431 kg CO2e	41,812 kg CO2e	75,389 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	64,288 kg CO2e	0 kg CO2e			4,286 kg CO2e	9,863 kg CO2e	9,167 kg CO2e	0 kg CO2e	943,813 kg CO2e	-655,542 kg CO2e
2.5	Superstructure: External Walls	0 kg CO2e	11,964,947 kg CO2e	650,630 kg CO2e	22,139 kg CO2e	0 kg CO2e	385,797 kg CO2e	96,449 kg CO2e	2,654,690 kg CO2e	0 kg CO2e			68,708 kg CO2e	37,710 kg CO2e	502 kg CO2e	63,561 kg CO2e	15,945,133 kg CO2e	-189,075 kg CO2e
2.6	Superstructure: Windows and External Doors	0 kg CO2e	104,764 kg CO2e	2,027 kg CO2e	0 kg CO2e	0 kg CO2e	2,842 kg CO2e	711 kg CO2e	200,823 kg CO2e	0 kg CO2e			602 kg CO2e	486 kg CO2e	3 kg CO2e	7 kg CO2e	312,262 kg CO2e	-370 kg CO2e
2.7	Superstructure: Internal Walls and Partitions	0 kg CO2e	1,260,043 kg CO2e	124,018 kg CO2e	122,379 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	1,210,582 kg CO2e	0 kg CO2e			7,236 kg CO2e	48,438 kg CO2e	2,196 kg CO2e	458 kg CO2e	2,775,350 kg CO2e	-1,140,089 kg CO3e
2.8	Superstructure: Internal Doors	-182,624 kg CO2e	117,305 kg CO2e	4,120 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	123,264 kg CO2e	0 kg CO2e			674 kg CO2e	521 kg CO2e	211,272 kg CO2e	64 kg CO2e	274,595 kg CO2e	-27 kg CO2e
3	**Finishes**	-980,416 kg CO2e	1,905,060 kg CO2e	129,719 kg CO2e	175,177 kg CO2e	0 kg CO2e	58,815 kg CO2e	14,704 kg CO2e	4,217,663 kg CO2e	0 kg CO2e			10,940 kg CO2e	37,340 kg CO2e	1,212,185 kg CO2e	53 kg CO2e	6,781,241 kg CO2e	-2,526,131 kg CO2e
4	**Fittings, furnishings & equipment**	-11,957 kg CO2e	317,607 kg CO2e	10,831 kg CO2e	18,100 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	469,871 kg CO2e	0 kg CO2e			1,824 kg CO2e	2,317 kg CO2e	13,988 kg CO2e	4 kg CO2e	822,585 kg CO2e	-341,928 kg CO2e
5	**Services (MEP)**	-53 kg CO2e	12,074,216 kg CO2e	371,107 kg CO2e	87,031 kg CO2e	3,852,000 kg CO2e	333,530 kg CO2e	83,383 kg CO2e	23,093,873 kg CO2e	0 kg CO2e	48,972,293 kg CO2e	43,773,378 kg CO2e	776,345 kg CO2e	69,336 kg CO2e	77,630 kg CO2e	102,326 kg CO2e	1,084 kg CO2e	133,667,477 kg CO2e
6	**Prefabricated Buildings and Building Units**	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e
7	**Work to Existing Building**	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e			0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e
8	**External works**	-3,230 kg CO2e	974,586 kg CO2e	325,345 kg CO2e	32,444 kg CO2e	0 kg CO2e	0 kg CO2e	0 kg CO2e	627,506 kg CO2e	0 kg CO2e			5,597 kg CO2e	204,462 kg CO2e	80,257 kg CO2e	250 kg CO2e	2,247,217 kg CO2e	-272,935 kg CO2e
Other site construction impacts or overall construction stage (A5) carbon emissions not specific to individual building element category					2,075,449 kg CO2e												2,075,449 kg CO2e	
TOTAL kg CO_2e		**-1,185,705 kg CO2e**	**47,262,876 kg CO2e**	**4,260,518 kg CO2e**	**4,608,125 kg CO2e**	**3,852,000 kg CO2e**	**798,250 kg CO2e**	**199,562 kg CO2e**	**32,972,626 kg CO2e**	**0 kg CO2e**	**92,745,671 kg CO2e**	**776,345 kg CO2e**	**2,027,554 kg CO2e**	**1,085,905 kg CO2e**	**1,832,386 kg CO2e**	**65,842 kg CO2e**	**191,301,955 kg CO2e**	**-24,960,985 kg CO2e**
TOTAL - kg CO_2e/m² GIA		**-15 kg CO2e/m2 GIA**	**592 kg CO2e/m2 GIA**	**53 kg CO2e/m2 GIA**	**58 kg CO2e/m2 GIA**	**48 kg CO2e/m2 GIA**	**10 kg CO2e/m2 GIA**	**3 kg CO2e/m2 GIA**	**413 kg CO2e/m2 GIA**	**0 kg CO2e/m2 GIA**	**1,162 kg CO2e/m2 GIA**	**10 kg CO2e/m2 GIA**	**25 kg CO2e/m2 GIA**	**14 kg CO2e/m2 GIA**	**23 kg CO2e/m2 GIA**	**1 kg CO2e/m2 GIA**	**2,397 kg CO2e/m2 GIA**	**-313 kg CO2e/m2 GIA**

Notes:
1 If you have entered a reference study period in cell C12 because the assumed building life expectancy is greater or less than 60 years, then you will need to fill in this table using a 60 year building life expectancy. If you choose to, you may create a second table below and complete it using the actual assumed life expectancy. This should be clearly labelled.