

BREEAM Version 6 New Construction Score Summary															
Targeted Score: 76.4% EXCELLENT Score with potential credits: 86.5% OUTSTANDING							Minimum Standards	Credits	Exemplary	Targeted	Potential	RIBA Stage 1-2 Criteria	Credit Overview		Responsibility
MANAGEMENT							18	0	17	1					
Man 01	Project brief and design												Define roles, responsibilities and contributions of each team member before end of RIBA Stage 2. Evidence how stakeholder input influences initial project brief, project execution plan, communication strategy and concept design.		Project Manager / Client
	Project delivery planning						1	-	1		✓	All third party stakeholders consulted with (e.g. local residents) / feedback given to consultees		Client / Architect	
	Stakeholder consultation						1	-	1		✓	AP appointed at RIBA Stage 1/2 and BREEAM targets set		Client appointment (EA to carry out role)	
	BREEAM AP (concept design)						1	-	1			AP monitor progress throughout design & report		as above.	
	BREEAM AP (developed design)						1	-	1			LCC RIBA Stage 2 and LCC analysis shows: a) outline LCC plan - structure and envelope b) fabric and servicing strategy - services and fit out		Specialist consultant	
Man 02	Life cycle cost and service life planning												Component LCC plan developed by RIBA Stage 4 including: Envelope, Services Finishes and External Spaces		Specialist consultant
	Elemental LCC						2	-	2		✓	Report the capital cost for the building in £k/m2		Project Manager / Client	
	Component level LCC options appraisal						1	-	1						
Man 03	Responsible construction practices												Pre-requisite: All timber to be legally sourced		
	Prerequisite - Legally harvested & traded timber						Yes	-	Yes			Contractors (who manage site) have an ISO 14001 EMS certificate and implement best practice pollution prevention in line with PPG 6		Contractor	
	Environmental management						1	-	1			BREEAM AP during construction - monitoring on site		Contractor appointment (EA to carry out role)	
	BREEAM AP (site)						1	-	1			Responsible construction management (e.g. CCS)		Contractor	
	Responsible construction management						1	2	-	2		Monitor energy & water data monthly and set targets for expected consumption		Contractor	
	Monitoring of construction site impacts - Energy & water						1	-	1			Monitor transport data monthly and set targets for expected consumption		Contractor	
	Transport of construction materials & waste						1	-	1						
Man 04	Commissioning and handover												Commissioning in line with regulations / programme of commissioning		M&E to Spec / Contractor to implement
	Commissioning - Testing schedule and responsibilities						-	1	-	1			Specialist commissioning manager (who was not involved in the general installation works)		M&E to Spec / Contractor to implement
	Commissioning - Design and preparation						1	-	1			Thermographic survey and air tightness testing		Contractor	
	Testing and inspecting building fabric						1	-		1					
	Handover						BUG	1	-	1		Non-technical and technical building user guides & training schedule covering BREEAM specific points		Contractor	

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HEALTH AND WELLBEING															
Hea 01	Visual comfort	Daylighting		1	-									Daylighting factors of 2% are met as per BREEAM guidance AND uniformity ratio is at least 0.3; at least 80% of the room has a view of the sky from desk height	Specialist consultant
		View out		1	-	1								View Out - all workstations are 8m from window AND window area is at least 20% of surrounding wall area, OR window to room depths comply with Table 1.0 BS 8206: Part 2 (25% where >8m, 30% where >11m and 35% where >14m)	Architect
		Internal and external lighting levels, zoning and control			1	-	1							Lighting guidance met - SLL Code for Lighting 2012 and CIBSE Lighting Guide 7 for Offices	M&E to Spec / Contractor to implement
Hea 02	Indoor air quality	Prerequisite - Indoor air quality (IAQ) plan			Yes	-	Yes							HEA 02 Pre-requisite: An IAQ Plan is carried out in accordance with BREEAM requirements to achieve any of the below credits:	Specialist consultant
		Ventilation			1	-		1						Designed to provide fresh air whilst minimising air pollutants: air intakes and exhausts over 10m apart & intakes 10m horizontal distance from sources of external pollution (e.g. car parks / roads)	M&E to Spec / Contractor to implement
Hea 04	Thermal comfort	Thermal Modelling CIBSE AM11			1	-	1							Thermal Modelling (in accordance with CIBSE AM11), to comply with CIBSE Guide A	M&E / Specialist consultant
		Design for future thermal comfort			1	-	1							Thermal Modelling - As above for a projected climate change environment	M&E / Specialist consultant
Hea 05	Acoustic performance	Acoustic performance			1	-	1							Building meets appropriate acoustic performance standards (and testing reqs) for a) sound insulation; b) indoor ambient noise level; c) room acoustics.	Acoustician (Architect to Spec, Contractor to appoint / implement)
Hea 06	Security	Security of site and building			1	-	1					✓		Security consultant appointed at design stage (RIBA Stage 2) to carry out a Security Needs Assessment	Architect / Contractor to implement security recommendations
Hea 07	Safe and healthy surroundings	Safe access			1	-	1							Delivery routes do not cross pedestrian or cyclist routes. Separate access routes for cyclists, pedestrians and vehicles	Architect
		Outside space			1	-		1						There is an outside space providing building users with an external amenity area.	Architect / Landscape Architect



Job No. 11539
Dunsbury Park Plot 400
tenant

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ENERGY				21	0	12	4	Credit Overview	
Ene 01	Reduction of energy use & carbon emissions	Energy Performance	4	9	-	5		Energy Performance Ratio for New Construction (SBEM modelling)	M&E / Specialist consultant (Contractor to carry out at PC)
		Prediction of operational energy consumption	-	4	-		4	Prediction of operational energy consumption: - Energy design workshop to be carried out at design stage with relevant members of design team - Energy modelling & reporting to predict operational energy consumption figures by end use, design assumptions and input data - Risk assessment to highlight any significant design, technical, and process risks	M&E / Specialist Consultant
Ene 02	Energy monitoring	Sub-metering of end-use categories	-	1	-	1		Sub-meters with pulsed output for major energy consuming systems and high energy load areas: Space heating, Domestic hot water heating, Humidification, Cooling, Ventilation, i.e. fans (major), Pumps, Lighting, Small power, Renewable or low carbon systems (separately), Controls, Other major energy consuming systems or plant	M&E to Spec / Contractor to implement
		Sub-metering of high energy load & tenancy areas		1	-	1		Accessible BEMS or accessible sub-meters for tenancy areas / relevant function areas / departments	M&E to Spec / Contractor to implement
Ene 03	External lighting	External Lighting		1	-	1		Average luminous efficacy of at least 70 luminaire lumens per circuit Watt <u>and</u> controls for daylighting <u>and</u> PIR in areas of intermittent pedestrian traffic	M&E to Spec / Contractor to implement
Ene 04	Low carbon design	Passive Design Analysis		1	-	1		✓ Hea 04 achieved and a Passive Design Analysis produced outlining opportunities for passive design solutions	M&E / Specialist Consultant
		Free Cooling		1	-	0		Above achieved / free cooling strategy implemented (or building naturally ventilated)	M&E
		LZC feasibility study		1	-	1		✓ Feasibility Study + LZC technology specified	M&E / Specialist Consultant
Ene 06	Energy efficient transport systems	Energy consumption		1	-	1		Transport demand analysis undertaken to determine correct number and size of lifts Lift comparison between at least 2 different lift types with the most energy efficient specified	M&E to Spec / Contractor to implement
		Energy efficient features - Lifts		1	-	1		Energy efficient features installed for system - standby mode for off peak periods, lift car lighting >70lm/W and variable speed, voltage and frequency. Regenerative drives where this is shown to be energy saving	M&E to Spec / Contractor to implement

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TRANSPORT							12	0	12	0					
Tra 01	Transport assessment & travel plan	Travel Plan					2	-	2			✓	Develop a travel plan based on a site-specific travel assessment, including analysis of Accessibility Index	Transport consultant	
Tra 02	Sustainable transport measures	Transport options implementation					10	-	10	0			Identify the sustainable transport measures (e.g. cycle storage, cyclist facilities, electric car charging points, car share schemes, travel information point, new bus service, improved cycle / pedestrian routes) AI >8 or >4 for prison or MOD sites, rural location sensitive buildings, and other building group 3 - 1 point AI increase via frequency increase - 2 points OR AI increase through diverted bus route or relocated bus stop - 2 points OR AI increase due to dedicated bus service - 3 points Provide a public transport information system in a publicly accessible area - 1 point EVC of 7kW for 10% of car parking - 1 point Car sharing group and spaces (5%) - 1 point LA consultation with pedestrian or cyclist route improvement - 2 points Cycle storage - 1 point Cyclist facilities - 1 point Existing amenities - 1 point 1 new amenity - 2 points OR >1 new amenity - 3 points	Client / Architect	
WATER							9	0	7	0					
Wat 01	Water consumption	Water consumption					-	5	-	3			Percentage improvement on baseline - litres / person / day 12.5% (1) / 25% (2) / 40% (3) / 50% (4) / 55% (5) / 65% (exemplar)	Architect to Spec / Contractor to implement	
Wat 02	Water monitoring	Water monitoring					1	1	-	1			Water meter on mains supply - pulsed output Sub-metering for areas expected to use more than 10% consumption	M&E to Spec / Contractor to implement	
Wat 03	Water leak detection	Leak detection system					1	-	1				Water leak detection between boundary and building and within building - alarm must be audible and programmable	M&E to Spec / Contractor to implement	
		Flow control devices					1	-	1				Cold water supply shut off valves linked to presence detectors in each WC area / facility	M&E to Spec / Contractor to implement	
Wat 04	Water efficient equipment	Water efficient equipment					1	-	1				Mitigate significant unregulated water demands <u>OR</u> Where there is no significant water demand	Landscape architect	



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MATERIALS														
Mat 01	Building life cycle assessment (LCA)	Superstructure		Minimum Standards	Credits	Exemplary	Targeted	Potential		✓	Life cycle assessment: - Comparison with the BREEAM benchmark (office, retail & industrial only) and options appraisal - Integrate the LCA options appraisal activity within the wider design decision-making process Early stage req: For maximum credits: LCA must be submitted to BRE prior to planning application	Architect / Specialist Consultant		
		Substructure and hard landscaping options appraisal during Concept Design			6	-	4			✓		as above.		
Mat 02	Environmental Product Declarations (EPDs)	Specification of products with a recognised EPD			1	-		1			Specification of products with a recognised EPD within the life cycle analysis. Must be at least 14 EPDs to	Architect to Spec / Contractor to implement		
Mat 03	Responsible sourcing construction products	Prerequisite - Legally harvested & traded timber	Yes	Yes	-	Yes					Pre-requisite : all timber to be legally sourced	Architect to Spec / Contractor to implement		
		Enabling sustainable procurement			1	-	1			✓	Sustainable Procurement Plan in place - all materials for the project	Architect / Developer		
		Measuring responsible sourcing			3	-	1	1			Responsible sourcing of materials (ISO / FSC etc)	Architect to Spec / Contractor to implement		
Mat 05	Design for durability & resilience	Design for durability and resilience			1	-	1				Protecting vulnerable parts of the building from damage / Protecting exposed parts of the building from material degradation	Architect and Contractor		
Mat 06	Material efficiency	Material efficiency			1	-	1			✓	Optimise the use of materials in building design, procurement, construction, maintenance and end of life	Architect and Contractor		

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WASTE							9	0	7	1					
Wst 01	Construction waste management	Pre-demolition audit	-	-			✓	Determine whether refurbishment or reuse is feasible / maximise recovery of materials					Client / Developer		
		Construction resource efficiency	3	-	2			Amount of Waste per 100m2 of GIFA - SWMP					Contractor		
		Diversion of resources from landfill	1	-	1			Meet with diversion from landfill benchmarks					Contractor		
Wst 02	Recycled & sustainably sourced aggregates	Prerequisite - Pre demolition audit	Yes	-	Yes		✓	Identify all aggregate uses / types on the project + total amounts (weight) and distance travelled - points calculated using Wst 02 calculator					Client / Developer		
		Project sustainable aggregate points	1	-		1							Contractor		
Wst 03	Operational waste	Operational waste	1	1	-	1		Dedicated, recyclable waste storage area: 1. At least 2m² per 1000m² of net floor area for buildings < 5000m² 2. A minimum of 10m² for buildings ≥ 5000m² 3. An additional 2m² per 1000m² of net floor area where catering is provided (with an additional minimum of 10m² for buildings ≥ 5000m²).					Architect		
Wst 05	Adaptation to climate change	Resilience of structure, fabric, building services and renewables installation	1	-	1		✓	Conduct a climate change adaptation strategy appraisal for structural and fabric resilience by the end of Concept Design - RIBA Stage 2					Specialist consultant		
Wst 06	Design for disassembly & adaptability	Design for disassembly and functional adaptability - recommendations	1	-	1		✓	Recommend a building-specific functional adaptation strategy - RIBA Stage 2					Architect / Specialist consultant		
		Disassembly and functional adaptability - implementation	1	-	1			Disassembly and functional adaptability strategy to be implemented - RIBA Stage 4					Architect / Contractor		

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ECOLOGY							13	0	7	1	
LE 01	Site selection	Previously Occupied Land	1	-				75% land pre-developed (building or hardstanding) in last 50 years		Client / Architect	
		Contaminated Land	1	-				Site investigation confirming contamination and remediation needed		Client / Contractor	
LE 02	Ecological risks & opportunities	Prerequisite	Yes	-	Yes		✓	Assessment route selection Determine Route 1 or Route 2 - GN 34 checklist		Ecologist	
		Survey and evaluation and Determining the ecological outcomes for the site(route 2)	2	-	2		✓	Route 1 (one credit) - checklist must be carried out to determine 'ecological value' Route 2 (two credits) - desktop study and survey by Suitably Qualified Ecologist (SQE) confirming current and potential ecological value & condition to determine baseline, risks to ecological value and feasibility for enhancement, including determining the zone of influence.		Ecologist	
LE 03	Managing impacts on ecology	Prerequisite - Achieved LE 02	Yes	-	Yes			Prerequisite - ID risks and opportunities for the site LE 02 must be achieved + EU & UK legislation will be implemented		Ecologist	
		Planning, liaison, implementation and data (route 2)	1	-	1			Route 1 and Route 2 (one credit) - Planning to be carried out for activities during site clearance and construction, including: - Roles and responsibilities for managing negative impacts on the ecology have been identified. - Determine timescales for implementing on-site measures - Ensure contract requirements focus on reducing and managing potential knock-on impacts of works (e.g. pollution and disturbance)		Ecologist	
		Managing negative impacts of the project (route 2)	2	-	1			Route 1 (one credit) - negative impacts are managed in accordance with mitigation hierarchy and no overall loss of ecological value Route 2 (Up to two credits) - Managing negative impacts of the project and construction works have been managed in accordance with the mitigation hierarchy One credit - minimising loss Two credits - no loss of ecological value		Ecologist / Landscape architect	

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LE 04	Ecological change & enhancement	Prerequisite - Achieved LE 03	Yes	-	Yes			ID risks and opportunities for the site LE 03 must be achieved + EU & UK legislation will be implemented	Ecologist	
		Ecological enhancement (route 2 only)	1	-	1			Route 2 only - Liaison, implementation and data collation: Ecological measures have been implemented that enhance the sites ecological value. Measures are based on: a) SQE recommendations b) input from the project team / relevant stakeholders and c) data collected for LE 02	Ecologist / Landscape architect	
		Change and enhancement of ecology (route 2)	3	-	0	1		Route 1 - n/a Route 2 Enhancement of ecology based on the change in ecological value, determined by a calculation carried out by the SQE	Ecologist / Landscape architect	
LE 05	Long term ecology management & maintenance	Prerequisite (route 2)	Yes	-	Yes			Prerequisite: Route 2 - LE03 credit 'Managing negative impacts of the project' is achieved AND at least one LE 04 credit for 'Change and enhancement of ecology'	Ecologist	
		Management and maintenance (route 2)	1	-	1			Route 2 - Measures are implemented to manage and maintain ecology through the project to ensure optimal ecological outcomes agreed in LE 02 are met. Information made available to future building user on ecological values.	Ecologist / Landscape architect	
		Landscape and ecology management plan (or similar) development (route 2)	1	-	1			Landscape and ecology management plan (or similar) development	Ecologist / Landscape architect	

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								Targeted
								Potential
						12	0	9
								1
POLLUTION								
Pol 01	Impact of refrigerants							
	Prerequisite - BS EN 378:2016 (ammonia)					Yes	-	Yes
	Impact of refrigerant					2	-	1
	Leak detection					1	-	1
Pol 02	Local air quality							
	Local air quality					2	-	2
Pol 03	Flood and surface water management							
	Prerequisite					Yes	-	Yes
	Flood resilience					2	-	2
	Surface water run-off rate					1	-	1
	Surface water run-off volume					1	-	1
	Minimum watercourse pollution					1	-	
Pol 04	Reduction of night time light pollution	Reduction of night time light pollution				1	-	1
Pol 05	Reduction of noise pollution	Reduction of noise pollution				1	-	1



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INNOVATION							-	10	4	6					
Inn 01	Man 03 - Responsible construction management	Man 03 - Responsible construction management	-	1	1				All responsible construction management criteria are met and evidenced by the Contractor	Contractor					
Inn 02	Hea 01 - Daylighting	Hea 01 - Daylighting	-	2					Daylighting levels achieved beyond standard BREEAM compliance	Specialist consultant					
Inn 05	Hea 06 - Security of site and building	Hea 06 - Security of site and building	-	1					A compliant risk based security rating scheme (SABRE) is used and confirmed by independent assessment and verification	Architect					
Inn 06	Ene 01 - Beyond zero net regulated carbon	Ene 01 - Beyond zero net regulated carbon	-	2					Energy performance beyond standard BREEAM compliance	M&E / Specialist consultant (Contractor to carry out at PC)					
Inn 07	Ene 01 - Carbon negative	Ene 01 - Carbon negative	-	1					Energy performance carbon negative	as above					
Inn 08	Ene 01 - Post occupancy stage	Ene 01 - Post occupancy stage	-	2					Contractual agreement to carry out DEC	Client					
Inn 09	Wat 01 - Water consumption	Wat 01 - Water consumption	-	1					Water consumption performance beyond standard BREEAM compliance	M&E to Spec / Contractor to implement					
Inn 10	Mat 01 - Core building services options appraisal during Concept Design	Mat 01 - Core building services options appraisal during Concept Design	-	1	1		✓		LCA including building services appraisal - must be carried out at concept design	Architect / Specialist Consultant					
Inn 11	Mat 01 - LCA and LCC alignment	Mat 01 - LCA and LCC alignment	-	1	1		✓		LCA and LCC carried out with same programme, and findings align	Architect / Specialist Consultant					
Inn 12	Mat 01 - Third party verification	Mat 01 - Third party verification	-	1	1		✓		LCA provider to provide third party verification of the LCA outputs	Architect / Specialist Consultant					
Inn 13	Mat 03 - Measuring responsible sourcing	Mat 03 - Measuring responsible sourcing	-	1					Responsible sourcing performance beyond standard BREEAM compliance	Contractor					
Inn 14	Wst 01 - Construction waste management	Wst 01 - Construction waste management	-	1					Waste consumption performance beyond standard BREEAM compliance	Contractor					
Inn 15	Wst 02 - Use of recycled and sustainably sourced	Wst 02 - Use of recycled and sustainably sourced aggregates	-	1					Waste aggregates performance beyond standard BREEAM compliance	Contractor					
Inn 16	Wst 05 - Responding to climate change	Wst 05 - Responding to climate change	-	1					Wst 05 credit achieved, AND credits for the following met: Hea 04; Ene 01 (6 credits); Ene 04 passive design; Wat 01 (3 credits); Mat 05 (environmental degradation); and Pol 03 (1 credit for resilience, 2 credits for surface water run off)	Specialist consultant					
Inn 17	LE 02 - Determine the ecological outcomes for the site (sustainability-related activities)	LE 02 - Determine the ecological outcomes for the site (sustainability-related activities)	-	1					LE 02 credits achieved, AND achieve the following: Hea 07 (both credits); Pol 03 (surface water run off and minimising watercourse pollution credits); and Pol 05.	Ecologist					

Targeted score: 76.4 EXCELLENT (Excellent Rating - 70% required)
Score with additional credits: 86.5 OUTSTANDING (Excellent Rating - 70% required)
Please note that we recommend a safety margin between 3-5%