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BREEAM Multi-Residential 2006

PRE-ASSESSMENT ESTIMATOR

IMPORTANT
(Please read this before using the checklist).

This pre-assessment checklist allows a quick evaluation of the rating, that could be achieved, under a formal **BREEAM Multi-Residential** assessment.

The points system used in this checklist is an approximation of the scoring, area weighting and environmental weighting system in the formal **BREEAM Multi-Residential** method. In a formal **BREEAM Multi-Residential** assessment, credits are area weighted according to the areas of the building credits are applicable. Where points are only applicable to certain areas of the building, this has been indicated in the checklist. For simplicity, the pre-assessment estimator applies an equal area weighting to all areas with exception to the energy section where the ratio of dwellings:communal areas is assumed as a 70:30 ratio. In addition, the checklist gives a brief summary of the compliance requirements for **BREEAM Multi-Residential**. The rating obtained by using this checklist is therefore for guidance only.

Estimated ratings may differ from those obtained through a formal assessment, which must be carried out by a licensed BREEAM Multi-Residential assessor (a list of assessors is available from www.breeam.org). The



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USING THE PRE-ASSESSMENT ESTIMATOR

This checklist should be used when carrying out approximate assessments on New build or refurbishment schemes at the design stage.

COMPLETION OF THE CHECKLIST

Step 1	Complete the checklist by entering the number of points (shown in the 'Points' column shaded light grey) into the unshaded 'Points Achieved' column where the criteria is achieved. NOTE: Evidence of compliance will be required in the formal assessment.
Step 2	At the end of each section, total the Points Achieved column and enter in the box titled, 'Total points achieved to carry forward'.
Step 3	Complete for all sections.
Step 4	Sum the total points achieved to carry forward and enter in to the box titled 'Total of points achieved.'
Step 5	The total should then be assessed against the table titled 'Probable breeam:BREEAM Multi-Residential rating' – the score achieved will generate a rating of Fail, Pass, Good, Very Good or Excellent. Make a note of this rating.
NOTE:	In some cases, there are multiple performance levels for the same criteria, simply award the appropriate points score corresponding to the predicted level of achievement. NOTE: These points scores are not cumulative.
	Seek guidance from a licensed assessor early in the design process to ensure that the predicted rating is achieved during the design stages.

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Credit Reference	MANAGEMENT	Points	Points Achieved
M1	Where evidence provided demonstrates that an appropriate project team member has been appointed to monitor commissioning on behalf of the client to ensure commissioning will be carried out in line with current Building Regulations and (where applicable), best practice and where there are complex systems then a specialist agent or manager is appointed. Where in addition to the above evidence provided demonstrates that seasonal commissioning will be carried out during the first year of occupation, post construction (or post fit out). **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.**	1.15 2.31	1.15
M2	Where evidence provided demonstrates that there is a commitment to comply with best practice site management principles. **OR** Where evidence provided demonstrates that there is a commitment to go significantly beyond best practice site management principles. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.**	1.15 2.31	1.15
M3	Where evidence provided demonstrates that • 2 or more of items a-g, listed below are achieved. **OR** • 4 or more of items a-g, listed below are achieved. **OR** • 6 or more of items a-g, listed below are achieved. a) Monitor, report and set targets for CO_2 or energy arising from site activities; b) Monitor, report and set targets for CO_2 or energy arising from transport to and from site; c) Monitor, report and set targets for water consumption from site activities. d) Monitor construction waste on site; e) Sort and recycle construction waste on site; f) Adopt best practice policies in respect to air (dust) pollution; g) Adopt best practice policies in respect to water (ground and surface) pollution. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.** Where temporary timber is used on site during construction, this is from a sustainably responsible source OR is re-used or recycled.	1.15 2.31 3.46 1.15	2.31 1.15
M4	Where evidence provided demonstrates that consultation has been undertaken and feedback given to the local community and building users. **OR** Where, in addition to the above, evidence provided demonstrates that changes to the design and/or action has been taken as a result of the above consultation process..	1.15 2.31	1.15

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	NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.		
M5	Where evidence provided demonstrates the provision of a simple guide that covers information relevant to the residents and 'non-technical' building manager / staff on the operation and environmental performance of the building and relevant information relating to the site and it's surroundings.	1.15	1.15
M6	Where evidence provided demonstrates a commitment to work with an Architectural Liaison Officer and to achieve the Secured by Design Award.	1.15	1.15
	Where evidence provided demonstrates that Security standards for external doors, doors to self contained flats and windows achieve a minimum of either: a. LPS 1175 SR1 (all doors and windows) **OR** b. PAS24-1 (All external pedestrian doorsets falling within scope of PAS24-1) **AND** BS7950 (All windows falling within the scope of BS7950) **NOTE: These point scores ARE cumulative.**	1.15	
	Total points achieved to carry forward:		9.21 (max 15.00)

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Credit Reference	HEALTH & WELLBEING	Points	Points Achieved
HW1	Where evidence is provided to demonstrates that: At least 80% of occupied floor area is adequately daylit and where 80% of floor area in living rooms, dining rooms, studies / home offices, kitchens and office areas have a view of the sky.	0.94	0.94
HW2	Where evidence provided demonstrates that all workstations/desks in offices, IT areas, study bedrooms in student halls have a view out and are within 7m radius of a window. **AND** Where evidence provided demonstrates that all living rooms (in self contained flats), communal sitting areas, or individual bedrooms/bedsits in sheltered housing have a view out within a maximum radius of 5m of a window.	0.94	0.94
HW3	Where evidence provided demonstrates that an occupant controlled glare control system (e.g. internal or external blinds) is specified for all areas where computer workstations will be located, close work will be undertaken or visual aids will be used (such as projectors etc.), where relevant. **NOTE: This credit is typically applied only to areas within the building used as offices, training or IT space (including study bedrooms in student accommodation).**	0.94	
HW4	Where all fluorescent luminaires are fitted with high frequency ballasts (HFB's).	0.94	0.94
HW5	Where evidence provided demonstrates that all internal and external lighting, where relevant, is specified in accordance with the appropriate maintained illuminance levels (in lux) recommended by CIBSE. **NOTE: This credit is typically applied only to communal areas within the building (including study bedrooms in student accommodation).**	0.94	0.94
HW6	Where evidence provided demonstrates that external façade windows to all occupied areas are openable.	0.94	0.94
HW7	Where air intakes serving occupied areas in mechanically ventilated buildings are over 10m apart to minimise recirculation AND intakes are over 20m from sources of external pollution. In naturally-ventilated buildings openable windows/ventilators must be over 10m from sources of external pollution.	0.94	
HW8	Where **EITHER** In the case of mechanically ventilated areas: • Fresh air rates to bedrooms and self contained flats must be provided at a rate in line with CIBSE Guide B2 with bedrooms in student flats in line with the whole house ventilation rate specified in CIBSE Guide B2. • Office areas must be provided with a rate of at least 12 litres per second per person. • All other occupied areas must be provided at a rate in line with CIBSE Guide	0.94	

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	B2 'Ventilation and air-conditioning' recommendations. **OR** In the case of naturally ventilated areas: • The credit for occupant controlled ventilation (HW6) is achieved. • Background ventilation is in accordance with the Building Regulations Part F. • The plan depth of the building is less than 15m. Where the plan depth of the building exceeds 15m additional ventilation measures (such as passive stack ventilation or a central atrium) must also be provided.		0.94
HW9	Where individual occupant controlled thermal adjustment is provided to each flat and study bedroom. **AND** Where in all other areas of the building, heating and cooling have been zoned to take account of the different loads in different areas of the building. This must allow separate control to be made of each perimeter area (within 7m of each external wall) and the central zone (over 7m from the external walls).	0.94	0.94
HW10	Where evidence provided demonstrates that the risk of waterborne and airborne legionella contamination has been minimised.	0.94	
HW11	Where pre-completion testing will be carried out in flats and study bedrooms and: a. There is a commitment to achieve the performance standards set out in Approved Document E (2003 editions, Building Regulations England and Wales). **OR** b. A higher number of tests will be carried out and there is a commitment to achieve the performance standards set out in Approved Document E. **OR** c. Where the above (b.) will be carried out and there is a commitment to achieve airborne sound insulation values are at least 3dB higher and impact sound insulations values are 3dB lower than the performance standards set out in Approved Document E. **OR** d. Where the above (b.) will be carried out and there is a commitment to achieve airborne sound insulation values are at least 5dB higher and impact sound insulations values are 5dB lower than the performance standards set out in Approved Document E. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.**	0.94 1.88 2.81 3.75	0.94
HW12	For the provision of a space and services which allows the occupants to set up a home office in a quite room. **OR** Where a dedicated shared IT space is provided with a minimum of one computer space for every 20 dwellings.	0.94	0.94
HW13	For the provision of a private or semi private outdoor space.	0.94	0.94
	Total points achieved to carry forward:		9.4 (max 15.00)

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ENERGY

Credit Reference		Points		Points Achieved
E1a	Where areas within the building subject to Building Regulations Part L1 such as self contained flats and flat clusters of less than 6 bedrooms achieve SAP 2005 Dwelling Emission Rate as follows: • ≤ 40 kg/m^2/yr • ≤ 35 kg/m^2/yr • ≤ 32 kg/m^2/yr • ≤ 30 kg/m^2/yr • ≤ 28 kg/m^2/yr • ≤ 26 kg/m^2/yr • ≤ 24 kg/m^2/yr • ≤ 22 kg/m^2/yr • ≤ 20 kg/m^2/yr • ≤ 18 kg/m^2/yr • ≤ 15 kg/m^2/yr • ≤ 10 kg/m^2/yr • ≤ 5 kg/m^2/yr • ≤ 0 kg/m^2/yr • ≤ -10 kg/m^2/yr **Note: These point scores are not cumulative; simply award the appropriate points score corresponding to the predicted level of achievement.**	**Where no self contained flats present:**	**Where both self contained flats and communal areas present:**	0.88
		N/A	0.44	
			0.88	
			1.31	
			1.75	
			2.19	
			2.62	
			3.06	
			3.50	
			3.94	
			4.38	
			4.81	
			5.25	
			5.69	
			6.13	
			6.56	
E1b	Where areas within the building subject to Building Regulations Part L2 such as communal areas, flat clusters greater than 6 bedrooms demonstrate a percentage improvement above the requirement for CO_2 emissions as set out in the 2006 Building Regulations. • +1% • +2% • +4% • +6% • +8% • +10% • +12% • +14% • +18% • +22% • +30% • +40% • +50% • +60% • ≥70% **Note: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.**	**Where no self contained flats present:**	**Where both self contained flats and communal areas present:**	
		0.75	0.23	
		1.50	0.45	
		2.25	0.68	
		3.00	0.90	
		3.75	1.13	
		4.50	1.35	
		5.25	1.58	
		6.00	1.80	
		6.75	2.03	
		7.50	2.25	
		8.25	2.48	
		9.00	2.70	
		9.75	2.93	
		10.50	3.15	
		11.25	3.38	

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E2	**NOT APPLICABLE WHERE NO SELF CONTAINED FLATS PRESENT** Where areas within the building subject to Building Regulations Part L1 such as self contained flats and flat clusters of less than 6 bedrooms achieve thermal performance based on the Heat Loss Parameter (HLP) method, SAP 2005, meeting the following requirements: ***For new build:*** • Where the HLP is less than or equal to 1.3 W/m^{2}K **OR** • Where the HLP is less than or equal to 1.1 W/m^{2}K ***For refurbishment:*** • Where the HLP is less than or equal to 2.2 W/m^{2}K **OR** • Where the HLP is less than or equal to 1.7 W/m^{2}K **NOTE: These point scores are not cumulative; simply award the appropriate points score corresponding to the predicted level of achievement.**	0.44 0.88 0.44 0.88	
E3	Where evidence is provided to demonstrate the provision of direct sub-metering of substantive energy uses within the building with separate sub-metering of each self contained flat and/or flat clusters.	0.75	0.75
E4	**NOT APPLICABLE WHERE NO SELF CONTAINED FLATS PRESENT** Where evidence is provided to demonstrate that 75% of internal light fittings within self contained flats and/or flat clusters of 6 bedrooms or less are dedicated energy efficient fittings capable of only accepting lamps achieving an efficacy of 40 luminaire-lumens/Watt or greater.	0.44	
E5	Where energy efficient external luminaries are specified and all light fittings controlled for the presence of daylight.	0.75	
E6	Where evidence provided demonstrates that all fridges, freezers and fridge/freezers have an A+ rating under the EU Energy Efficiency Labelling Scheme. **OR** Where evidence provided demonstrates that only an A+ rated fridges or A+ rated freezers are provided and information on the EU Energy Efficiency Labelling Scheme are supplied to all occupants. **NOTE: These point scores are not cumulative; simply award the appropriate points score corresponding to the predicted level of achievement.**	0.75 0.75	0.75
E7	Where evidence provided demonstrates that: • Domestic washing machines and dishwashers have an A rating. **AND** • Domestic washer dryers and tumble dryers have a B rating under the EU Energy Efficiency Labelling Scheme. **AND** • Commercial scale laundry facilities within the development will maximise opportunities for energy efficient operation through either heat recover or use of grey water for part of the washing process. •	0.75	
E8	Where evidence provided demonstrates that space and posts/footings/fixings for dryings clothes will be provided in a secure environment for each dwelling in the building. This may be external or internal.	0.75	0.75

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Total points achieved to carry forward:	3.13 (max 15.00)

Credit Reference	TRANSPORT	Points	Points Achieved
T1	***Urban and suburban areas*** Where the transport node is within 1000m of the building with a 30 min peak and an hourly off peak service.	1.11	2.22
	OR Where the transport node is within 500m of the building with a 15 min peak and a half hourly off peak service.	2.22	
	Rural Areas Where the transport node is within 1000m of the building with an hourly service	1.11	
	OR Where the transport node is within 500m of the building with an hourly service OR a community bus service operates at the resident's request.	2.22	
	NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.		
T2	Where the site is within 500m of the following amenities: • Post box • Grocery shop	1.11	1.11
T3	Where the site is within 1000m of 5 of the following amenities: • Postal facility • Grocery shop (if not used for T2) • Bank/cash point • Pharmacy • Doctors surgery/medical centre • Community centre • Leisure centre • Outdoor open access public area • Place of worship • Public house	1.11	1.11
T4	Where evidence is provided to demonstrate that the number of parking spaces provided for the building has been limited with: • Only 1 parking space provided for every 3 building users	1.11	1.11
	OR • Only 1 parking space provided for every 4 building users	2.22	
	NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.		
T5	Where evidence is provided to demonstrate that there is adequate provision of secure, covered and well lit cycle storage with:	1.11	1.11

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	• Storage for 10% of building staff. • Storage for 50% of occupants in student residences and key worker accommodation. • Secure storage for wheelchairs and electric buggies in sheltered housing.		
T6	Where evidence provided demonstrates that safe pedestrian routes to local amenities are provided and that the site layout has been designed to minimise risks to pedestrians and cyclists, and each of the following issues have been addressed: • Cycle should be provided on site, segregated from pedestrian footpaths with direct access to cycle racks provided with adequate way finding signage and width and connected to offsite cycle paths (where present) without crossing vehicular routes, • Where delivery routes have been located away from parking areas, access points/routes, other outside areas used by building occupants, • Drop-off areas are designed off-road and to avoid crossing of busy roads without controlled crossings, with roads raised to pavement levels for pedestrian crossing.	1.11	
T7	Where evidence is provided to demonstrate that a travel plan has been developed and tailored to the specific needs of the users of the assessed development. The plan must include policies that address constraints, opportunities, targets and actions for the following: • walking; • cycling; • public transport; • use of the private car for travel to work; • mopeds/motorcycles; • reducing the need to travel; • visitors; • deliveries.	1.11	1.11
	Total points achieved to carry forward		7.77 (max 10.00)

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Credit Reference	WATER	Points	Points Achieved
W1	Where evidence provided demonstrates that water efficient fittings have been specified with: • All WCs are 6/4 litre dual flush capacity AND • Instructions are provided on operating the flushing device appropriately **OR** • All WCs are 4/2 litre dual flush capacity or where all WCs have a vacuum flush system or are waterless AND • Instructions are provided on operating the flushing devices appropriately	0.625 1.25	0.625
	NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement. • All taps are either one or a combination of timed turn off push taps, electronic sensor taps, spray taps or aerated taps AND • Where specified, all showers have a nominal flow rate the same as or less than 9 litres per minute at 1.5 bar pressure **OR** • Where two or more of the following are specified: small baths (50 litres/use or less) excluding assisted bathrooms; domestic washing machines are 40 litres/use or less; domestic dishwashers are 12 litres/use or less, commercial scale washing machines reuse water; all urinals have infra-red proximity controls or are waterless. **NOTE: These point scores <u>ARE</u> cumulative.**	0.625 0.625	0.625
W2	Where evidence is provided to demonstrate the specification of systems that collect, store, and where necessary, treat rainwater or greywater for WC and urinal flushing purposes.	0.625	0.625
W3	Where a water meter with a pulsed output is installed to all building supplies.	0.625	
W4	Where evidence is provided to demonstrate that a leak detection system is specified or installed.	0.625	
W5	Where evidence is provided to demonstrate that low-water irrigation systems are specified/installed, or where planting and landscaping is irrigated via rainwater or reclaimed water.	0.625	
	Total points achieved to carry forward:		1.875 (max. 5.00)

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Credit Reference	MATERIALS	Points	Points Achieved
MW1	Where evidence provided demonstrates that the major building elements specified have an 'A rating', as defined in the *Green Guide to Housing Specification*. In a formal BREEAM Multi-Residential assessment the number of credits will be calculated using the BREEAM Multi-Residential materials calculator, but as a guide the following can be used as a rough estimate of the likely number of credits achieved. The following elements are considered;		
	Where at least 80% by area of the External wall specification achieves an A rating in the Green Guide to Housing Specification.	0.61	
	Where at least 80% by area of the Windows achieve an A rating in the Green Guide to Specification.	0.61	
	Where at least 80% by area of the Roof achieve an A rating in the Green Guide to Specification.	0.61	
	Where at least 80% by area of the Upper floor slab achieves an A rating in the Green Guide to Specification	0.61	
	Where at least 80% by area of the Internal Walls achieve an A rating in the Green Guide to Specification.	0.61	
	Where at least 80% by area of the Floor finishes/coverings achieve an A rating in the Green Guide to Specification.	0.61	
	NOTE: These point scores ARE cumulative.		
MW2	Where at least 80% of the combined area of external hard landscaping and boundary protection specifications achieve an A rating, as defined by the Green Guide to Specification.	0.53	
MW3	Where at least 50% of the total façade (by area) is reused and at least 80% of the reused façade (by mass) comprises in-situ reused material.	0.53	
MW4	Where evidence provided demonstrates that a design reuses at least 80% of an existing primary structure and for part refurbishment and part new build, the volume of the reused structure comprises at least 50% of the final structure's volume.	0.53	
MW5	Where significant use of crushed aggregate, crushed masonry or alternative aggregates (manufactured from recycled materials) is specified for 'high grade' aggregate uses (such as the building structure, ground slabs, roads, etc.).	0.53	
MW6	Where materials used in Basic Building Elements are responsibly sourced. This includes the frame, ground floor, upper floors, roof, external and internal walls, foundations/substructure and staircase. For timber products this requires third party certification to show that the timber has come from a sustainably managed source and for non-timber products that the materials have EMS certification at either the process stage or the process and extraction phases.	1.59	

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MW7	Where materials used in Finishing Elements are responsibly sourced. This includes the stairs, windows, external and internal doors, skirting, panelling, furniture, fascias and any other significant use. For timber products this requires third party certification to show that the timber has come from a sustainably managed source and for non-timber products that the materials have EMS certification at either the process stage or the process and extraction phases.	1.06	
MW8	Where protection is given to vulnerable parts of the building such as areas exposed to high pedestrian traffic, vehicular and trolley movements. Suitable durability measures are listed below: • Bollards/high kerbs to vehicle drop-off areas • Corridor walls specified to Severe duty (SD) as per BS 5234-2 • Protection rails to walls of corridors • Kick plates/impact protection on doors • Hard wearing and easily washable floor finishes in heavily used circulation areas (i.e. main entrance, corridors etc).	0.53	
MW9	Where storage space is provided for recyclable household waste in the flats/bedsits.	0.53	0.53
	Where a central dedicated storage space is provided for materials that can be recycled. This can be either within the building itself, or on site using skips, (provided there is good access for collections and it is within easy reach of the building). **NOTE: These points scores <u>ARE</u> cumulative.**	0.53	
	Total points achieved to carry forward:	0.53 (max 10.00)	

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Credit Reference	LAND USE & ECOLOGY	Points	Points Achieved
LE1	Where the footprint of the proposed development largely falls within the boundary of land previously developed.	1.5	1.5
LE2	Where land used for the new development has, prior to development, been defined as contaminated, and where adequate remedial steps have been taken to decontaminate the site prior to construction.	1.5	
LE3	Where evidence is provided to demonstrate that the construction zone is defined as land of low ecological value and all existing features of ecological value will be fully protected from damage during site preparation and construction works.	1.5	
LE4	Credits are awarded based upon the degree of negative impact the new development has on the site's existing ecology. In a formal BREEAM Multi-Residential assessment the ecological impact of the development is calculated based on the area of habitat and number of floral species displaced, using the BREEAM Multi-Residential ecological value calculator. As a guide, the following can be used to estimate the likely number of credits: No credits can be awarded where the new development will displace a significant majority of the existing site's ecological habitat types and areas.		
	Where a majority of the existing site's ecological habitat types and areas are not displaced as a result of the new development.	1.5	1.5
	Where either the development displaces none of the existing site's ecological habitat types and areas. Or, where there is no, or very limited existing site ecology; for example the new development is a refurbishment, or it is on contaminated land or Brownfield land that has been derelict/unoccupied for less than one year. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.**	3.0	
LE5	Where evidence is provided to demonstrate that the design team (or client) has i) appointed a professional to advise and report on enhancing and protecting the ecological value of the site; AND ii) Implemented the professional's recommendations for general enhancement and protection for site ecology.	1.5	
	OR Where, **in addition to the above**, evidence is provided to demonstrate a positive increase in the ecological value of the site of up to (but not including) 6 species.	3.0	
	OR Where, **in addition to the above**, evidence is provided to demonstrate a positive increase in the ecological value of the site of 6 species or greater. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.**	4.5	4.5

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LE6	Where evidence is provided to demonstrate that the client has committed to achieving the mandatory requirements listed below and: At least two of the additional requirements. **OR** At least four of the additional requirements. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.** **Mandatory Requirements** A suitably qualified ecologist must confirm in writing that: • All relevant UK and EU legislation relating to protection and enhancement of ecology has been, or will be, complied with during the design and construction process. • An appropriate management plan is produced covering at least the first 5 years after project completion. This should include details of the scope of the management plan. • Key responsibilities, and with whom these responsibilities lie, e.g. owner, landlord, occupier, FM, other. **Additional Requirements** • A 'Biodiversity Champion' has been nominated. • The relevant site work-force has been trained on how to protect site ecology during the project. • Record and monitor actions taken to protect biodiversity throughout key stages of construction. • The client requires that a new ecologically valuable habitat, appropriate to the local area, be created. • The client requires the contractor to programme site works to minimise disturbance to wildlife. • The client requires actions to be taken to protect/enhance biodiversity • A Biodiversity Champion must have sufficient authority and time on site to influence activities and ensure that they have minimal detrimental impact on biodiversity. • Local biodiversity expertise should be sought at, or before, the design stage. • Where a site is deemed to have no ecological value. The refurbishment of a listed building may be exempt from the credit requirements if they conflict with the need to maintain the building's listed features.	1.5 3.0	1.5
	Total points achieved to carry forward		9 (max 15.00)

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Credit Reference	POLLUTION	Points	Points Achieved
P1	Where evidence provided demonstrates the use of refrigerants with a global warming potential (GWP) of less than 5 or where there are no refrigerants specified for use in building services.	1.07	
P2	Where evidence provided demonstrates that refrigerant leaks can be detected AND that the provision of automatic refrigerant pump down is made to a heat exchanger (or dedicated storage tanks) with isolation valves or where there are no refrigerants specified for the development.	1.07	
P3	Where evidence provided demonstrates that the specification of insulating materials avoids the use of substances with a global warming potential (GWP) of 5 or more in either manufacture or composition.	1.07	
P4	Where evidence provided demonstrates that the maximum dry NO_x emissions from delivered space heating energy are: • ≤100 mg/kWh delivered heating energy (at 0% excess O_2). **OR** • ≤70 mg/kWh delivered heating energy (at 0% excess O_2). **OR** • ≤40 mg/kWh delivered heating energy. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.**	1.07 2.14 3.21	
P5	Where evidence provided demonstrates that the assessed development is located in a zone defined as having a low annual probability of flooding. **OR** Where evidence provided demonstrates that the assessed development is located in a zone defined as having a medium annual probability of flooding and the ground level of the building, car parking and access is above the design flood level for the site's location. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.** Where evidence provided demonstrates that Sustainable Urban Drainage techniques are specified to minimise the risk of localised flooding, resulting from a loss of flood storage on site through development.	2.14 1.07 1.07	2.14 1.07
P6	Where evidence provided demonstrates that on site treatment such as oil separators/interceptors or filtration have been specified for areas at risk from pollution, i.e. vehicle manoeuvring areas, car parks, waste disposal facilities, delivery facilities or plant areas.	1.07	
P7	Where evidence provided demonstrates that: A feasibility study considering renewable and low emission energy has been carried out and the results implemented.	1.07	

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	OR **In addition to the above**, 10% of total energy demand for the building/development is supplied from local renewable or low emission energy, sources. **OR** **In addition to the above** and 15% of total energy demand for the building/development is supplied from local renewable or low emission energy, sources. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.**	2.14 3.21	
P8	Where evidence provided demonstrates that the external lighting design is in compliance with the guidance in the Institution of Lighting Engineers (iLE) Guidance notes for the reduction of obtrusive light, 2005.	1.07	1.07
	Total points achieved to carry forward		4.28 (max 15.00)

SCORING	
TOTAL OF POINTS ACHIEVED	45.195

breeam:BREEAM Multi-Residential Rating Scale

Rating	Minimum Score Required
	Design stage & Post Construction Review
PASS	**25**
GOOD	**40**
VERY GOOD	**55**
EXCELLENT	**70**

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