BREEAM Industrial 2006

PRE-ASSESSMENT ESTIMATOR
Speculative Buildings

PLANNING
ACK'D
REPLIED
RECD 18 FEB 2008
INIT DATE
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FOIL ACTION

IMPORTANT
(Please read this before using the checklist).

This pre-assessment checklist allows a quick evaluation of the likely rating to be achieved under a formal **BREEAM Industrial** assessment.

The points system used in this checklist is an approximation of the scoring and weighting system in the formal BREEAM Industrial method. In addition the checklist gives a brief summary of the compliance requirements for BREEAM Industrial. 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 Industrial assessor (a list of assessors is available from www.BREEAM.org). The assessor will require evidence to support each credit claimed.

This pre-assessment estimator is for use when considering **speculative** buildings. This covers the assessment of speculatively developed buildings with an unknown end occupier. The assessment will be based on the proviso that the infrastructure for basic building services systems will be provided but that the operational area will not be fitted out with lighting or heating.

An alternative pre-assessment estimator is available for **fitted out** buildings. This covers the assessment of buildings that are being designed and fitted out for a known end occupier or where the end occupier is unknown but the operational area is being fitted out. The assessment will allow buildings with unheated/untreated areas, cold storage etc within the Operational area to be assessed.

Received

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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 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 point 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	With Offices	Without Offices	Points Achieved
M01	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.	1.875	1.875	1.875
M04	Where evidence provided demonstrates that there is a commitment to comply with best practice site management principles.	1.875	1.875	1.875
	OR Where evidence provided demonstrates that there is a commitment to go significantly beyond best practice site management principles.	3.75	3.75	–
	NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.			
M05	Where evidence provided demonstrates that • 2 or more of items a-g, listed below are achieved.	1.875	1.875	–
	OR • 4 or more of items a-g, listed below are achieved.	3.750	3.750	3.75
	OR • 6 or more of items a-g, listed below are achieved.	5.625	5.625	–
	a) Monitor and report CO_2 or energy arising from site activities. b) Monitor and report on water consumption from site activities. c) Monitor and report transport to and from site to enable CO_2 emissions arising from transport to be calculated. 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.	1.875	1.875	1.875
M12	Where evidence provided demonstrates the provision of a simple guide that covers information relevant to the tenant/occupants and non-technical building manager on the operation and environmental performance of the building.	1.875	1.875	1.875
			Total points achieved to carry forward	11.250

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Credit Reference	HEALTH & WELLBEING	With Offices	Without Offices	Points Achieved
HW01	Where at least 80% of floor area is adequately daylit.	2.14	3	2.14
HW04	Where evidence provided demonstrates that high frequency ballasts are installed on all fluorescent and compact fluorescent lamps. Operational areas may be excluded from speculative schemes where not fitted out.	2.14	3	2.14
HW05	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. **External Lighting** - Lux levels must be specified in accordance with CIBSE Lighting Guide 6, '*The outdoor environment*'. External areas that must comply include (where applicable): • covered and open pavement areas • external circulation areas and entrances • surface car parks (i.e. uncovered car parks) • access roads (following the recommendations in BS5489 Part 1) [4] • direction signs & notice boards • outdoor work and storage areas • bicycle racks • delivery, refuse and rubbish areas • garage forecourts • subways, stairways and foot bridges • cash machines • Roadways, general movement (following the recommendations in BS5489 Part 1) • Walkways, perimeter zones, security: • Recreational and club sports: • Sports facilities **Internal Lighting** - Lux levels must be specified in accordance with part two of the 2002 *Code for Lighting* [1] and its 2004 Addendum. Operational areas may be excluded from speculative schemes where not fitted out.	2.14	3	2.14
HW11	Where evidence provided demonstrates that each space within the development achieves recommended minimum fresh air rates. **Mechanical Ventilation** For office areas fresh air should be provided at a rate of 12 litres per second per person. For operational areas fresh air should be provided at a rate of at least 8 litres per second per person. In the case of fully fitted out schemes (where the number of occupants is known) this should be based on actual occupancy. In the case of speculative schemes occupancy of 1 person per 10m^2 should be assumed. **OR** **Natural Ventilation** Where office or operational areas have been designed to be naturally ventilated, all of the following criteria should be achieved: Background ventilation to be in accordance with the Building Regulations Part F. The plan depth of building is less than 15m.	2.14	3	–

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HW16	Where evidence provided demonstrates that the risk of waterborne and airborne legionella contamination has been minimised.	2.14	3	2.14
HW18	Where information provided demonstrates that office space within the development achieves best practice in terms of occupant comfort and control. Three of the following measures must be achieved for at least 80% of the development's office space. **OR** Five of the following measures must be achieved for at least 80% of the development's office space. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.** • **View Out** - All work stations are situated a maximum of 7m away from a window or permanent opening providing a view. • **Daylight glare control** - Where an occupant controlled system of glare control, (e.g. internal or external blinds) is fitted on all windows. • **Lighting zones** - Separate zoned lighting controls provided. • **Potential for natural ventilation** - The openable window area in each room/floor plate should be equivalent to 5% of the gross internal floor area of that room/floor plate, and for accommodation over 7m deep openable windows are on opposite sides. • **Internal air pollution** - Air-conditioned and mixed-mode buildings: - Where locations of air intakes/outlets are over 10m apart to minimise recirculation AND intakes are over 20m from sources of external pollution or for naturally-ventilated buildings: Where location of openable windows/ventilators are over 10m from sources of external pollution. • **Thermal zoning** - where the heating / cooling system is designed to allow separate occupant control to be made of each perimeter area (i.e. within 7m of each external wall) and the central zone (i.e. over 7m from the external walls). • **Thermal comfort** - Thermal comfort levels must meet the requirements set out in CIBSE Guide A and feasibility studies aimed at optimising thermal comfort completed. • **Acoustic performance** - Indoor ambient noise level in unoccupied offices must be achieved.	2.14 4.30		2.14
			Total points achieved to carry forward	6.84

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Credit Reference	ENERGY	With Offices	Without Offices	Points Achieved
E01	Where the building demonstrates 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% Where speculative units are being assessed then the notional model must assume that the operational space is heated. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.**	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	6
E03	Where evidence provided demonstrates sub-metering of energy use by areas is installed within each unit. This should cover the following areas as a minimum: • Office areas • Operational area • Ancillary areas (such as canteen etc)	1	1	-
E04	Where 80% of external luminaires have an efficacy of at least 100 luminaire-lumens/circuit-Watts and all external light fittings are controlled through a time switch or daylight sensor to allow for daylight control.	1	1	1
E05	Where evidence is provided to demonstrate that the building has been designed and detailed to ensure optimum building fabric performance and to minimise unnecessary air infiltration.	1	1	1
			Total points achieved to carry forward	8

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Credit Reference	TRANSPORT	With Offices	Without Offices	Points Achieved
T01	The number of credits awarded is based on the proximity of the development to a public transport node with a good service frequency. • Where the transport node is within 800m with a frequent service of 30min intervals **OR** • Where the transport node is within 500m with a frequent service of 30min internals **OR** • Where the transport node is within 800m with a frequent service of 15min intervals **OR** • Where the transport node is within 500m with a frequent service of 15min internals **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.**	1 2 3 4	1 2 3 4	4
T05	Where evidence is provided to demonstrate that there is adequate provision of covered, secure and well lit cycle racks and showers. Compliant cycle storage facilities must be provided for a percentage of building occupants in accordance with the following figures: • 10% of building occupants up to 500 **PLUS** • 7% for building occupants in the range of 501 – 1000 **PLUS** • 5% for building occupants over 1000 **Where in addition** to the above, information is provided to demonstrate that there is adequate provision of changing facilities and lockers for clothes or a dedicated drying space for wet clothes. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.**	1 2	1 2	1
T12	Where evidence is provided to demonstrate that vehicle access areas have been designed to ensure adequate space for manoeuvring delivery vehicles, and provide space for storage of refuse skips and pallets.	1	1	1
			Total points achieved to carry forward	6

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Credit Reference	WATER	With Offices	Without Offices	Points Achieved
W01	Credits are awarded based on the improvement over standard specification of water fittings. A standard specification would include 6 litre flush toilets, urinals with no controls, a shower that uses 12-15 litres per minute and standard taps with no flow restrictors. In a formal BREEAM assessment the predicted water consumption will be calculated using the BREEAM water calculator, as a guide the following can be used as a rough estimate of the likely number of credits achieved: • where some of the fittings use less water than a standard fitting	1	1	2
	OR • where all of the fittings are low water OR, where only some of the fittings are low water, rainwater or grey water systems are specified.	2	2	
	OR • where the water fittings are all low water AND rainwater or greywater fittings have been specified.	3	3	
	NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.			
W02	Where evidence is provided to demonstrate that a water meter with a pulsed output will be installed on the mains supply to each unit.	1	1	1
W03	Where evidence is provided to demonstrate that a leak detection system is specified or installed to each unit.	1	1	1
	Total points achieved to carry forward			4

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Credit Reference	MATERIALS	With Offices	Without Offices	Points Achieved
MW01	Where evidence provided demonstrates that the major building elements specified have an 'A rating', as defined in the *Green Guide to Specification*. In a formal BREEAM assessment the number of credits will be calculated using the BREEAM 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; • External Walls • Roof Credits are awarded for the external walls and roof building elements based on the percentages below • Where at least 50% of the external walls and the roof achieve an A rating in the Green Guide to Specification. **OR** • Where at least 80% of the external walls and the roof achieve an A rating in the Green Guide to Specification. **NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.**	1 2	1 2	
MW02	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.	1	1	
MW06	For new build: Where evidence provided demonstrates that a design reuses at least 80% of an existing primary structure and **OR** For part refurbishment and part new build: Where evidence provided demonstrates that the volume of the reused structure comprises at least 50% of the final structure's volume.	1	1	
MW07	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.).	1	1	
MW08	Where materials used in structural and non-structural elements are responsibly sourced. 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.	2	2	

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MW10	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 • Rails to walls of corridors where trolleys will be used (i.e. Science accommodation) • Kick plates/impact protection on doors • Hard wearing and easily washable floor finishes in heavily used circulation areas (i.e. main entrance, corridors etc).	1	1	1
MW12	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). **For speculative units:** The space provided should allow an external hardstanding area for at least one standard skip (for buildings with an operational area of up to 1000m^2) and two standard skips (for buildings with an operational area over 1000m^2) PLUS At least 2m^2 per 1000m^2 of net office floor area (up to a maximum of 10m^2).	1	1	1
MW16	Where evidence provided demonstrates that either a compactor or baler is provided for compacting/baling waste generated on site and • A water outlet is provided for cleaning • The development achieves the BREEAM credit for recycling storage facilities (MW12)	1	1	
	Total points achieved to carry forward			3

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Credit Reference	LAND USE & ECOLOGY	With Offices	Without Offices	Points Achieved
LE01	Where the footprint of the proposed development largely falls within the boundary of land previously developed.	1.5	1.5	1.5
LE02	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	1.5	1.5
LE03	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	1.5	1.5
LE04	Credits are awarded based upon the degree of negative impact the new development has on the site's existing ecology. In a formal BREEAM assessment the ecological impact of the development is calculated based on the area of habitat and number of floral species displaced, using BREEAM's 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.	3	3	3
	NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.			
LE05	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	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	3	3
	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.	4.5	4.5	
	NOTE: These point scores are not cumulative, simply award the appropriate points score corresponding to the predicted level of achievement.			

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LE06	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	1.5 3	3
				Total points achieved to carry forward	13.5

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Credit Reference	POLLUTION	With Offices	Without Offices	Points Achieved
P01	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. For assessments of speculative buildings the operational area may be excluded from the assessment of this credit but all other areas within the building must comply.	1.25	1.36	1.36
P02	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. For assessments of speculative buildings the operational area may be excluded from the assessment of this credit but all other areas within the building must comply.	1.25	1.36	1.36
P04	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	1.25	1.36	
P06	**For office and associated areas:** Where evidence provided demonstrates that the maximum dry NO_x emissions from delivered space heating energy are: • ≤70 mg/kWh delivered heating energy or less (at 0% excess O_2).≤70 mg/kWh delivered heating energy (at 0% excess O_2).	1.25		
P07	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.	2.5 1.25 1.25	2.74 1.36 1.36	2.74
P08	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.	1.25	1.36	1.36

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P11	Where evidence provided demonstrates that : A feasibility study considering renewable and low emission energy has been carried out and the results implemented. **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.**	1.25 2.5 3.75	1.36 2.74 4.09	
P13	Where evidence provided demonstrates that sources of noise from the development do not give rise to the likelihood of complaints from existing noise sensitive premises and amenity or wildlife areas that are within the locality of the site.	1.25	1.36	1.36
	Total points achieved to carry forward			8.18

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SCORING

TOTAL OF POINTS ACHIEVED 60.77

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

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