

# Brighton 3Ts BREEAM Early Stages Review

This document highlights the issues that need to be integrated into the design process to ensure that the target BREEAM ratings are achieved; 'Excellent' for new build and 'Very Good' for refurbishments.

Using the *BREEAM Healthcare 2008 Pre-Assessment Estimator* a provisional score of 75.5% has been attained. As the table below shows, this gives an 'Excellent' rating with a recommended 5% buffer to account for changes in design and contingency.

PASS	≥30
GOOD	≥45
VERY GOOD	≥55
EXCELLENT	≥70
OUTSTANDING	≥85

BREEAM Healthcare has the flexibility to assess the development in two separate assessments for new build and refurbishment or as a combined assessment, looking at both new build and refurbishment within one assessment. Each separate assessment would require a separate fee. For the purposes of this pre-assessment the combined assessment option has been used for simplicity.

In each BREEAM section *mandatory credits*, *expected achievable credits* and *opportunity credits* will be identified.

1. Mandatory credits are those identified by the BRE to be a minimum requirement to reach the 'Excellent' rating, plus credit Tra5 Travel Plan (an additional requirement from the NHS).
2. Expected achievable credits are those that are expected to be achieved based upon previous BREEAM experience to meet the 'Excellent' rating.
3. Opportunity credits are credits that traditionally require additional cost or potentially significant alterations to design. The opportunity credits highlighted make up the 5% buffer score.

It is also important to note that for this pre-assessment the potential for achieving Innovation credits has not been explored (please refer to 'Brighton 3Ts BREEAM Healthcare Guidance' for more information). This means that there is greater potential for achieving a higher score with the use of innovation credits but at this stage it would not be prudent to factor them in due to lack of certainty.

## Achieving BREEAM targets

A summary of design considerations are identified in 'Brighton 3Ts BREEAM Healthcare Guidance'. Below is a shorter list of issues that must be addressed at an early stage to the required BREEAM rating.

- Consultation with appropriate stakeholders must be carried out at RIBA Stage B, to include issues such as management and operation, transport, shared facilities, historical value, local architecture and archaeology.
- A Life Cycle Cost (LCC) analysis must be carried out at RIBA Stage B/C looking at construction, operation, maintenance and end of life.
- Ensuring the provision of sufficient natural daylight, views out, suitable lighting levels and potential for natural ventilation will have an effect on building form and dimensions.
- As there is a minimum requirement to achieve a CO<sub>2</sub> index of 40kgCO<sub>2</sub>/m<sup>2</sup> in new build and 47 kgCO<sub>2</sub>/m<sup>2</sup> in refurbished areas, ensuring an energy efficient design will be very important. This has implications on orientation, building form, ventilation potential, building fabric design, material selection, etc.
- A feasibility study must be carried out to establish the most appropriate local low or zero carbon technologies for the development at RIBA Stage C. The feasibility for use of CHP must also be investigated.
- The potential for harvesting rainwater must be considered to ensure that there is sufficient capacity to meet the BREEAM requirements.
- Re-use and recycling of materials on site can contribute to achieving a number of credits so resource efficiency should be integrated into the design, demolition and construction approach.
- Ecology credits are highly weighted so it is important to ensure there is sufficient capacity to allow for enhancing the ecology of the site. This will generally be in the form of green landscaping and living roofs. The appointment of a suitably qualified ecologist is highly recommended.

- With each design issue it is important to ensure that all activities are performed in line with BREEAM requirements.

The pre-assessment estimator spreadsheet is provided below. Floor areas have been assumed as 70,000m<sup>2</sup> for new build and 8,000m<sup>2</sup> for refurbishment, although this weighting will not have a significant impact on the score at this stage.



Indicative Overall BREEAM Score

**75.50%**

**BREEAM Rating Benchmarks**

PASS	≥30
GOOD	≥45
VERY GOOD	≥55
EXCELLENT	≥70
OUTSTANDING*	≥85

**BREEAM Healthcare 2008 Pre-Assessment Estimator**

**Minimum BREEAM Standards**

Pass Good Very Good Excellent Outstanding

Achieved? **YES** **YES** **YES** **YES** **NO**

Minimum required credits by BREEAM issue and rating

Ref BREEAM Issue Title

Number of BREEAM credits available

Area (m2)	
New Build	Refurb
70000	8000

Number of BREEAM credits Achieved

Total 'area weighted' BREEAM credits achieved

Notes

**Management**

Ref	BREEAM Issue Title	Number of BREEAM credits available	New Build Area (m2)	Refurb Area (m2)	Total 'area weighted' BREEAM credits achieved	Achieved?	Pass	Good	Very Good	Excellent	Outstanding	Notes
Man 1	Commissioning	2	2	2	2.00	1	1	1	1	1	2	1 mandatory 1 expected
Man 2	Considerate Constructors	2	2	2	2.00	-	-	-	-	1	2	1 mandatory 1 expected
Man 3	Construction Site Impacts	4	4	4	4.00	-	-	-	-	-	-	3 expected 1 opportunity
Man 4	Building user guide	1	1	1	1.00	-	-	-	1	1	1	1 mandatory

Ref	BREEAM Issue Title	Number of BREEAM credits available	New Build Refurb		Total 'area weighted' BREEAM credits achieved	Achieved?	Minimum BREEAM Standards					Notes
			Area (m2)				Pass	Good	Very Good	Excellent	Outstanding	
			70000	8000								
							Minimum required credits by BREEAM issue and rating					
			Number of BREEAM credits Achieved									
Man 6	Consultation	2	2		2.00	-	-	-	-	-	2 expected	
Man 8	Security	1	1		1.00	-	-	-	-	-	1 expected	
Man 11	Ease of Maintenance	1	0	0	0.00	-	-	-	-	-	hard to provide evidence	
Man 12	Life Cycle Costing	2	2		2.00	-	-	-	-	-	1 expected 1 opportunity	
Man 13	Good Corporate Citizen	1	1		1.00	-	-	-	-	-	1 expected	
<b>Indicative Management (weighted) Section Score</b>		<b>11.25%</b>										
<b>Health &amp; Wellbeing</b>												
Hea 1	Daylighting	2	1	1	1.00	-	-	-	-	-	1 opportunity	
Hea 2	View Out	1	1	1	1.00	-	-	-	-	-	1 expected	
Hea 3	Glare Control	1	1	1	1.00	-	-	-	-	-	1 expected	
Hea 4	High frequency lighting	1	1	1	1.00	1	1	1	1	1	1 mandatory	

Ref	BREEAM Issue Title	Number of BREEAM credits available	New Build Refurb		Total 'area weighted' BREEAM credits achieved	Achieved?	Minimum BREEAM Standards					Notes
			Area (m2)				Pass	Good	Very Good	Excellent	Outstanding	
			70000	8000			YES	YES	YES	YES	NO	
			Number of BREEAM credits Achieved		Minimum required credits by BREEAM issue and rating							
Hea 5	Internal and external lighting levels	1	1	1	1.00	-	-	-	-	-	1 expected	
Hea 6	Lighting zones & controls	1	1	1	1.00	-	-	-	-	-	1 expected	
Hea 7	Potential for natural ventilation	1	1	1	1.00	-	-	-	-	-	1 opportunity	
Hea 8	Indoor air quality	1	1	1	1.00	-	-	-	-	-	1 expected	
Hea 9	Volatile Organic Compounds	1	1	1	1.00	-	-	-	-	-	1 expected	
Hea 10	Thermal comfort	1	1	1	1.00	-	-	-	-	-	1 expected	
Hea 11	Thermal zoning	1	1	1	1.00	-	-	-	-	-	1 expected	
Hea 12	Microbial contamination	1	1	1	1.00	1	1	1	1	1	1 mandatory	
Hea 13	Acoustic Performance	2	2	2	2.00	-	-	-	-	-	2 expected	
Hea 15	Outdoor Space	1	1	1	1.00	-	-	-	-	-	1 expected	
Hea 19	Arts in health	1	1	1	1.00	-	-	-	-	-	1 expected	
ative Health & Wellbeing (weighted) Section Score		14.12%										
<b>Energy</b>												

Ref	BREEAM Issue Title	Number of BREEAM credits available	New Build Refurb		Total 'area weighted' BREEAM credits achieved	Achieved?	Minimum BREEAM Standards					Notes
			Area (m2)				Pass	Good	Very Good	Excellent	Outstanding	
			70000	8000								
			Number of BREEAM credits Achieved		Minimum required credits by BREEAM issue and rating							
Ene 1	Reduction of CO2 Emissions	15	8	6	7.79	-	-	-	6	10	6 mandatory for both new build and refurb additional 2+ credits expected for new build only	
Ene 2	Sub-metering of Substantial Energy Uses	2	2	2	2.00	-	-	1	1	1	1 mandatory 1 expected	
Ene 3	Sub-metering of high energy load Areas and Tenancy	1	1	1	1.00	-	-	-	-	-	1 expected	
Ene 4	External Lighting	1	1	1	1.00	-	-	-	-	-	1 expected	
Ene 5	Low zero carbon technologies	3	2		2.00	-	-	-	1	1	1 mandatory 1 expected	
Ene 15	Provision of Energy Efficient Equipment	1	1		1.00	-	-	-	-	-	1 expected	
Ene 16	CHP Community Energy	1	1		1.00	-	-	-	-	-	1 expected	
<b>Indicative Energy (weighted) Section Score</b>		<b>12.50%</b>										
<b>Transport</b>												
Tra 1	Provision of public transport	5	5		5.00	-	-	-	-	-	5 expected	

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			Area (m2)				Pass	Good	Very Good	Excellent	Outstanding	
			70000	8000								
							Minimum required credits by BREEAM issue and rating					
			Number of BREEAM credits Achieved									
Tra 2	Proximity to amenities	1	1		1.00	-	-	-	-	-	1 expected	
Tra 3	Cyclist Facilities	2	2		2.00	-	-	-	-	-	2 expected	
Tra 5	Travel plan	1	1		1.00	-	-	-	-	-	1 mandatory (NHS requirement)	
Tra 6	Maximum car parking capacity	1	1		1.00	-	-	-	-	-	1 expected	
Tra 7	Travel information point	1	1		1.00	-	-	-	-	-	1 expected	
Tra 8	Deliveries & manoeuvring	1	1		1.00	-	-	-	-	-	1 expected	
<b>Indicative Transport (weighted) Section Score</b>		<b>8.00%</b>										
<b>Water</b>												
Wat 1	Water Consumption	3	2	2	2.00	-	1	1	1	2	1 mandatory 1 expected	
Wat 2	Water meter	1	1	1	1.00	-	1	1	1	1	1 mandatory	
Wat 3	Major leak detection	1	1	1	1.00	-	-	-	-	-	1 expected	
Wat 4	Sanitary supply shut off	1	1	1	1.00	-	-	-	-	-	1 expected	
Wat 5	Water recycling	2	2	2	2.00	-	-	-	-	-	2 expected	
<b>Indicative Water (weighted) Section Score</b>		<b>5.25%</b>										
<b>Materials</b>												

Ref	BREEAM Issue Title	Number of BREEAM credits available	New Build Refurb		Total 'area weighted' BREEAM credits achieved	Achieved?	Minimum BREEAM Standards					Notes
			Area (m2)				Pass	Good	Very Good	Excellent	Outstanding	
			70000	8000								
							Minimum required credits by BREEAM issue and rating					
			Number of BREEAM credits Achieved									
Mat 1	Materials Specification (major building elements)	6	2		2.00	-	-	-	-	-	1 expected 1 opportunity	
Mat 2	Hard landscaping and boundary protection	1	1		1.00	-	-	-	-	-	1 expected	
Mat 3	Re-use of building façade	1	0		0.00	-	-	-	-	-	not expected due lack of potential to re-use of facade	
Mat 4	Re-use of building structure	1	0		0.00	-	-	-	-	-	not expected due lack of potential to re-use of structure	
Mat 5	Responsible sourcing of materials	3	1		1.00	-	-	-	-	-	1 opportunity	
Mat 6	Insulation	2	1	1	1.00	-	-	-	-	-	1 expected	
Mat 7	Designing For Robustness	1	1	1	1.00	-	-	-	-	-	1 expected	

Indicative Materials (weighted) Section Score **5.00%**

**Waste**



Ref	BREEAM Issue Title	Number of BREEAM credits available	New Build Refurb		Total 'area weighted' BREEAM credits achieved	Achieved?	Minimum BREEAM Standards					Notes
			Area (m2)				Pass	Good	Very Good	Excellent	Outstanding	
			70000	8000			YES	YES	YES	YES	NO	
							Minimum required credits by BREEAM issue and rating					
			Number of BREEAM credits Achieved									
Wst 1	Construction Site Waste Management	4	2		2.00	-	-	-	-	-	2 expected	
Wst 2	Recycled aggregates	1	0	1	0.10	-	-	-	-	-	1 expected in refurbishment only due to lower material volume requirement	
Wst 3	Recyclable waste storage	1	1		1.00	-	-	-	1	1	1 mandatory	
<b>Indicative Waste (weighted) Section Score</b>		<b>3.88%</b>										
<b>Land Use &amp; Ecology</b>												
LE1	Re-use of land	1	1		1.00	-	-	-	-	-	1 expected	
LE2	Contaminated land	1	0		0.00	-	-	-	-	-	if land is not contaminated then credit is not achievable	
LE3	Ecological value of site AND Protection of ecological features	1	1		1.00	-	-	-	-	-	1 expected	
LE4	Mitigating Ecological impact	2	2		2.00	-	-	1	1	1	1 mandatory 1 expected	
LE5	Enhancing Site Ecology	3	2		2.00	-	-	-	-	-	2 expected (ecologist must be appointed)	

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			Area (m2)				Pass	Good	Very Good	Excellent	Outstanding	
			70000	8000								
							Minimum required credits by BREEAM issue and rating					
LE6	Long term impact on biodiversity	2	2		2.00	-	-	-	-	-		2 expected (ecologist must be appointed)
The Land Use & Ecology BREEAM issues do not apply for an assessment of an existing building fit-out.												
ve Land Use & Ecology (weighted) Section Score		8.00%										
<b>Pollution</b>												
Pol 1	Refrigerant GWP - Building services	1	1	1	1.00	-	-	-	-	-		1 expected
Pol 2	Preventing refrigerant leaks	2	1	1	1.00	-	-	-	-	-		1 expected
Pol 4	NOx emissions from heating source	3	1	1	1.00	-	-	-	-	-		1 opportunity (depends on fuel source: gas, biomass?)
Pol 5	Flood risk	3	3		3.00	-	-	-	-	-		2 expected? (flood risk of site to be identified) 1 opportunity (SUDS)
Pol 6	Minimising watercourse pollution	1	1		1.00	-	-	-	-	-		1 expected

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			Area (m2)				Pass	Good	Very Good	Excellent	Outstanding	
			70000	8000								
							Minimum required credits by BREEAM issue and rating					
			Number of BREEAM credits Achieved									
Pol 7	Reduction of Night Time Light Pollution	1	1	1	1.00	-	-	-	-	-	1 expected	
Pol 8	Noise Attenuation	1	1		1.00	-	-	-	-	-	1 expected	
<b>Indicative Pollution (weighted) Section Score</b>		<b>7.50%</b>										
<b>Innovation</b>												
Man 2	Considerate Constructors	1			0.00							
Hea 1	Daylighting	1			0.00							
Hea 14	Office Space (BREEAM Retail & Industrial Schemes only)	0			0.00							
Ene 1	Reduction of CO2 emissions	2			0.00							
Ene 5	Low or Zero Carbon Technologies	1			0.00							
Wat 2	Water Meter	1			0.00							

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			Area (m2)				Pass	Good	Very Good	Excellent	Outstanding	
			70000	8000								
			Number of BREEAM credits Achieved		Minimum required credits by BREEAM issue and rating							
Mat 1	Materials Specification	1			0.00							
Mat 5	Responsible Sourcing of Materials	1			0.00							
Wst 1	Construction Site Waste Management	1			0.00							
		10			0.00							
Indicative Innovation (weighted) Section Score		0.00%										