



Energy from Waste Combined Heat and Power  
Facility  
**North Yard, Devonport**

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**BREEAM Industrial**  
**FINAL PRE- ASSESSMENT REPORT** prepared for MVV Environment  
Devonport Ltd.

**Date:** March 2011

**Report Status:** Final  
**Assessor:** Karl Walker

## **INTRODUCTION**

A preliminary BREEAM Industrial assessment workshop was carried out for the North Yard, Devonport Energy from Waste Combined Heat and Power Facility on 08/03/2011. This assessment advice is based on the BREEAM Industrial 2008 methodology. MVV Environment Devonport Ltd. have expressed a commitment to achieve a rating of 'Excellent' on the BREEAM Industrial assessment. The site incorporates sustainability measures including water efficient sanitary fittings, ecological enhancement measures and energy recovery from heat generated through the waste incineration process which will be used on a naval base in close proximity to the site. The site has been assessed as an Industrial building with small offices, as the office area is less than 500m<sup>2</sup>. The sections below describe the BREEAM Assessment process. It should be noted that this preliminary stage assessment is based on information provided by the design team and upon the experience of the Assessors based on similar projects. As a result, certain assumptions and estimates have been made. However, the preassessment process is iterative and will be modified and updated as the design process progresses, culminating in a final design stage assessment which will be submitted to the BRE for c

In addition to providing an assessment of the commitment of the design team towards sustainability, this report indicates the credits which are sought in order to achieve an 'Excellent' rating. This report assesses the probable outcome of the BREEAM Industrial 2008 assessment and is not a formal Design Stage assessment. While the score is currently an accurate estimate, the final score may change upon modifications to the design although it is the proposed strategy to achieve Excellent at this stage of the design process..

## **BREEAM PRE-ASSESSMENT METHODOLOGY**

All credits have been classified using a simple A B C D system developed by Scott Wilson. Under this system, credits are assessed in terms of the relative ease with which they could be achieved by the development and are categorised as follows:

- A = Elements of the design that would be incorporated in the development
- B = Elements of the design that would be incorporated in the development at low cost/effort
- C = Features that are currently uncertain or could be incorporated in the development at a relatively higher cost; and
- D = Elements or features that cannot be incorporated in the development at this stage.

The above system provides a simple but very effective method for design teams to assess the most cost-effective options for achieving the required BREEAM rating. BREEAM threshold rating scores are shown below.

- Pass = 30 %
- Good = 45%
- Very Good = 55%
- Excellent = 70%
- Outstanding = 85%

## **RESULTS**

A pre-assessment workshop was held on 24th June 2010 with the following in attendance:

Karl Walker (SW)  
Ian Roach (SW)  
John Wade (MVV)  
Dominic Primmer (Kier)  
Bruce

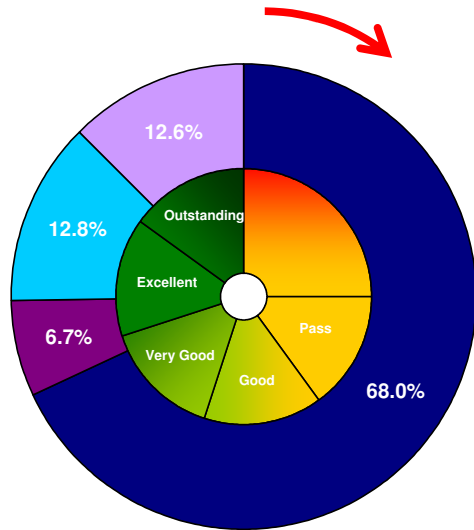
Based on the commitments made by the design team at the workshop, a pre-assessment score was obtained which has been presented below.

The two figures below indicate the percentage scores achieved by the development. In Figure 1 the credits have been categorised into groups A-D described above, to illustrate the BREEAM rating that the site is likely to achieve. It is evident that an 'Excellent' rating is achievable for the site based on the current design. A number of the credits required to achieve an 'Excellent' rating, including the Management credits will have to be

A number of innovative features will be incorporated on site, with the potential to increase the score in Figure 1 by a further 3%. Upto 10 Innovation credits are awarded when certain features specified in the building, such as water meters, exceed current industrial best practice standards. Specification of a score of 36 or over on the Considerate Constructor's scheme (subject to inclusion within the Contractor's prelims) and inclusion of a BREEAM AP within the Assessment team are considered to be achievable for the site. Figure 2 illustrates the credits already achieved in Figure 1, plus the innovation credits.

It is evident from Figure 2 below that a score of 72.2% is achievable for the site (including low cost items) at this stage. A score of 75.2% is achievable with the innovation credits, which implies that an 'Excellent' rating will be achieved based on commitments made by the design team.





Figure 1: Pre-Assessment BREEAM Industrial Score



**Key:**

The inner ring of the adjacent chart shows the threshold levels for BREEAM Industrial assessments, starting at the 12 o'clock position and increasing in a clockwise direction.

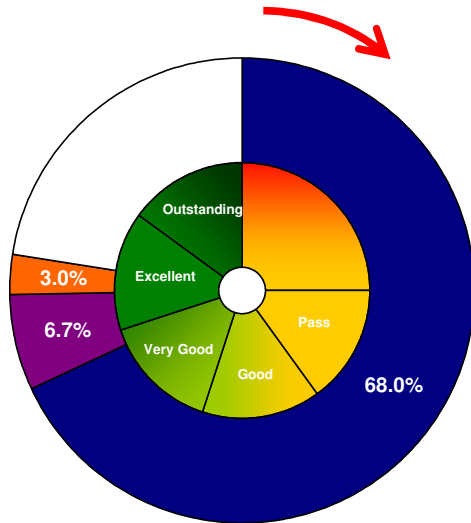
The outer ring details the predicted performance of the development and outlines the percentage required to achieve 'Excellent'.

-  A = Credits that would be achieved
-  A = Credits that would be achieved
-  C = High effort/cost measures or uncertain.
-  D = Credits that will not be achieved.

**Threshold Levels**

30%	Pass
45%	Good
55%	Very Good
70%	Excellent
85%	Outstanding




Figure 2: Pre-Assessment BREEAM Industrial Score with Innovation Credits



**Key:**

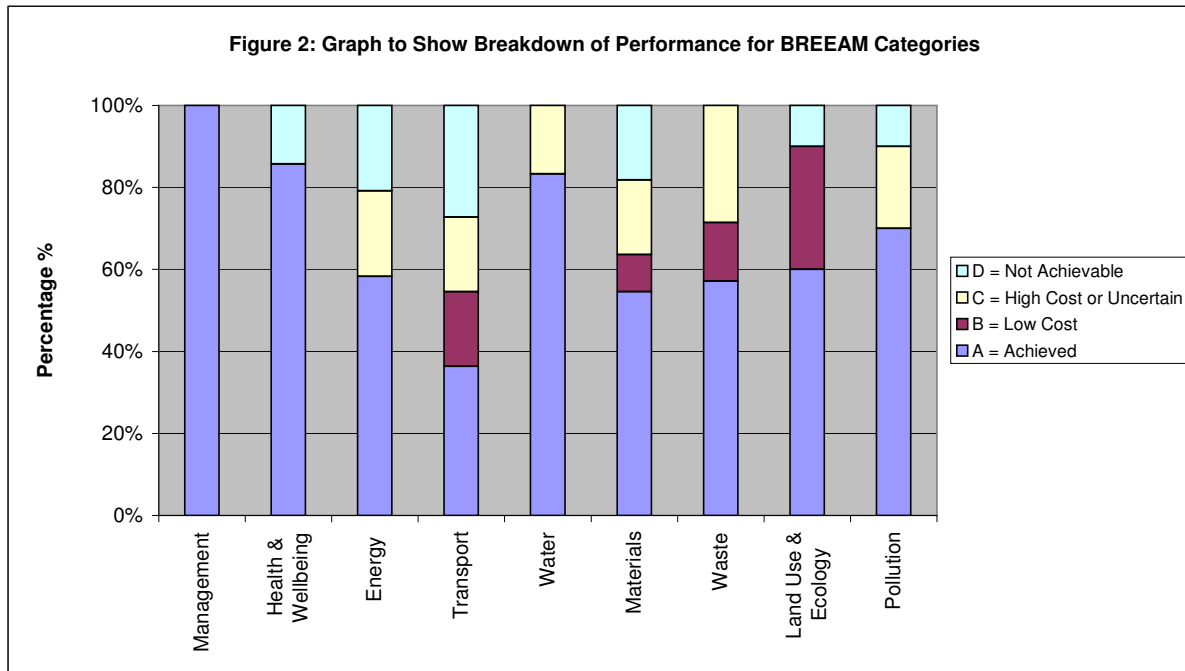
The inner ring of the adjacent chart shows the threshold levels for BREEAM Industrial assessments, starting at the 12 o'clock position and increasing in a clockwise direction.

The outer ring details the predicted performance of the development and outlines the percentage required to achieve 'Excellent'.

-  A = Credits that would be achieved
-  A = Credits that would be achieved
-  C = Innovation Credits

**Threshold Levels**

30%	Pass
40%	Good
55%	Very Good
70%	Excellent
85%	Outstanding



**Schedule of Information**

Table 1 overleaf provides an overview of the credit criteria, and the allocation of credits in accordance with the A-D system

Table 1: BREEAM Assessment Credits

Credit Ref	Credit Title	Credit Criteria	Credits Available	% Value	Credits that would be Achieved (A)	Low Cost/Effort credits (B)	High Cost / Uncertain (C)	Not achievable (D)	Comments and actions from workshop held on 08/03/2011
<b>Management</b>									
Man 1	Commissioning	Two credits are available: <b>Commissioning responsibilities:</b> One credit can be awarded 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. <b>Seasonal commissioning:</b> One credit can be awarded where evidence provided demonstrates that seasonal commissioning will be carried out during the first year of occupation, post construction (or post fit out).	2	2.40%	2				It was confirmed at the pre-assessment workshop that both commissioning and seasonal commissioning will be included in the contractors prelims, in line with the BREEAM requirements
Man 2	Considerate Constructors	One credit can be awarded where evidence provided demonstrates that there is a commitment to comply with best practice site management principles (CCS score of 24-31.5)  Two credits can be awarded where evidence provided demonstrates that there is a commitment to go significantly beyond best practice site management principles (CCS score of 32-35.5)	2	2.40%	2				It was confirmed at the pre-assessment workshop that a requirement to achieve a minimum score of 34 with a target of 36 on the considerate constructors scheme (or equivalent) will be included in the contractors prelims, in line with the BREEAM requirements
Man 3	Construction Site Impacts	Up to four credits can be awarded where evidence is provided to demonstrate that environmental impacts that occur during the construction process are minimised in accordance with best practice.  a. Monitor, report and set targets for CO2 or energy arising from site activities; b. Monitor, report and set targets for CO2 or energy arising from transport to and from site; c. Monitor, report and set targets for water consumption arising from site activities; d. Monitor construction waste on site; e. Sort and recycle construction waste; f. Adopt best practice policies in respect of air (dust) pollution arising from the site; g. Adopt best practice policies in respect of water (ground and surface) pollution occurring on the site.  For an additional credit demonstrate that all site timber is responsibly sourced.	4	4.80%	4				It was confirmed at the pre-assessment workshop that a requirement to monitor and set targets for energy and water consumption, and air and water pollution will be included in the contractors prelims, in line with the BREEAM requirements. In addition, the contractor must have an environmental materials policy, must operate an EMS and all timber on site must be responsibly sourced in line with BREEAM requirements. All site impacts would be achieved with the exception of b.)
Man 4	Building Users Guide	One credit 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	1.20%	1				It was confirmed at the pre-assessment workshop that the requirement to produce a Building Users Guide will be included in the contractors prelims, in line with the BREEAM requirements
Man 6	Security	Where evidence provided demonstrates that an Architectural Liaison Officer (ALO) or Crime Prevention Design Advisor (CPDA) from the local police force has been consulted at the design stage and their recommendations incorporated into the design of the building and its parking facilities (if relevant).	1	1.20%	1				John Wade confirmed that a meeting will be arranged with either an ALO or CPDA and their suggestions would be taken on board, based on design constraints and that this would be carried out at pre-planning
<b>Health and Wellbeing</b>									
Hea 1	Daylighting	One credit is awarded where at least 80% of occupied floor area is adequately daylight.	1	2.14%				1	It was confirmed at the pre-assessment meeting that this credit would not be achieved.
Hea 4	High Frequency Lighting	One credit where evidence provided demonstrates that high frequency ballasts are installed on all fluorescent and compact fluorescent lamps.	1	2.14%	1				It was confirmed by John Wade high frequency lighting will be included within the design specifications
Hea 5	Internal and External Lighting Levels	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.	1	2.14%	1				It was confirmed that internal and external lighting levels will be provided in accordance with the BREEAM requirements.
Hea 9	VOCs	One credit where evidence provided demonstrates that the emissions of VOCs and other substances from key internal finishes and fittings comply with best practice levels.	1	2.14%	1				It was confirmed at the pre-assessment meeting that material specifications would be developed in accordance with the BREEAM requirements for low VOC.

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Hea 12	Microbial Contamination	One credit where evidence is provided demonstrates that the risk of waterborne and airborne legionella contamination has been minimised. Compliance requirements 1. All water systems in the building are designed in compliance with the measures outlined in the Health and Safety Executive's "Legionnaires' disease - The control of legionella bacteria in water systems". Approved Code of Practice and guidance, 2000. 2. Where no humidification is specified or only steam humidification is provided.	1	2.14%	1				It was confirmed at the pre-assessment meeting by John Wade this credit would be achieved.
Hea 14	Office Space	Since the office area is 300m <sup>2</sup> for the building, this credit is applicable. <b>For one credit:</b> Three of the following must be achieved for at least 80% of the development's office space floor area a. View Out: all relevant building areas have an adequate view out (Building areas with workstations/benches or desks are within 7m of a wall with a window or permanent opening providing an adequate view out, where the window opening is greater than 20% of the total inside wall area.) b. Glare Control: Where evidence provided demonstrates that an occupant-controlled shading system (e.g. internal or external blinds) is fitted in all relevant building areas AND Glare in other occupied areas has been minimised through design and specification. c. Lighting Controls and zones: In all relevant building areas, lighting is appropriately zoned and occupant controllable with the option for commonly required lighting settings to be selected quickly and easily. d. Potential for natural ventilation: Fresh air is capable of being delivered to the occupied spaces of the building via a natural ventilation strategy, and there is: e. Indoor air quality f. Thermal Comfort: Assessments have been made of thermal comfort levels at the design stage using a full dynamic model as set out in CIBSE AM11, and where the services strategy can deliver thermal comfort levels in occupied spaces in accordance with the requirements set out in CIBSE Guide A "Environmental Design"  g. Thermal Zoning: Local occupant control is available for temperature adjustment in each occupied space to reflect differing user demands and the zoning allows separate occupant control (within the occupied space) of each perimeter area (i.e. within 7m of each external wall) and the central zone (i.e. over 7m from the external walls). h. Acoustic Performance: The building achieves adequate indoor ambient noise levels AND Appropriate airborne sound insulation levels between adjacent acoustically sensitive rooms and occupied spaces, sufficient to ensure adequate privacy. Where evidence provided demonstrates that areas used for speech achieve reverberation times compliant with table 8 of BS8233 1999 AND evidence provided demonstrates that areas used for speech achieve reverberation times compliant with table 8 of BS8233 1999.  For two credits: Six of the eight measures listed above must be achieved for at least 80% of the development's office space floor area  Potential for natural ventilation and indoor air quality will not be achieved for the development	2	4.28%	2				It was confirmed at the pre-assessment meeting by John Wade that this credit would be achieved for the office areas. Therefore six out of the eight items would be achieved.
<b>Energy</b>									
Ene 1	CO <sub>2</sub> Emissions	Up to 15 credits will be awarded Where the building demonstrates a percentage improvement above the requirement for CO <sub>2</sub> emissions as set out in the Building Regulations. For 'Excellent' rating, an EPC rating of 40 is a mandatory requirement, equating to 6 credits. For an 'Outstanding' rating, an EPC rating of 25 is a mandatory requirement, equating to 10 credits.	15	11.88%	6		4	5	It was confirmed at the pre-assessment meeting that 6 credits (an EPC of 40), mandatory for an 'Excellent' rating, would be achieved.
Ene 2	Sub-metering - substantial Energy Uses	To recognise and encourage the installation of energy sub-metering that facilitates the monitoring of in use energy consumption.	1	0.79%	1				It was confirmed at the pre-assessment meeting by John Wade that this credit would be achieved and sub meters would be specified in accordance with BREEAM.
Ene 3	Sub-metering Tenancy	To recognise and encourage the installation of energy sub-metering that facilitates the monitoring of in use energy consumption by tenant or end user.	1	0.79%	1				It was confirmed at the pre-assessment meeting that this credit would be achieved and the metering strategy would be specified in accordance with BREEAM
Ene 4	External Lighting	One credit where energy-efficient external lighting is specified and all light fittings are controlled for the presence of daylight.	1	0.79%	1				It was confirmed at the pre-assessment meeting by John Wade that this credit would be achieved through external light specifications in accordance with BREEAM.

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Ene 5	LZC Technologies	For one credit where evidence provided demonstrates that a feasibility study considering local (on-site and/or near site) low or zero carbon (LZC) technologies has been carried out and the results implemented. For two credits where evidence provided demonstrates that the first credit has been achieved and there is a 10% reduction in the building's CO2 emissions as a result of the installation of a feasible local LZC technology. For three credits where evidence provided demonstrates that the first credit has been achieved and there is a 15% reduction in the building's CO2 emissions as a result of the installation of a feasible local LZC technology.	3	2.38%	3				It was confirmed the buildings electrical load will be met through electricity generated from the facility providing a renewable from of energy derived from waste.
Ene 6	Building fabric performance	To recognise and encourage measures taken to minimise heat loss and air infiltration through the building fabric. This issue is applicable only for assessments of buildings that have a warehouse storage/operational area and/or dedicated vehicle delivery bays/access.	1	0.79%			1		It was confirmed at the workshop that this credit would not be sought.
Ene 8	Lifts	To recognise and encourage the specification of energy-efficient transportation systems.	2	1.58%	2				It was confirmed at the pre-assessment meeting that lifts would be specified in line with the BREEAM requirements and these credits would be achieved.
<b>Transport</b>									
Tra 1	Provision of Public Transport	Up to three credits are awarded based on the proximity of the development to a public transport node with a good service frequency.	3	2.18%		2	1		It was confirmed at the pre-assessment meeting that these credits would be achieved as the building is close to the main bus route within 650m and the station is within walking distance (1000m)
Tra 2	Proximity To Amenities	Where evidence provided demonstrates that the building is located within 500m of accessible local amenities appropriate to the building type and its users.	1	0.79%			1		It was confirmed at the pre-assessment meeting that this credit would not be achieved, as a food store is in excess of 500m.
Tra 3	Cyclist Facilities	One credit can be awarded where some provision of cyclist lock up facilities (minimum of five spaces for single form entry, 10 for two form entry, etc) are made for pupils and staff, as well as community users and parents. Two credits can be awarded where provision is as set out below: 10% of pupils and staff where the number of building occupants < 500 PLUS 7% for additional building occupants is in the range of 501-1000 Additionally, showers must be provided and, for two credits, compliant changing facilities or drying space must be provided.	2	1.45%	2				According to the BREEAM requirements, 3 cycle storage spaces would be required based on an occupancy of 30. John Wade confirmed that cycle storage spaces would be provided accordingly. Showers and lockers or drying space will be specified in accordance with BREEAM requirements.
Tra 4	Pedestrian & Cycle Safety	Where evidence provided demonstrates that the site layout has been designed to minimise risks to pedestrians and cyclists.	1	0.79%				1	John Wade stated that it was unlikely that the full 3m width for the cycle/pedestrian path would be achieved. This credit is therefore currently not sought.
Tra 5	Travel Plan	One credit can be awarded when the design team can demonstrate that a transport plan/green travel plan has been developed for the site.	1	0.79%	1				It was confirmed at the pre-assessment meeting that this credit would be achieved and a travel plan would be produced in line with BREEAM requirements.



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Tra 6	Maximum Car Parking Capacity	One credit where evidence provided demonstrates that the number of parking spaces provided for the building has been limited.	2	1.45%				2	Car parking will be provided in excess of the requirements and therefore this credit would not be achieved
Tra 8	Deliveries & Manoeuvring	One credit where evidence provided demonstrates that vehicle access areas have been designed to ensure adequate space for manoeuvring delivery vehicles and provide space away from manoeuvring area for storage of refuse skips and pallets.	1	0.73%	1				It was confirmed at the pre-assessment meeting that lifts would be specified in line with the BREEAM requirements and that vehicle access areas will be designed to ensure adequate space for manoeuvring delivery vehicles and space will be provided away from manoeuvring area for storage of refuse skips and pallets.
<b>Water</b>									
Wat 1	Water Consumption	To minimise the consumption of potable water in sanitary applications by encouraging the use of low water use fittings.	3	3.00%	2		1		It was confirmed at the pre-assessment meeting by John Wade that sanitary fittings will be provided in accordance with the BREEAM requirements for 2 credits. Rainwater/greywater recycling will not be specified.
Wat 2	Water Meter	One credit can be awarded where evidence is provided to demonstrate that a water meter with a pulsed output is installed on all mains supplies to the building	1	1.00%	1				It was confirmed at the pre-assessment meeting by John Wade that a water meter would be provided in line with BREEAM requirements
Wat 3	Major Leak Detection	One credit is available and can be awarded where evidence is provided to demonstrate that a leak detection system is specified or installed. The system must be capable of: 1) identifying major leaks both inside and outside the building and; 2) cover all mains water supplies to the building	1	1.00%	1				It was confirmed at the pre-assessment meeting by John Wade that a leak detection system would be provided in line with BREEAM requirements
Wat 4	Sanitary Supply Shut Off	One credit can be awarded where proximity detection shut off is provided to the water supply to all urinals and WCs.	1	1.00%	1				It was confirmed at the pre-assessment meeting by John Wade that an allowance has been made for sanitary supply shut off in line with BREEAM requirements
<b>Materials</b>									
Mat 1	Material Specification (Major Building Elements)	To recognise and encourage the use of construction materials with a low environmental impact over the full life cycle of the building.	2	2.27%	1		1		It was confirmed at the pre-assessment workshop that one credit would be achieved. The second credit is potentially achievable subject to confirmation from the BRE and referral to the 'Green guide to Specification'.
Mat 2	Hard Landscaping & Boundary Protection	One credit where evidence provided demonstrates that at least 80% of the combined area of external hard landscaping and boundary protection specifications achieve an A or A+ rating, as defined by the Green Guide to Specification.	1	1.14%			1		This credit is currently uncertain but potentially achievable subject to confirmation from the BRE and referral to the 'Green Guide to Specification'.
Mat 3	Re-use of Building Façade	One credit where evidence provided demonstrates that at least 50% of the total final façade (by area) is reused in situ and at least 80% of the reused façade (by mass) comprises in-situ reused material.	1	1.14%				1	There is no existing building façade and therefore this credit will not be achieved

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Mat 4	Re-use of Building Structure	One credit 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.	1	1.14%				1	There is no existing building structure and therefore this credit will not be achieved
Mat 5	Responsible Sourcing of Materials	Up to 3 credits are available where evidence provided demonstrates that 80% of the assessed materials in the following building elements are responsibly sourced: a. Structural Frame b. Ground floor c. Upper floors (including separating floors) d. Roof e. External walls f. Internal walls g. Foundation/substructure h. Staircase Additionally 100% of any timber must be legally sourced. NB: Criteria is different for Fit outs	3	3.41%	2	1			It was confirmed at the pre-assessment meeting that 80% of the assessed materials in the relevant building elements would be responsibly sourced.
Mat 6	Insulation	One credit where evidence provided demonstrates that thermal insulation products used in the building have a low embodied impact relative to their thermal properties, determined by the Green Guide to Specification ratings. Two credits where evidence provided demonstrates that thermal insulation products used in the building have been responsibly sourced.	2	2.27%	2				It was confirmed by John Wade that thermal insulation products used in the building will be specified to have a low embodied impact relative to their thermal properties, as determined by the Green Guide
Mat 7	Design for Robustness	Where protection is given to vulnerable parts of the building such as areas exposed to high pedestrian traffic, vehicular and trolley movements. 1. Internal and external areas of the building where vehicular, trolley and pedestrian movement occur have been identified. 2. Suitable durability and protection measures or design features have been specified to prevent damage to the vulnerable parts of these building areas from such traffic. This must include, but not be limited to: a. Protection from the effects of high pedestrian traffic in main entrances, public areas and thoroughfares (corridors, lifts, stairs, doors etc). b. Protection against any internal vehicular/trolley movement within 1m of the internal building fabric in storage, delivery, corridor and kitchen areas. c. Protection against, or prevention from, any potential vehicular collision where vehicular parking and manoeuvring occurs within 1m of the external building façade for all car parking areas and within 2m for all delivery areas.	1	1.14%	1				It was confirmed by John Wade at the pre-assessment meeting that the building would be designed for robustness in line with BREEAM requirements

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<b>Waste</b>									
Wst 1	Construction Site Waste Management	Up to three credits are available where evidence provided demonstrates that the amount of non-hazardous construction waste (m3/100m2 or tonnes/100m2) generated on site by the development is the same as or better than good or best practice levels. For one credit where evidence provided demonstrates that a significant majority of nonhazardous construction waste generated by the development will be diverted from landfill and reused or recycled.	4	4.29%	2		2		It was confirmed at the pre-assessment meeting that 2 credits would be sought, i.e. construction waste generated on site would be between 4.7-6.5 tonnes per 100m2 (gross internal floor area). Demolition activity will be limited, while there will be some demolition of the existing bridge and causeway, the material will be reused on site (Kier). It was confirmed that a pre-demolition audit was carried out and referenced in the SWMP for the demolition phase.
Wst 2	Recycled Aggregates	One credit where evidence provided demonstrates the significant use of recycled or secondary aggregates in 'high-grade' building aggregate uses.	1	1.07%		1			Specification of recycled aggregates would be a contractual requirement and these credits would be achieved. It was confirmed by Kier that nearly all aggregates can be sourced locally from secondary aggregates from the quarrying process, thus meeting the BREEAM requirements.
Wst 3	Storage of Recyclable Waste	One credit where a central, dedicated space is provided for the storage of the building's recyclable waste streams.	1	1.07%	1				It was confirmed at the pre-assessment meeting that these credits would be achieved as 10m2 of storage space would be provided
Wst 4	Compactor/Baler	One credit where evidence provided demonstrates that either an industrial waste compactor or baler is installed for compacting/baling waste materials generated on site AND a. A water outlet is provided for cleaning b. The development achieves the BREEAM credit for storage of recyclable waste.	1	1.07%	1				It was confirmed at the pre-assessment meeting that at compactor/baler would be provided in accordance with the BREEAM criteria.
<b>Pollution</b>									
Pol 1	Refrigerant GWP - Building Services	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	1.00%				1	It was confirmed at the pre-assessment meeting by John Wade that these credits would not be achieved
Pol 2	Preventing Refrigerant Leaks	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	1.00%			1		This credit is currently uncertain and is to be reviewed by John Wade to ascertain if the credit will be achieved. The credit is currently uncertain.
Pol 4	NOx Emissions of Heat Source	A maximum of 2 credits are available. The number of credits achieved must be determined in compliance with the following: a. One credit where the dry NOx emissions from delivered space heating energy to the office and associated areas are ≤70 mg/kWh delivered heating energy or less (at 0% excess O2). b. One credit where the dry NOx emissions from delivered space heating energy to the operational area(s) are ≤70 mg/kWh delivered heating energy or less (at 0% excess O2).	2	2.00%	2				Space heating to office area will be provided by oil fired boilers. Kier confirmed that NOx levels below ≤70 mg/kWh should be achieved. Space heating for the 'operational areas' is minimal, but where present NOx levels below ≤70 mg/kWh will be achieved.
Pol 5	Flood Risk/SUDs	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. Where evidence provided demonstrates that the assessed development is located in a zone defined as having a low annual probability of flooding. 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.	3	3.00%	2		1		It was confirmed at the pre-assessment workshop that SUDs measures include a swale, attenuation pond and a brown roof. It is anticipated that at least 2 credits will be achieved. The site is in Flood Zone 1 except for a small part of the access road which will have measures to protect it from flooding

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Pol 6	Minimising Watercourse Pollution	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	1.00%	1				It was confirmed at the pre-assessment meeting that these credits would be achieved through the specification of oil interceptors.
Pol 7	Night Time Light Pollution	One credit can be awarded 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	1.00%	1				It was confirmed at the pre-assessment meeting that lights would be specified to avoid light pollution in line with the BREEAM requirements.
Pol 8	Noise Attenuation	One credit where evidence provided demonstrates that new 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	1.00%	1				It was confirmed at the pre-assessment meeting that these credits would be achieved in accordance with BREEAM
<b>Land Use and Ecology</b>									
LE 1	Reuse of Land	One credit is awarded where the site has been previously built on or used for industrial purposes within the last 50 years.	1	1.00%	1				It was confirmed at the pre-assessment meeting that these credits would be achieved as the land is reclaimed and has been previously used for a variety of industrial purposes within the last 50 years.
LE 2	Contaminated Land	One credit is awarded where land prior to development is defined as contaminated and where adequate remedial steps have been taken to decontaminate the site prior to construction.	1	1.00%				1	It was confirmed at the pre-assessment meeting that these credits are currently uncertain as ground studies are currently being carried out.
LE 3	Ecological Value of Land and Protection of Ecological Features	One credit can be awarded 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	1.00%	1				It was confirmed at the pre-assessment meeting that the land is of low ecological value therefore this credit will be achieved by default
LE 4	Mitigating Ecological Impact	Where evidence is provided to demonstrate the change in ecological value of the site, as a result of development, is between less than zero and equal to, or less than, minus nine species, i.e. a small negative change.  Where evidence is provided to demonstrate there is no negative change in the ecological value of the site as a result of development, i.e. equal to, or greater than, zero species.	2	2.00%	1	1			It was confirmed at the pre-assessment meeting that one credit would be achieved based on a zero value for ecological enhancement, as no green or brown roofs are proposed and there is no external area on site.
LE 5	Enhancing Site Ecology	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.  Where evidence is provided to demonstrate a positive increase in the ecological value of the site of up to (but not including) 6 species.  Where evidence is provided to demonstrate a positive increase in the ecological value of the site of 6 species or greater.	3	3.00%	1	2			It was confirmed at the pre-assessment meeting by John Wade that these credits would be achieved and an ecologist has been commissioned to ensure ecology is enhanced on the site.
LE 6	Long-term Impact on Biodiversity	One credit is available where steps have been taken to prevent adverse impacts on biodiversity.	2	2.00%	2				It was confirmed at the pre-assessment meeting by John Wade that these credits would be achieved and biodiversity champion employed on site and management plan developed. All mandatory requirements and at least 4 of the additional criteria.

Table 1: BREEAM Assessment Credits

Credit Ref	Credit Title	Credit Criteria	Credits Available	% Value	Credits that would be Achieved (A)	Low Cost/Effort credits (B)	High Cost / Uncertain (C)	Not achievable (D)	Comments and actions from workshop held on 08/03/2011
<b>Innovation credits</b>									
1	Man 2 : Considerate Constructors Scheme		1	1.00%	0.01				It was anticipated this credit would be achieved as Kier will set 36 as target but this would be subject to site specific performance
2	Hea 1: Daylighting		1	1.00%			0.01		
3	Ene 1: Reduction of CO2 emissions		2	2.00%			0.02		
4	Hea 14: Office Space		1	1.00%			0.01		
5	Wat 2: Water Meter		1	1.00%			0.01		
6	Mat 1: Materials Specification		1	1.00%			0.01		
7	Mat 5: Responsible Sourcing of Materials		1	1.00%			0.01		
8	Wst 1: Construction Site Waste Management		1	1.00%			0.01		
9	Low or Zero Carbon Technologies		1	1.00%			0.01		
10	BREEAM AP		2	2.00%	0.02				A Suitably Qualified Assessor is involved in the design
	<b>Subtotals</b>		<b>12</b>		<b>3%</b>	<b>0%</b>	<b>9%</b>	<b>0%</b>	