Bentley House

BREEAM Multi-residential 2008 preliminary assessment

for

Wellcome Trust

01st June 2010

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CONTENTS

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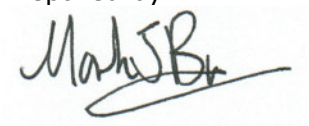

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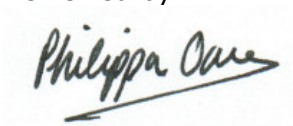

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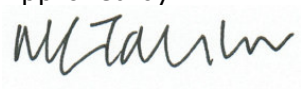

Martin Taylor
Director

1 EXECUTIVE SUMMARY

1.1 A preliminary BREEAM Multi-residential assessment has been prepared by Ramboll UK for the Wellcome Trust.

1.2 The report relates to the proposed development at Bentley House, Euston Road, Camden. It is a proposed multi-residential scheme, part new build and retains the existing Euston Road facade. The site covers an area of approximately 0.2ha and currently comprises a building associated with its former operation. The site has been vacant since 2005.

1.3 Currently circa 170 student accommodation rooms are proposed. This preliminary assessment covers this accommodation within the proposed development. It is anticipated that a single design stage assessment will be carried out for the site, and a post construction stage assessment will be carried out for each phase.

1.4 The current score, assessed under BREEAM Multi-residential 2008, is 65 % which equates to a 'Very Good' rating.

2 INTRODUCTION

2.1 This report has been prepared by Ramboll UK for the Wellcome Trust.

2.2 The report is for planning purposes and is not a full BREEAM Multi-residential Assessment. It has been prepared for the exclusive use of the Client and should not be used in whole or in part by any third parties without the express permission of RUK in writing.

2.3 Proposed Development

2.3.1 The proposed development is a multi-residential scheme, known as Bentley House, Euston Road, Camden. The site covers an area of approximately 0.2ha and currently comprises a building associated with its former operation.

2.3.2 Currently circa 170 student accommodation rooms are proposed. This preliminary assessment covers the entire multi-residential element proposed within the development. It is anticipated that a single design stage assessment will be carried out for the site, and a post construction stage assessment will be carried out for each phase.

2.4 BREEAM Multi-residential 2008

2.4.1 BREEAM is a voluntary scheme that aims to quantify and reduce the environmental burdens of buildings by rewarding those designs that take positive steps to minimise their environmental impacts.

Projects are assessed using a system of credits. The credits are grouped within the following categories:

- Management
- Energy
- Transport
- Health and Well Being
- Water
- Materials and Waste
- Land use
- Site Ecological Value
- Pollution

2.4.2 The assessment process results in a report covering the issues assessed together with a formal certification giving a rating on a scale of UNCLASSIFIED, PASS, GOOD, VERY GOOD, EXCELLENT and OUTSTANDING

2.4.3 The BREEAM for Multi-residential assessment comprises of a "pool" of credits from which a number of credits are selected according to the specifics of the development which is being assessed. The BREEAM for Multi-residential pre-assessment estimator tool, produced by the BRE, has been used to perform this pre-assessment. A number of assumptions have been entered into this tool, which then automatically selects the final credit selection set. As previously stated, the exact use of the units has not been determined, and therefore the credit selection set that are used for the full BREEAM assessment may not exactly mirror the credits which have been selected for this report

The following assumptions have been made, and entered into the BREEAM pre-assessment tool:

- Type of assessment: Design and Procurement;
- Assessment stakeholder: speculative/developer;
- Building scope: single "covered" office unit;
- Shell only for heating, ventilation and air conditioning services;
- Fit out for lighting services, both internal and external;
- Mains water supply connection only; and
- No addition building areas/functions selected

Whilst the final credit selection set is intended to solely assess the shell provided, there are a number of credits which go beyond this scope and therefore relate to services which will not be provided by the developer in this development. This is explained further in section 3.

2.5 Scoring System

Within each of the BREEAM categories outlined above, there are a number of credit requirements that reflect the options available to designers and managers of buildings.

An environmental weighting is applied to the scores achieved under each category, as shown below, in order to calculate the final BREEAM score. The weighting factors have been derived from consensus based research with various groups such as government, material suppliers and lobbyists. This research was carried out by BRE to establish the relative importance of each environmental issue. The BREEAM scale is displayed in the following table.

Table 1 BREEAM Scale

Rating	Requirements
UNCLASSIFIED (score of <30)	
PASS (score of ≥30)	Most developments should be able to achieve this with design/specification changes at a minimal additional cost.
GOOD (score of ≥45)	The developer has been able to demonstrate good practice in most areas.
VERY GOOD (score of ≥55)	Developments pushing forward the boundaries of environmental performance will achieve this.
EXCELLENT (score of ≥70)	Developments demonstrating excellent environmental performance across the full range of issues will achieve this.
OUTSTANDING * (score of ≥85)	Developments demonstrating exemplary environmental performance across the full range of issues will achieve this.

Innovation Credits

Innovation credits have been introduced under BREEAM 2008 to provide additional recognition for a building that innovates in the field of sustainable performance, above and beyond the level that is currently recognised and rewarded within standard BREEAM issues. Innovation credits therefore enable clients and design teams to boost their building's BREEAM performance and in addition, help support the market for new innovative technologies and practices.

An additional 1% score can be added to a building's final BREEAM score for each Innovation credit achieved. The maximum number of Innovation credits that can be awarded for any one building assessed is 10; therefore the maximum available score achieved for 'innovation' is 10%. Innovation credits can be awarded regardless of the final BREEAM rating i.e. they are awardable at any BREEAM rating level.

There are two different ways in which a building can achieve an Innovation credit. The first is by meeting exemplary performance requirements for an existing BREEAM issue. The relevant credits are as follows:

- **Man 2** - Considerate Constructors
- **Hea 1** - Daylighting
- **Hea 14** - Office Space (BREEAM Retail & Industrial Schemes only)
- **Ene 1** - Reduction of CO2 emissions
- **Ene 5** - Low or Zero Carbon Technologies
- **Wat 2** - Water Meter
- **Mat 1** - Materials Specification
- **Mat 5** - Responsible Sourcing of Materials
- **Wst 1** - Construction Site Waste Management

The second route is where an application is made to BRE Global by the BREEAM assessor to have a particular building feature, system or process recognised as 'innovative'. If the application is successful an Innovation credit can be awarded. The flow chart and eligibility criteria below outline the process to be used when applying for an Innovation credit. An additional fee is charged for each innovation credit application received.

Mandatory Standards

Mandatory standards have also been introduced under the BREEAM 2008 scheme. Different requirements are set for according to the overall BREEEAM rating.

3 PRE-ASSESSMENT SUMMARY

Issue		Credits Available	Credits Awarded
Management			
Man1	**Commissioning** 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, BSRIA/CIBSE guidelines and (where applicable), best practice and where there are complex systems then a specialist agent or manager is appointed. Evidence should also be provided to show that seasonal commissioning will be carried out during the first year of occupation of the building. **Comments & Assumptions:** Commissioning will be carried out for the Wellcome Trust for all relevant systems as per best practice. It is not yet known whether seasonal commissioning shall be carried out. Therefore only one credit can be awarded.	1 1	1 (max 2)
Man2	**Considerate Constructors** Where the project complies with either the Considerate Constructors scheme or an alternative independently assessed scheme and where a firm commitment is made to achieve certification under that scheme to the following standards: • Better than industry standard OR • Best practice **Comments & Assumptions:** The contractor shall have a commitment to register with the Considerate Constructors scheme and to achieve a score of greater than 32 out of 40.	1 2	2 (max 2)
Man3	**Construction Site Impacts** 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 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) Implement best practice policies in respect of air (dust) pollution arising from the site. e) Implement best practice policies in respect of water (ground and surface) pollution occurring on the site.	1 2 3	3 (max 4)

	f) Main contractor has a environmental materials policy, used for sourcing of construction materials to be utilised on the site. g) Main contractor operates an Environmental Management System. 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 a least 80% of the site timber is responsibly sourced and 100% is legally sourced. **Comments & Assumptions:** There is a commitment to achieve at least 4 items from the list above including; water consumption; best practice policies will be adopted with respect to air and water; environmental materials policy will be implemented; construction waste will be monitored, sorted and recycled, therefore 2 credits are awarded.	1	
Man4	**Building Users Guide** 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. **Comments & Assumptions:** A User Guide will be provided that covers all BREEAM requirements.	1	1 (max 1)
Man 6	**Consultation** Where evidence provided demonstrates that consultation has been, or is being, undertaken and feedback given to the local community and building users. In addition, advice should also have been sought from any relevant national and local history, archaeological bodies or military history groups regarding the heritage value in accordance with independent advice from the relevant body. 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. This should include the protection of any parts of the building (or site) having historic or heritage value in accordance with independent advice from the relevant body. **Comment & Assumptions:** Consultation has been undertaken with the relevant stakeholders a the pre-application stage.	1 1	1 (max 2)
Man8	**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). **Comments & Assumptions:** Consultation is being sought and feedback will be implemented where practical at the design stage.	1	1 (max 1)
Total Number of Management Credits Achieved			9 (max 12)
Health & Wellbeing			

Hea1	**Daylighting** Where evidence provided demonstrates that at least 80% of floor area in each occupied space is adequately daylit **Comments & Assumptions:** It is not thought possible that 80% of the occupied areas will achieve an average DF of more than 2%.	1	0 (max 1)
Hea2	**View Out** Where evidence provided demonstrates that all living rooms (in self contained flats), communal lounges, individual bedrooms / bedsits are within 5m of a window / opening providing an adequate view out, where the window/opening is >20 % of the total inside wall area. All other relevant building areas (e.g. offices, IT suites) are within 7m of a complaint window / opening. **Comments & Assumptions:** All beds are within 5m of a wall with a window or permanent opening providing adequate view out.	1	1 (max 1)
Hea3	**Glare Control** Where evidence provided demonstrates that an occupant-controlled shading system (e.g. internal or external blinds) is fitted in relevant building areas. **Comments & Assumptions:** Occupant controlled blinds will be fitted for all windows serving workstations. In other occupied areas potential for disabling glare will be minimized via low eaves or bioclimatic design.	1	1 (max 1)
Hea4	**High Frequency Lighting** Where evidence provided demonstrates that high frequency ballasts are installed on all fluorescent and compact fluorescent lamps. **Comments & Assumptions:** High frequency ballasts will be installed on all fluorescent and compact fluorescent lamps.	1	1 (max 1)
Hea5	**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. **Comments & Assumptions:** Compliant internal and external lighting will be specified throughout the development.	1	1 (max 1)
Hea7	**Potential for Natural Ventilation** Where evidence provided demonstrates that fresh air is capable of being delivered to the occupied spaces of the building via a natural ventilation strategy, and there is sufficient user-control of the supply of fresh air. **Comments & Assumptions:** Although natural ventilation will be sought for most areas, mechanical ventilation is required for the study bedrooms facing Euston Road, so unfortunately this credit must be withheld.	1	0 (max 1)
Hea8	**Indoor Air Quality** Where air intakes serving occupied areas avoid major sources of external pollution and recirculation of exhaust air. **Comments & Assumptions:** Despite best design intentions the air intakes will be not be at	1	0 (max 1)

	least 10m from external sources of pollution (including air outlets) for mechanically ventilated areas.		
Hea9	**Volatile Organic Compounds** Where evidence provided demonstrates that the emissions of VOCs and other substances from key internal finishes and fittings comply with the best practice levels. **Comments & Assumptions:** It is not yet known whether low VOC compounds will be specified for internal finishes and fittings. Credit not awarded.	1	0 (max 1)
Hea10	**Thermal Comfort** Where thermal comfort levels are assessed at design stage, this is used to evaluate appropriate servicing options, and appropriate thermal comfort levels are achieved. **Comments & Assumptions:** A thermal model shall be used to inform the service design in compliance with BREEAM requirements.	1	1 (max 1)
Hea11	**Thermal Zoning** The heating/cooling system is designed to allow occupant control of zoned areas within all occupied spaces in the building, including each flat and study bedroom. 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). **Comments & Assumptions:** This will be included within the services design.	1	1 (max 1)
Hea12	**Microbial Contamination** Where evidence provided demonstrates that the risk of waterborne and airborne legionella contamination has been minimised. **Comments & Assumptions:** This will be included within the services design.	1	1 (max 1)
Hea15	**Outdoor Space** Where evidence provided demonstrates the provision of an adequate amenity space ($2m^2$/dwelling) accessible for use by the building's occupants. **Comments & Assumptions:** Due to the site location and although outdoor space is designed, it's not sufficient to achieve the BREEAM requirements. Credit withheld.	1	0 (max 1)
Hea20	**Home Office** For the provision of a space and services which allows the occupants to set up a home office in a quiet room. **Comment & Assumptions** Student rooms will be provided with a suitable study area.	1	1 (max 1)
Hea21	**Sound Insulation** Where evidence provided demonstrates that: • Airborne sound Insulation values are at least 3dB higher • Impact sound insulation values are a least 3db lower OR • Airborne sound insulation values are at least 5dB higher • Impact sound insulation values are at least 5dB lower OR • Airborne sound insulation values are at least 8dB higher • Impact sound insulation values are at least 8dB lower	1 3 4	1 (max1)

	Than the performance standards set out in the Building Regulations for England and Wales, Approved Document E (2003 edition, with amendments 2004) **Comments & Assumptions** At this stage the study bedrooms are likely to achieve 3dB better values over Part E of the building regulations.		
Total Number of Health & Wellbeing Credits Achieved			9 (max 17)
Energy			
Ene1	**Reduction of CO_2 Emissions** Where evidence provided demonstrates an improvement in the energy efficiency of the building's fabric and services and therefore achieves lower building operational related CO2 emissions. New Build — Refurbishment • 63 — 100 • 53 — 87 • 47 — 74 • 45 — 61 • 43 — 50 • 40 — 47 • 37 — 44 • 31 — 41 • 28 — 36 • 25 — 31 • 23 — 28 • 20 — 25 • 18 — 22 • 10 — 28 • 0 — 15 • <0 — ≤0 • True zero carbon building **Comments & Assumptions:** The building fabric will be provided with good levels of insulation and air tightness. The final EPC rating will be affected by the building services final detailed design therefore the EPC rating associated with the multi-residential facility cannot be accurately predicted at this stage. A good rating is assumed due to the connection a central Combined Heat and Power (CHP) plant, a small array of Solar Photovotaics (PV) and mainly passive ventilation strategy however this is subject to detailed design.	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 Exemplar 1 Exemplar 2	7 (max 15)
Ene2	**Sub-metering of Substantial Energy Uses** Where sub metering is provided for substantive energy uses within the building covering space heating, domestic hot water, humidification, cooling, fans (major), lighting and small power, where present. If a building has other major energy consuming items, they should be covered as appropriate e.g. catering facilities. **Comments & Assumptions:** Sub-metering will be specified for substantial energy uses, as required under BREEAM.	1	1 (max 1)
Ene4	**External Lighting** Where energy efficient external luminaires are specified and all light fittings controlled for the presence of daylight. **Comments & Assumptions:** Energy efficient external lighting will be specified as required	1	1 (max 1)

	under BREEAM.		
Ene5	**Low or Zero Carbon Technologies** 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 result implemented. 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. 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. **Comments & Assumptions:** Energy Strategy has confirmed that a CHP and PV will achieve over at least a 10 % reduction in energy demand hence two credits can be awarded.	1 2 3	2 (max 3)
Ene15	**Energy Labelled White Goods** Credits are awarded where each dwelling is provided with either information about the EU Energy Labelling Scheme or White Goods with the ratings stated below: • EU Energy Labelling information OR • A+ rated fridges and freezers and/or A rated washing machines & dishwashers AND • B rated washer dryers and tumble dryers **Comments & Assumptions:** It is not known yet what will be fit within the wash room however EU Energy Labelling information will be provided.	1 1	2 (max 2)
Ene18	**Drying space** One credit is awarded for the provision of either internal or external drying space with posts and footings, or fixings capable of holding 4m+ of drying line for 1-2 bed dwellings and 6m+ for dwellings with 3 bedrooms or greater. **Comments & Assumptions:** An internal drying line will be provided, energy efficient mechanical extract will be provided to achieve the air change rates required.	1	1 (max 1)
Total Number of Energy Credits Achieved		14 (max 23)	
Transport			
Tra1	**Provision of Public Transport** The credits are awarded on a sliding scale based on the assessed buildings' accessibility to the public transport network. • ≥2 • ≥4 • ≥8 **Assumption made:** The Site is located along Euston Road a main transport route in Central London. The site is located less than 50m from Euston	1 2 3	3 (max 3)

	Square tube and there is a bus stop directly opposite the site. Given the location three credits can be awarded.		
Tra2	**Proximity to Amenities** Where the building is within 500m of the following amenities: a. Grocery shop and/or food outlet: b. Post box c. Cash machine. Where evidence provided demonstrates that the building is located within 1000m of at least 5 additional accessible local amenities appropriate to the building type and its users. **Comments & Assumptions:** Site is located in close proximity to the local amenities along Euston and Gower Street. The Site is within 500m of a cash point, grocery shop, post box and further amenities hence credits can be awarded.	1 1	2 (max 2)
Tra3	**Cyclist Facilities** Where evidence provided demonstrates that covered, secure and well-lit cycle storage facilities are provided for all building users. **Comments & Assumptions:** Cycle provision will be provided in accordance with Camden's UDP cycle parking standards (60), changing facilities & lockers will be provided for the tenants therefore two credits can be awarded.	1	1 (max 1)
Tra4	**Pedestrian and Cyclist Safety** Where evidence provided demonstrates that the site layout has been designed in accordance with best practice to ensure safe and adequate cycle access. **Comments & Assumptions:** A dedicated cycle lane is not expected to be designed to the cycle storage.	1	0 (max 1)
Tra6	**Maximum Car Parking Capacity** Where evidence provided demonstrates that the number of parking spaces provided for the building has been limited No more than one parking space is provided for every three building users No more than one parking space is provided for every four building users **Comments & Assumptions:** The site has no associated parking facilities; hence two credits can be awarded.	1 1	2 (max 2)
Total Number of Transport Credits Achieved			8 (max 9)
Water			
Wat1	**Water Consumption** Where evidence provided demonstrates that the specification includes taps, urinals, WCs and showers that consume less potable water in use than standard specifications for the same type of fittings. **Comments & Assumptions:** Wellcome Trust will to install sanitary units that are likely to result in water consumption of 1.5-4.4m3 / year. Details of sanitary fittings will be provided during detailed design stage.	5	2 (max 3)

Wat2	**Water Meter** Where evidence is provided to demonstrate that a water meter with a pulsed output will be installed on the mains supply to each building. **Comments & Assumptions:** A water meter with pulsed output will be installed.	1	1 (max 1)
Wat3	**Major Leak Detection** Where evidence is provided to demonstrate that a leak detection system is specified or installed. **Comments & Assumptions:** A leak detection system capable of detecting major leaks will be installed, covering all water supply between and within the building and the site boundary.	1	1 (max 1)
Wat6	**Irrigation systems** Where evidence provided demonstrates that a low-water irrigation strategy/system has been installed, or where planting and landscaping is irrigated via rainwater or reclaimed water. **Comments & Assumptions:** External water butts will be used to provide irrigation where required, mains irrigation is not required for the planting likely to be required hence credit can be achieved.	1	1 (max 1)
Total Number of Water Credits Achieved			5 (max 8)
Materials			
Mat1	**Materials Specification – Major Building Elements** Up to six credits are available, determined by the *Green Guide to Specification* ratings for the major building elements. **Comments & Assumptions:** Two credits currently awarded. Scheme is likely to achieve further credits in detailed design stage.	1-6	2 (max 6)
Mat2	**Hard Landscaping and boundary protection** Where evidence provided demonstrates that at least 80% of the combined areas of external hard landscaping and boundary protection specifications achieve an A or A+ rating, as defined by the *Green Guide to Specification.* **Comments & Assumptions:** There will be no hard landscaping or boundary protection hence credit can be awarded by default.	1	1 (max 1)
Mat3	**Reuse of Building Façade** Where at least 50% of the new building's total façade comprises re-used façade and at least 80% by mass of the reused façade comprises in-situ re-used material. **Comments & Assumptions:** The proposal will incorporate the Euston Road façade, however it is not 50 % in total.	1	0 (max 1)
Mat4	**Reuse of Building Structure** 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. **Comments & Assumptions:** Proposed development is new build therefore no credits can be awarded.	1	0 (max 1)
Mat5	**Responsible Sourcing of Materials** Where materials used in structural and non-structural elements	1-3	

	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. **Comments & Assumptions:** Contractor expected to achieve 1 credit with ISO 14001 & FSC certificates. It is expected that traditional building materials will be used.		1 (max 3)
Mat6	**Insulation** 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* Rating. Where evidence provided demonstrates that thermal insulation products used in the building have been responsibly sourced. **Comments & Assumptions:** Insulation to be BREEAM compliant.	1 1	1 (max 2)
Mat7	**Designing for Robustness** One credit is awarded where protection is given to vulnerable parts of the building such as areas exposed to high pedestrian traffic, vehicular and trolley movements. **Comments & Assumptions:** The scheme will be designed for robustness however this is subject to detailed design therefore no credit has been awarded.	1	0 (max 1)
Mat8	**Responsible Sourcing of Materials; Finishing elements** Up to 2 credits are available where evidence provided demonstrates that 80 % of the assessed materials are responsibly sourced, including stairs, windows, doors, skirting, paneling, furniture, facias. Additionally 100 % of any timber must be legally sourced. **Comments & Assumptions** Finishing elements will be responsibly sourced where possible. 2 credits awarded.	2	2 (max 2)
Total Number of Materials Credits Achieved			8 (max 17)
Waste			
Wst1	**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. Where evidence provided demonstrates that a significant majority of non-hazardous construction waste generated by the development will be diverted from landfill and reused or recycled. **Comments & Assumptions:** A Site Waste Management Plan will be produced for the site. Further credits may be achieved where relevant KPIs are met / exceeded.	3 1	3 (max 4)
Wst2	**Recycled aggregates** Where evidence provided demonstrates the significant use of recycled or secondary aggregates in 'high-grade' building	1	0

	aggregate uses. **Assumptions made:** Recycled aggregate is not currently specified, however the feasibility of incorporating recycled aggregate will be investigated further at the detailed design stage therefore credit has not been awarded.		(max 1)
Wst3	**Recyclable waste storage** Where storage space is provided for recyclable household waste in each: • Self contained dwelling • Communal kitchen or other suitable communal room Where a central, dedicated space is provided for the storage of the building's recyclable waste streams. **Comments & Assumptions:** Recvcled storage will be provided in each self contained dwelling and clearly labeled, adequately sized, accessible site, ideally within 20m of a building entrance, will be provided to cater for the separation and storage of at least 6 types of recyclable materials.	1 1	1 (max 2)
Wst5	**Composting** Where individual home composting facilities are provided for individual dwellings/communal kitchens, AND where evidence provided demonstrates there is a vessel on site for composting food waste, and adequate storage for such waste generated by the building's users and operation. **Comments & Assumptions:** Composting facilities are not expected to be provided for the student accommodation.	1	0 (max 1)
Total Number of Waste Credits Achieved			4 (max 8)
Land Use & Ecology			
LE1	**Reuse of Land** Where the site has been previously built upon or used for industrial purposes within the last 50 years. **Comments & Assumptions:** The site is currently occupied by the existing building and was previously occupied in 2005.	1	1 (max 1)
LE2	**Contaminated Land** Where evidence is provided to demonstrate that the 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. **Comments & Assumptions:** Local remediation is not expected to be required.	1	0 (max 1)
LE3	**Ecological Value of Site and Protection of Ecological Features** 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. **Assumption made:** All features of high Ecological value will be protected during construction, including the London Plain trees opposite the site shall be retained.	1	1 (max 1)
LE4	**Mitigating Ecological Impacts**		2

	Where evidence provided demonstrates that the change in the site's existing ecological value, as a result of development, is *minimal.* Where evidence provided demonstrates that there is no negative change in the site's existing ecological value as a result of development **Assumption made:** The ecological value of the site will increase as a result of the proposed development due to the creation of open space in the courtyard and green roof providing additional habitat. Evidence will be provided to demonstrate there is an enhancement to existing ecological value therefore 2 credits have been awarded.	1 2	(max 2)
LE5	**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. 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. 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. **Assumption made:** An ecologist will be appointed, subject to their report there will be no new habitats created in relation to this specific part of the site. However the recommendations will be implemented therefore 1 credit has been awarded.	1 2 3	1 (max 3)
LE6	**Long Term Impact on Biodiversity** 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**	1 2	2 (max 2)

	• 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 minimize 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. **Assumption made:** A suitably qualified ecologist will demonstrate that the site has a positive impact on the long term biodiversity and 5 of the additional requirements will be addressed therefore 2 credits can be awarded.		
Total Number of Land Use & Ecology Credits Achieved			7 (max 10)
Pollution			
Pol1	**Refrigerant GWP – Building Services** Where evidence provided demonstrates that 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. **Assumption made:** A natural ventilation strategy is sought resulting in no refrigerants being required; hence the credit can be awarded by default.	1	1 (max 1)
Pol2	**Preventing Refrigerant leaks** Where evidence provided demonstrates that refrigerant leaks can be detected or where there are no refrigerants specified for the development. Where evidence provided demonstrates 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. **Comments & Assumptions:** A natural ventilation strategy is sought resulting in no refrigerants being required; hence the credits can be awarded by default.	1 1	2 (max 2)

Pol4	**NO_x Emissions from Heating Sources** Where evidence provided demonstrates that the dry NO_x emissions from delivered space heating energy are ≤100mg/kWh (at 0%excessO_2). Where evidence provided demonstrates that the dry NO_x emissions from delivered space heating energy are ≤100mg/kWh (at 0%excessO_2). Where evidence provided demonstrates that the dry NO_x emissions from delivered space heating energy are ≤100mg/kWh (at 0%excessO_2). **Comments & Assumptions:** The heating will be provided by a CHP engine hence the system is likely to have higher NO_x emissions, however a filter can be put on the extract limited associated NOx emissions hence one credit can be awarded.	1 2 3	1 (max 3)
Pol 5	**Flood Risk** 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 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 600mm above the design flood level for the site's location. One further credit is awarded as follows: Where evidence provided demonstrates that surface water run-off attenuation measures are specified to minimise the risk of localised flooding, resulting from a loss of flood storage on site due to development. **Assumption made:** EA website suggestions area is in a low risk area, additional SUDs maybe included but not assessed at this stage.	2 1 1	2 (max 3)
Pol6	**Minimising Watercourse Pollution** Where evidence provided demonstrates that effective on the site treatment such as Sustainable Drainage Systems (SUDs) or oil separators have been specified in areas that are or could be a source of watercourse pollution. **Assumption made:** Oil separators will be specified in areas that are or could be a source of watercourse pollution.	1	1 (max 1)
Pol7	**Reduction of Night Time light Pollution** 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 **Comments & Assumptions:** Compliant external lighting will be specified.	1	1 (max 1)
Total Number of Pollution Credits Achieved			8 (max 11)
Total in all Sections			70 (max 115)

4 PRE-ASSESSMENT RESULTS

The following table presents the preliminary results for the BREEAM Multi-residential 2008 assessment. All credits and assumptions will need to be confirmed at the design stage and will need to be fully evidenced to achieve BRE certification. Some additional credits which cannot be assumed at this stage may be available at detailed design and the score could increase.

Camden also has mandatory requirements for BREEAM assessments. Proposed developments must achieve 60 % of the available credits in Energy & Water and 40 % in Materials respectively. From the table below we can see that proposed scheme at Bentley House achieves all three criteria.

	Achieved	Available	% of credits achieved	Section Weighting	Section Score
Management	9	12	75.0	0.12	9.00
Health and Well being	9	17	52.9	0.15	7.94
Energy	14	23	60.8	0.19	11.56
Transport	8	9	88.8	0.08	7.10
Water	5	8	62.5	0.06	3.75
Materials	8	17	47.0	0.125	5.88
Waste	4	8	50.0	0.075	3.75
Land Use and Ecology	7	10	87.5	0.1	8.75
Pollution	8	11	72.7	0.1	7.27
Total Score	71				65.00
Final BREEAM Score					65.00
Rating					VERY GOOD