Client: The Barton Wilmore Planning Partnership

7-15 Whitfield Street

BREEAM for Offices 2006
Preliminary Assessment

BREEAM

Date: 03/10/2007

Scott Wilson Job No: D116660
Report Status: For Issue
Assessment Team: Karl Walker & Michael Pidgeon

QUALITY ASSURANCE

This report has been checked in accordance with Scott Wilson's standard Quality Assurance procedures.

Issue	Rev	Prepared by	Checked by	Approved by	Description	Issued
1	1	Michael Pidgeon	Karl Walker	Martin Birt	Pre-assessment for Issue	10/09/2007
1	2	Karl Walker	Karl Walker	Martin Birt	Pre-assessment for Issue	03/10/2007

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INTRODUCTION

Scott Wilson, as licensed assessors, were appointed by Barton Wilmore to carry out a BREEAM pre-assessment for the proposed development on Whitfield Street. This pre-assessment advice is based on the BREEAM for Offices 2006 standard assessment methodology.

Appendix 1 provides a summary of the BREEAM process.

The development is required by Camden Council to achieve a minimum BREEAM rating of 'Very Good' (55%).

PROJECT DESCRIPTION

The proposed development, located close to Goodge Street tube station in central London, consists primarily of residential units which are assessed separately under the EcoHomes 2005 methodology. This assessment relates specifically to the lower ground floor, containing a split-level speculative office space..

The space incorporates an entrance lobby and plant room. The plant room is designed to house a proposed biomass district heating facility backed up by conventional gas boilers, providing energy for the residential units above as well as the office space.

METHODOLOGY

A BREEAM pre-assessment meeting was held on Tuesday 21/08/07 at the office of ADZ Architects, with the following present:

Table 1 - Key to Initials

- Karl Walker, Scott Wilson (Principal Sustainability Consultant)	KW
- Michael Pidgeon, Scott Wilson (Sustainability Consultant)	MP
- Zsolt Moldan, ADZ Architects (Architect)	ZM

At the pre-assessment meeting, all credits were 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 regardless of a BREEAM assessment and the requirement to achieve a BREEAM rating of Very Good;
B = Features that could be incorporated in the development with low cost and/or effort;
C = Features that are currently uncertain or could be incorporated in the development at a higher cost; and
D = Elements or features of the development that cannot achieve BREEAM credits.

The above system provides a simple 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 = 25%
Good = 40%
Very Good = 55%
Excellent = 70%

RESULTS AND CONCLUSIONS

Table 2 below shows the classification given to the BREEAM credits in accordance with the above system.

The BREEAM scoring prediction for the proposed office building is shown in Table 2 below. This shows that a score of 67.7% would be achieved with features proposed to be included in the proposed development. A further 1.5% could be achieved at a either a low cost or low effort, and a further 11.7% is considered to be high cost or uncertain at this stage.

Table 2 - Scoring Prediction Summary

All A's	All A + B's	All A + B + C's
67.7%	69.2%	81.0%

Figure 1 provides a graphical representation of the summary information in Table 2 against the BREEAM rating thresholds.

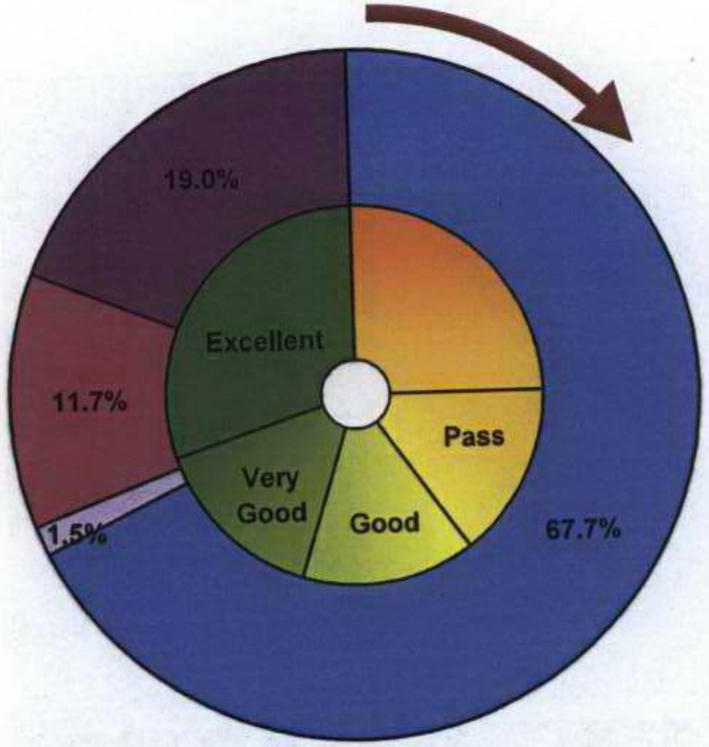
Figure 1 and Table 2 show that the development is expected to achieve a 'Very Good' rating.

To achieve an 'Excellent' rating all of the low cost/low effort credits would be required in addition to 4-5% of the uncertain / high cost credits. This includes a 3% buffer, ensuring a margin for error during the BRE Quality Assurance process.

An action list for potentially, if possible, achieving an 'Excellent' rating is set out below:

Credit Ref.	Credit Title	Credit Worth (%)	Actions required
M1	Seasonal Commission-ing	1.67	Commit to carrying out seasonal commissioning for a period of 12 months after occupation in addition to commissioning of key services.
HW8	Potential for Natural Ventilation	1.15	As the plan depth is greater than 15m provide calculations or modelling to demonstrate that the required rates of ventilation could be achieved through natural ventilation.
MW7	Recycled Aggregates	0.83	Confirm that recycled aggregate is specified for over 25% (by weight) of the total 'high grade' aggregate uses.
E1	Reduction of CO2 Emissions	0.76	Confirm that the percentage improvement over 2006 Building Regulations is 30% for 11 credits.
P6	NOx Emissions	1.00	Confirm that the Nox emissions from delivered space heating energy are: ≤70 mg/kWh (at 0% excess O2).
Total %		**5.41**	

Figure 1 - BREEAM Offices 2006 - Scoring Prediction
Whitfield Street



Key:
The inner ring of the adjacent chart shows the threshold levels for BREEAM 2006 for Offices assessments, starting at the 12 o'clock position and increasing in a clockwise direction.

The outer ring details the predicted performance of the 7-15 Whitfield St.

A = Credits that would be achieved.

B = Low effort/cost.

C = High effort/cost or uncertain.

D = Credits that will not be achieved.

Table 3 - BREEAM Pre-assessment Results

Credit Ref	Summary of Credit Criteria	Credit Title	Credits Available	Weighted % Worth	A = Would be Achieved	B = Low effort/cost	C = High effort/cost or Uncertain	D = Not achieved	Preliminary Credit Evaluation
Management									
Man 1	For the first credit demonstrate 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 For the second credit demonstrate that seasonal commissioning will be carried out during the first year of occupation, post construction (or post fit out).	**Commissioning**	**2**	**3.33%**	1		1		It was confirmed at the pre-assessment meeting by ZM on 21.08.07 that all building services will be commissioned. It is uncertain at this stage whether seasonal commissioning will be carried out. **It is anticipated that one of two credits will be achieved, subject to the provision of evidence.**
Man 4	The contractor commits to comply with the Considerate Constructors Scheme (CCS): For One credit demonstrate a commitment to achieve a CCS score between 24 and 31.5; For Two credits where there is a commitment to achieve a CCS score between 32 and 40	**Considerate constructors**	**2**	**3.33%**	2				It was confirmed by ZM at the pre-assessment meeting on 21.08.07 that a score of at least 32 will be achieved in the Considerate Constructors Scheme, and that this will be conditioned in the contractor's preliminary documents. For further information on the CCS scheme refer to Appendix 2 attached. **It is anticipated that these credits will be achieved, subject to the provision of evidence.**

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Man 5	Demonstrates that 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. 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.	**Construction Site Impacts**	**4**	**6.67%**	**4**				*It is understood that measures a, c, d, e, f & g , as listed in the credit criteria, will be conditioned in the contractor's preliminary documents, and that the contractor will be required to ensure that all temporary site timber is re-used. For further information on construction site impacts refer to Appendix 3 attached.* ***It is anticipated that all four credits will be achieved, subject to the provision of evidence.***
Man 12	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.	**Building Users Guide**	**1**	**1.67%**	**1**				It was confirmed at the pre-assessment meeting on 21.08.07 that a building user's guide will be provided as a stand-alone document, supporting the O & M manual for the development. For further information on the requirements of a building users guide refer to Appendix 4 attached. **It is anticipated that this credit will be achieved, subject to the provision of evidence.**
		Subtotals	**9**		**8**	**0**	**1**	**0**	
			100%		**89%**	**0%**	**11%**	**0%**	

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Health & Wellbeing									
HW 1	Where at least 80% of net lettable office floor area is adequately daylit. The following will demonstrate compliance. a. An average daylight factor of at least 2% PLUS either (b) OR (c AND d) below b. A uniformity ratio of at least 0.4; (spaces with glazed roofs, such as atria, must achieve a uniformity ratio of at least 0.7). OR c. A view of sky from desk height (0.7m) is achieved AND d. The room depth criterion d/w +d/Hw < 2/(1-RB) is satisfied. Where: d = room depth, w = room width, Hw = window head height from floor level and RB = average reflectance of surfaces in the rear half of the room.	Daylighting	1	1.15%				1	The required daylight factor is considered to be unachievable as the entire office space is located underground, with walls close to both the north and south side of the building. The only available light for the space is through borrowed light from light wells. **It is anticipated that this credit will not be achieved, subject to the provision of evidence.**
HW 2	Where evidence is provided to demonstrate that all desks are within a 7m radius of a window.	View Out	1	1.15%	1				The proposed layout incorporates a central corridor at least 2m wide, and the total width of the main room is 16m. Therefore each desk would be within 7m of a window. **It is anticipated that this credit will be achieved, subject to the provision of evidence.**
HW 3	Where evidence is provided to demonstrate that an occupant controlled glare control system (e.g. internal or external blinds) is fitted.	Glare Control	1	1.15%				1	The current proposals do not include the provision of an occupant controlled glare system on the windows, as glare is not considered to be a potential problem. **It is anticipated that this credit will not be achieved**
HW 4	Where evidence is provided to demonstrate that high frequency ballasts are installed on all fluorescent and compact fluorescent lamps.	High Frequency Lighting	1	1.15%	1				It was confirmed at the pre-assessment meeting on 21.08.07 that high frequency ballasts will be installed throughout the office space. **It is anticipated that this credit will be achieved, subject to the provision of evidence.**

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HW 5	Where evidence is provided to demonstrate that all internal and external lighting, where relevant, is specified in accordance with the appropriate maintained illuminance levels (in lux) recommended by CIBSE.	**Internal & External Lighting Levels**	**1**	**1.15%**	1				It was confirmed at the pre-assessment meeting on 21.08.07 that all internal and external lighting levels will be specified in line with CIBSE guidance and as outlined in the BREEAM criteria. For further information on Internal & External Lighting Levels refer to Appendix 5 attached. **It is anticipated that this credit will be achieved, subject to the provision of evidence.**
HW 6	Where evidence is provided to demonstrate that lighting, in all occupied areas, is zoned to allow separate control.	**Lighting Zones**	**1**	**1.15%**	1				The development is a speculative office space, and capacity will be allowed for tenant to install zoned lighting as per criteria, as confirmed at the pre-assessment meeting on 21.08.07. **It is anticipated that this credit will be achieved, subject to the provision of evidence.**

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HW 8	Where evidence is provided to demonstrate that external façade windows to all occupied areas are openable. To demonstrates compliance; The openable window area in each room/floor plate should be equivalent to 5% of the gross internal floor area of that room/floor plate, and for accommodation over 7m deep openable windows are on opposite sides.	**Potential for Natural Ventilation**	1	1.15%			1		It was confirmed at the pre-assessment meeting on 21.08.07 that openable windows will be provided along both the north and south walls of the office space, and that the openable area will be equivalent to greater than 5% of the total floor space. However, as the plan depth is greater than 15m, calculations or modelling would be required to demonstrate that the required rates of ventilation could be achieved through natural ventilation. **It is currently uncertain whether this credit will be achieved**
HW 9	Where air intakes serving occupied areas avoid major sources of external pollution and recirculation of exhaust air. The following demonstrates compliance: 1. Air-conditioned and mixed-mode buildings: Where location of air intakes/outlets are over 10m apart to minimise recirculation AND intakes are over 20m from sources of external pollution. 2. Naturally-ventilated buildings: Where location of openable windows/ventilators are over 10m from sources of external pollution.	**Internal Air Pollution**	1	1.15%	1				It was confirmed at the pre-assessment meeting on 21.08.07 that air intakes will be located along south side of building, and outlets along north side of building. These will be at least 20m from the road. **It is anticipated that this credit will be achieved**

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HW 11	Where evidence is provided to demonstrates that each space within the development achieves recommended minimum fresh air rates. The following will demonstrates compliance: **Naturally ventilated buildings** 1. (HW8) is achieved. 2. Background ventilation to be in accordance with the Building Regulations Part F. 3. The plan depth of building is less than 15m. Where the plan depth of the building exceeds 15m additional ventilation measures (such as passive stack ventilation or a central atrium) should also provided. 4. Where there are dedicated smoking rooms these must be separated from all other occupied areas by lobbies and serviced by separate ventilation systems to prevent recirculation.	Ventilation Rates	1	1.15%	1				It was confirmed at the pre-assessment meeting on 21.08.07 that a mechanical ventilation system will be specified, and that the system will be designed to provide air at a rate of 12 litres per second per person. **It is anticipated that this credit will be achieved, subject to the provision of evidence.**
	Mechanically ventilated and air conditioned buildings: 1. Fresh air is provided at a rate of 12 litres per second per person in accordance with the top of the range recommended in the British Council for Offices Guide to Best Practice in the Specification of Offices. 2. Where smoking is permitted this should be in dedicated smoking rooms only with a ventilation rate of at least 32 litres per second per person. This must be achieved through mechanical means and the room must also be separated from all other occupied areas by lobbies and serviced by separate ventilation systems to prevent re-circulation								

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HW 14	Where thermal comfort levels are assessed at design stage, this is used to evaluate appropriate servicing options, and appropriate thermal comfort levels are achieved. To demonstrate compliance a thermal model in accordance with CIBSE AM11 is required.	Thermal Comfort	1	1.15%			1		Thermal modelling has not been carried out at this stage, but it is understood that this may form part of the design process at a later stage. **It is currently uncertain whether this credit will be achieved**
HW 15	Where evidence provided demonstrates that local occupant control is available for temperature adjustment in each area to reflect differing load requirements. To demonstrate compliance: 1. The heating/cooling system is designed to allow independent occupant thermal control, in all separate rooms/areas (including floors) within the building. 2. Zoning allows separate occupant control to be made of each perimeter area (i.e. within 7m of each external wall) and the central zone (i.e. over 7m from the external walls). 3. Where long-lag systems are specified these are designed to service the base load only and responsive secondary heating is provided which is zoned as above.	Thermal Zoning	1	1.15%	1				It is understood that fan coil units would be spaced at regular intervals along the main room, each with its own controls. As the plan depth is around 15m, perimeter zoning would effectively be provided by providing separate controls for each half of the space along the east-west axis. **It is anticipated that this credit will be achieved, subject to the provision of evidence.**

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HW 16	Where evidence is provided to demonstrate that the risk of waterborne and airborne legionella contamination has been minimised. To demonstrate compliance; 1. All water and HVAC (heating ventilation and air-conditioning) systems are designed to meet the requirements of HSE Approved Code of Practice (ACoP) and Guidance, L8, "Legionnaires disease; The control of legionella bacteria in water systems", 2000. 2. Where no humidification is present, or only steam humidification is provided.	Microbial Contamination	1	1.15%	1				It was confirmed at the pre-assessment meeting on 21.08.07 that no cooling towers or humidification plant will be specified. **It is anticipated that this credit will be achieved by default**
HW 17	Where evidence provided demonstrates that the building design can be shown to achieve the appropriate indoor ambient noise levels. To demonstrates compliance; 1. Indoor ambient noise level in unoccupied offices falls within the following ranges; a. 35-40dB LAeq,T in small offices b. 40-45dB LAeq,T in medium offices c. 45-50dB LAeq,T in large offices	Acoustic Performance	1	1.15%	1				It is understood that an acoustician will be commissioned to ensure that adequate measures are employed to control plant noise at source and ensure that the ambient noise levels are in line with the BREEAM requirements for a large office. The prime consideration of the acoustician will be to ensure that noise levels do not disturb the residential units above. **It is anticipated that this credit will be achieved, subject to the provision of evidence.**
		Subtotals	13		9	0	2	2	
			100%		69%	0%	15%	15%	

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Credit Ref	Summary of Credit Criteria	Credit Title	Credits Available	Weighted % Worth	A = Would be Achieved	B = Low effort/cost	C = High effort/cost or Uncertain	D = Not achieved	Preliminary Credit Evaluation
Energy & Transport									
E 1	Where the building demonstrates a percentage improvement above the requirement for CO2 emissions as set out in the Building Regulations. Credits percentage improvement over 2006 building regulation requirement are as follows: 1 Credit for +1%, 2 Credits for +2%, 3 Credits for +4%, 4 Credits for +6%, 5 Credits for +8%, 6 Credits for +10%, 7 Credits for +12%, 8 Credits for +14%, 9 Credits for +18%, 10 Credits for +22%, 11 Credits for +30%, 12 Credits for +40%, 13 Credits for +50%, 14 Credits for +60% and 15 Credits for ≥70% In addition to the above an additional 2 credits may be awarded (up to a maximum of 15) for carrying out the following: A specialist study is been undertaken to establish the implications of improving building fabric performance with regards to the listed/historic nature of the building and the design team demonstrate changes to the design and/or action taken as a result of the above study.	**Reduction of CO_2 Emissions**	**15**	**11.36%**	**8**	**2**	**3**	**2**	It is anticipated that a minimum improvement of 14% will be achieved, in order to ensure compliance with Camden's Supplementary Planning Guidance (requiring a minimum of 60% scored in the Energy Section). This is achievable through a combination of renewable energy, improvements to building fabric and efficient lighting. A higher level of performance may be achieved. **It is anticipated that at least eight of fifteen credits will be achieved, subject to the provision of evidence.**
E 2	Where evidence is provided to demonstrate the provision of direct sub-metering of substantive energy uses within the building. demonstrates compliance; 1. Separate energy sub-meters are provided for the following systems (where present): a. Space Heating b. Humidification Plant c. Cooling Plant d. Fans (major) e. Lighting f. Small power (lighting and small power can be on the same sub-meter where supplies are taken at each floor/department). g. Other major energy consuming items where appropriate	**Sub-metering of Substantial enregy uses**	**1**	**0.76%**	**1**				It was confirmed at the pre-assessment meeting on 21.08.097 that separate submetering will be provided to all substantial energy uses in line with the BREEAM requirements. **It is anticipated that this credit will be achieved, subject to the provision of evidence.**

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E 3	Where evidence is provided to demonstrate sub-metering of energy use by tenancy/areas is installed within the building. To demonstrate compliance; 1. Provision of sub-meters covering all potential tenancy or function areas within the building as follows; a. Speculative buildings - A commitment to install meters to separate tenancy areas. b. Single occupancy buildings - A commitment to install sufficient sub metering to allow for monitoring of different departments or areas of an organisation. Metering by floor plate should normally be sufficient to achieve this.	Sub-metering of Areas/Tenancy	1	0.76%	1				It is anticipated that the office space is likely to be occupied by a single tenant. However, if this is not the case, it is understood that individual sub-meters will be provided. **It is anticipated that this credit will be achieved, subject to the provision of evidence.**
E 4	Where energy efficient external luminaires are specified and all light fittings controlled for the presence of daylight. At this stage the following demonstrates compliance; 1. 80% of external luminaires have an efficacy of at least 100 luminaire-lumens/circuit-Watt. 2. Light fittings are controlled through a time switch or daylight sensor to allow for daylight control	External Lighting	1	0.76%	1				It was confirmed at the pre-assessment meeting on 21.08.07 that external lighting will be specified in line with the BREEAM requirements. **It is anticipated that this credit will be achieved, subject to the provision of evidence.**

Table 3 - BREEAM Pre-assessment Results

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T 1	Where good access is available to and from public transport networks for commuting for the first credit and where there is good access to and from public transport networks for business for the second credit travel. To demonstrate compliance; **First credit;** 1. The distance from the building entrance to the public transport node (i.e. bus stop, station etc.) is less than 500m. 2. The transport node has a service at least once every 15 minutes at peak times (i.e. 8.00am-10.00am and 5.00pm to 7.00pm) to a local urban centre. **Second credit;** 1. The distance from the building entrance to the public transport node (i.e. bus stop, station etc.) is less than 500m. 2. The transport node has a service at least once every 30 minutes through the working day (i.e. 8.00am - 7.00pm) to a major transport node serving local and regional infrastructure systems.	Provision of Public Transport	2	1.52%	2				Goodge Street station is located well within 500m of the site, and a regular London Underground service operates from this station in line with the BREEAM requirements. **It is anticipated that this credit will be achieved, subject to the provision of evidence.**

Table 3 - BREEAM *Pre-assessment Results*

Credit Ref	Summary of Credit Criteria	Credit Title	Credits Available	Weighted % Worth	A = Would be Achieved	B = Low effort/cost	C = High effort/cost or Uncertain	D = Not achieved	Preliminary Credit Evaluation
T 2	Up to 10 credits are awarded as follows; 1 Where total commuting CO2 emissions are estimated to be <1300 kg/person/year 2 Where total commuting CO2 emissions are estimated to be <1200 kg/person/year 3 Where total commuting CO2 emissions are estimated to be <1100 kg/person/year 4 Where total commuting CO2 emissions are estimated to be <1000 kg/person/year 5 Where total commuting CO2 emissions are estimated to be <900 kg/person/year 6 Where total commuting CO2 emissions are estimated to be <800 kg/person/year 7 Where total commuting CO2 emissions are estimated to be <700 kg/person/year 8 Where total commuting CO2 emissions are estimated to be <600 kg/person/year 9 Where total commuting CO2 emissions are estimated to be <500 kg/person/year 10 Where total commuting CO2 emissions are estimated to be <400 kg/person/year	Transport CO_2	10	7.58%	10				The occupancy is anticipated to be around 125 people, and it was confirmed at the pre-assessment meeting on 21.08.07 that no parking spaces will be provided. The *Transport Calculator* tool was used to determine a score of 10 credits, with anticipated emissions of 476.46kg/person/year. **It is anticipated that these credits will be achieved, subject to the provision of evidence.**