FULCRUMCONSULTING

Edinburgh London Madrid

BREEAM SCHOOLS 2006 ASSESSMENT REPORT – DESIGN AND PROCUREMENT ASSESSMENT

17 CONWAY ST

Issue A

Date 18th August, 2007

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Date 18th September 2007

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BREEAM Certificate Information

Certificate Request Form	
Assessment Details	
BRE reference number (provided on registration.)[4]	N/A
Assessment type[4]	BREEAM Schools 2006
Assessment stage[4]	Design and Procurement
Date of accompanying report[4]	N/A
Net floor area assessed[4]	930m²
Assessment Details required to appear on the certificate. (Please recreate this box for every certificate required, add extra rows for additional parties/stakeholders as required)	
Building name/Plot number/Building or site address	*17 Conway St*
BREEAM rating	Good
BREEAM percentage	41%
Assessor organisation	Fulcrum Consulting
Assessor name	Tom Randall & David Altabev
Architect / Design Team	Walker Bushe Architects
Client	Walker Bushe Architects
BREEAM version	Schools 2006

1. EXECUTIVE SUMMARY

Fulcrum Consulting has been commissioned by Walker Bushe Architects to carry out a BREEAM assessment of 17 Conway St.

This report details the performance of 17 Conway St against the BREEAM Schools 2006 Design and Procurement criteria.

Summary of building Performance

The building achieves a score of 41%, which translates in to a BREEAM rating of "Good". The assessor has determined this rating using an auditable trail of evidence, all of which is referenced throughout this report.

Score Calculation

The table below illustrates how the BREEAM score has been calculated;

Issue Category	Number of Credits Achieved (a)	Number of Credits Available (b)	% of Credits Achieved (c) [a/b]x100)	Issue Weighting (d)	Weighting Score Achieved (cxd=e)
Management	4	20	20%	15%	3.00
Health and Wellbeing	10	18	56%	15%	8.33
Energy	3	19	16%		
Transport	4	6	67%		
Energy and Transport	7	25	28%	25%	7.00
Water	5	7	71%	5%	3.75
Materials and Waste	14	17	82%	10%	8.24
Land use & Ecology	5	12	42%	15%	6.25
Pollution	4	14	29%	15%	4.29
Weighted Score					40.68%

2. INTRODUCTION

2. 1 BACKGROUND TO BREEAM

Across the world, the issue of environmental protection has become a serious public concern. Since the 1997 Kyoto Summit, governments in the UK and across Europe have been committed to action in reducing damage to the global environment caused by industrialised development.

Underlying this concern is the growing evidence that the planet's fragile climate, atmosphere and eco-system may already be altered irreversibly and that this situation will worsen this century. Symptoms of man-made pollution include global warming, destruction of the ozone layer and deterioration of land, water and air quality at a local level.

The built environment and the construction industry account for a surprisingly large proportion of the total environmental impact. In the UK, the operation of buildings accounts for approximately 50% of our primary energy use and production of building materials account for approximately a further 10% of primary energy use[1]. In addition, natural environments are damaged and the extraction of materials and release of toxic chemicals through some production processes pose health risks.

2. 2 BREEAM CATEGORIES

Against this background, interest in 'greener' buildings has grown, both encouraged by the Government and pioneered at project level by committed clients and design teams. The BREEAM (Building Research Establishment Environmental Assessment Method) was devised by the BRE to provide Clients with an established method of benchmarking the performance of a project so they may clearly understand how their building and organisation impacts on the environment. The assessment is based upon criteria that define the environmental impact of a project and may be briefly defined as follows:

Management (M) - An assessment of the client commitment to management of the environmental impact of the project / organisation during construction or operation.

Health and Wellbeing (HW) - An assessment of the risks posed to occupant health and comfort in the design or operation of the building.

Energy (E) – This assessment primarily measures the energy efficiency of the project and measures taken to minimise energy use (i.e. CO_2 production).

Transport (T) - An analysis is made of the location of the project so that the environmental impact due to the production of CO_2 and other pollutants from commuter transport may be assessed.

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[1] BRE publication; BREEAM98 for Offices

Water Consumption (W) - This part of the assessment measures the level of water economy and awareness within the building/organisation.

Materials & Waste (MW) - Primarily an assessment of the embodied environmental impact of the project due to material specification, and of measures to facilitate the collection of recyclable waste.

Land Use and Ecology (LE) - At a local level a building project directly impacts upon the ecology that it interferes with or displaces. An assessment of the degree to which a project detracts from or improves the local environment is provided.

Pollution (P) - An assessment of measures taken to limit the main pollutants (other than CO_2) that inflict damage upon the atmosphere, land or local watercourses.

2. 3 TYPES OF BREEAM ASSESSMENT

The BREEAM criteria may be used for four forms of assessment:

Design and Procurement Assessment

By far the most common type of assessment and the one usually implied by references to BREEAM in planning and funding requirements. Applied at the Design & Procurement stages of a project and may be initiated from very early on in the design process, greatly assisting the integration of BREEAM requirements within the scheme. It is far more difficult to make changes further down the design process.

Post Construction Review Assessment

To ensure specification stated in relation to a Design and Procurement assessment are followed through in the constructed development a Post Construction Review can be commissioned. Some funding bodies such as English Partnerships require that a Post Construction Review is undertaken.

Management & Operation Assessment

For an existing occupied building an assessment of its Management & Operation may be carried out.

Core
For an existing unoccupied building a Core assessment can be performed. The Core credits form part of the other two assessments and are the basis for the EPI (Environmental Performance Indicator) score.

2. 4 RESULTS

Points for each criterion are scored and totalled. The results for each category are weighted to generate the building's final score. These weighting factors were developed following a comprehensive survey of people from various sectors who were interviewed regarding the relative significance of each category.

When a BREEAM certificate is issued a building may fall under four ratings; Pass, Good, Very Good and Excellent where each category has a minimum score requirement.

The rating system indicates the performance of the whole building. As part of the assessment, an Environmental Performance Indicator (EPI) is also accredited. This score is on a scale from 1-10 and allows simple comparison between both proposed and existing buildings.

The environmental weightings are as follows:

ISSUE CATEGORY	ISSUE WEIGHTING
Management	0.15
Health and Wellbeing	0.15
Energy	-
Transport	-
Energy and Transport	0.25
Water	0.05
Materials and Waste	0.10
Land Use and Ecology	0.15
Pollution	0.15

The BREEAM rating bands are as follows:

RATING	SCORE
PASS	25%
GOOD	40%
VERY GOOD	55%
EXCELLENT	70%

2. 5 PROJECT TEAM

Position	Company and address / name
Location	17 Conway Street London W1T 6EE
Client and Occupier	Southbank International School Ltd 36-38 Kensington Park Road London W11 3BU Contacts: Ben Joseph / Paul Malloy Tel: (direct) 020 7792 7366 Email: Paul Malloy Pma@southbank.org
Contractor	Principal Interiors Ltd Lenacre Street Eastwell Ashford Kent TN26 1JD Tel: 01233 611566 Fax: 01233 612200 Email: french-paul@btconnect.com Site Manager: Patrick French Mobile: 07850 604675
Architect	Walker Bushe Architects Ltd 6 Highbury Corner Highbury Crescent London N5 1RD Tel: 020 7697 0707 Fax: 020 7697 0808 Contacts: Richard Walker Mobile: 07976562868 Email: richard@walkerbushe.co.uk Claire Paterson Email: claire@walkerbushe.co.uk
Mechanical Engineer	Peter Deer Associates Southpoint House 321 Chase Road Southgate London N14 6JT Tel: 020 3232 0080 Contact: John Pengilly Email: john.p@pd-a.co.uk
Quantity Surveyor	MPA Construction Consultants Ltd 39-41 North Road Islington

	London N7 9DP Tel: 020 7609 4328 Fax: 020 7609 7982 Contact: Paul Short Email: paul@mpa-london.co.uk
Structural Engineer	O'Connor Sokolowski Partnership 9th Floor 12/14 Sydenham Rd Croydon CR9 2ET Tel: 020 8686 7003 Fax: 020 8686 8166 Contact: Tony O'Connor Mobile: 07866 808261 Email: aoconnor@ocsp.co.uk

2. 6 BUILDING DETAILS

General	Building	Existing five-storey building
	Site	Existing building
	Floor area	921m²
Building fabric	Walls	Existing exterior masonry walls
	Roof	Bitumen to roofs, felt to dormers
	Floor	Concrete slab to basement, timber construction to all floors.
Building Services	Heating	Air-conditioning
	Ventilation	Opening windows and air-conditioning
	Cooling	Air-conditioning
	Hot water	Water heaters

3. DETAILED ASSESSMENT INFORMATION

The following section summarises each of the credit requirements, and the information that has been provided relating to 17 Conway St against each credit, to allow the *appropriate number of credits to be awarded.*

3. 1 MANAGEMENT

M1	Commissioning	2 of 2 credits achieved

Aim

To recognise and encourage an appropriate level of building services commissioning that is carried out in a co-ordinated and comprehensive manner, thus ensuring optimum performance under actual occupancy conditions.

Credit Criteria

One credit 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.

One credit where evidence provided demonstrates that seasonal commissioning will be carried out during the first year of occupation, post construction (or post fit out).

Credit Validation

John Pengilly of Peter Deer and Associates has been appointed to oversee the commissioning of the building services in line with the relevant CIBSE and, British Standards and Building Regulations. All commissioning and quality monitoring requirements will be passed onto the appropriate contractors and trades on site.

Therefore the first credit can be awarded.

John Pengilly of Peter Deer and Associates is responsible for ensuring that seasonal commissioning is carried out once the building is occupied. This will cover the lighting, hot and cold water services and building energy use as recorded by the utility bills and internal sub-metering as part of quarterly inspection visits.

A specialist contractor will be responsible for the reverse cycle heat pump heating and cooling system and its re-commissioning.

Therefore the second credit can be awarded.

Credit References

1. Letter from Peter Deer and Associates to Southbank International Schools, 14th August, 2007

Further Information/Action

No further information required

M4	Considerate Constructors	0 of 2 credits achieved

Aim

To recognise and encourage construction sites which are managed in an environmentally and socially considerate and accountable manner.

Credit Criteria

One credit where evidence provided demonstrates that there is a commitment to comply with best practice site management principles.

Two credits where evidence provided demonstrates that there is a commitment to go significantly beyond best practice site management principles.

Credit Validation

The client has not provided any evidence that the contractor has committed to comply with the Considerate Constructors Scheme or with an alternative, independently assessed scheme.

Therefore this credit is withheld.

Credit References

None provided

Further Information/Action

This credit can be awarded in the final assessment if the design team can provide documentation confirming the following;

- That the contractor has committed to comply with the Considerate Constructors Scheme or with an alternative, independently assessed scheme as per the credit compliance guidelines.

M5	Construction Site Impacts	0 of 4 credits achieved

Aim

To recognise and encourage construction sites which are managed in an environmentally and socially considerate and accountable manner.

Credit Criteria

One credit where evidence provided demonstrates that 2 or more of items a-g, listed below are achieved.

Two credits where evidence provided demonstrates that 4 or more of items a-g, listed below are achieved.

Three credits where evidence provided demonstrates that 6 or more of items a-g, listed below are achieved.

a. monitor, report and set targets for CO_2 or energy arising from site activities;

b. monitor, report and set targets for CO_2 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.

One additional credit where evidence provided demonstrates that all site timber is responsibly sourced.

Credit Validation

The client has stated that they are not working towards this credit and have therefore not supplied any evidence in support of it. The credit is withheld.

Credit References

None

Further Information/Action

No further information required

M6	Site Investigation	1 of 1 credit achieved

Aim

To recognise and encourage detailed site investigation to ensure the building accounts for site conditions and take any subsequent remedial action required.

Credit Criteria

One credit where evidence provided demonstrates that the design team has carried out a detailed site investigation of the selected site.

Credit Validation

The project team have commissioned a number of reports to investigate the existing floors and remedial works required, the drainage systems, the exterior fabric and for *planning application.*

No ground condition reports have been commissioned as there is no external ground to investigate.

As this is a refurbishment project, none of the relevant bodies listed on the guidance have been consulted as the site/existing building is not of any historical or architectural interest as confirmed by John R Soulsby's report on the exterior fabric.

Therefore this credit is awarded.

Credit References

1. Dyno-Rod Inspection Report, 12th September, 2006
2. O'Connor Sokolowski Report: Inspection of Existing Floors, 14th July, 2006
3. O'Connor Sokolowski Report: Remedial Works to Floors, 10th August, 2006
4. Fabric Survey Report by John R Soulsby BSc FRICS, 27th April, 2006
5. Planning Application report by Butler Richards and Co, 26th April, 2006

Further Information/Action

No further information required

M8	Consultation	0 of 2 credits achieved

Aim

To involve the local community and building users (including business, residents and local government) in contributing towards the design process through consultation in order to increase local "ownership".

Credit Criteria

One credit where evidence provided demonstrates that consultation has been, or is being, undertaken and feedback given to the local community and building users.

Two credits where, in addition to the above, evidence provided demonstrates that the consultation process is being, or has been undertaken using an independent method such as DQI, DQM or School Works, facilitated by a third party.

Credit Validation

The client has stated that they are not working towards this credit and have therefore not supplied any evidence in support of it. The credit is withheld.

Credit References

None

Further Information/Action

No further information required

M9	Shared Facilities	0 of 2 credits achieved

Aim

To recognise and encourage flexibility in the design to enable the building to be used as a shared facility with the local community.

Credit Criteria

One credit where evidence provided demonstrates that shared facilities have been provided as a consequence of consultation feedback.

Two credits where evidence provided demonstrates that these facilities can be accessed without compromising the safety of the building and its occupants.

Credit Validation

The client has stated that they are not working towards this credit and have therefore not supplied any evidence in support of it. The credit is withheld.

Credit References

None

Further Information/Action

No further information required

M10	Security	0 of 1 credit achieved

Aim

To recognise and encourage the implementation of effective measures in reducing the opportunity for crime.

Credit Criteria

One credit where evidence provided demonstrates that the project team has consulted with the Architectural Liaison Officer (ALO) or the Crime Reduction Design Adviser (CRDA) and has carried out a Crime Pattern Analysis for the site to assess the level of risk.

Credit Validation

The project team have demonstrated that they have liaised with a Crime Prevention Officer from the Metropolitan Police and provided a copy of the report issued.

However, the actions by the Crime Prevention Officer, whilst potentially improving the security of the school, are not sufficient to award this credit as the visit was carried out after the design stages and the comments from the report have not been demonstrably fed into the design process. Further a security risk assessment was not carried out by using the risk assessment outlined in Managing School Facilities, Guide 4 – "Improving Security in Schools" or using guidance produced by Secured by Design. A security strategy has not been produced either.

Therefore this credit is withheld.

Credit References

1. Letter from Martin Turner, Metropolitan Police to Claire Paterson, Walker Bushe Architects, 8th August, 2007

Further Information/Action

No further information required

M12	Building User Guide	1 of 1 credit achieved

Aim

To recognise and encourage the provision of guidance to enable a building user to understand and operate the building efficiently, in line with current good practice and in the manner envisaged by the design team.

Credit Criteria

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.

Credit Validation

Richard Walker of Walker Bushe Architects has confirmed that a non-technical building user guide covering the content required by BREEAM will be provided.

The credit is awarded.

Credit References

1. Letter from Richard Walker, Walker Bushe Architects, 14th September 2007.

Further Information/Action

No further information required.

M14	Publication of Building Information	0 of 1 credit achieved

Aim

To recognise and encourage the publication of information related to the aspects of the design and procurement process' which reduce the overall environmental impact of the building.

Credit Criteria

One credit where evidence provided demonstrates that the design team are committed to publicising information about the new development via the internet, newsletters, site visits, presentations etc.

Credit Validation

The client has stated that they are not working towards this credit and have therefore not supplied any evidence in support of it. The credit is withheld.

Credit References

None

Further Information/Action

None required

M16	The development as a learning resource	0 of 1 credit achieved

Aim

To recognise and encourage the utilisation of the building structure and school site as a learning resource to demonstrate environmental awareness.

Credit Criteria

One credit where evidence provided demonstrates that the proposed building and landscape design provides a learning resource that can be used to facilitate development of environmental issues within the school curriculum.

Credit Validation

The client has stated that they are not working towards this credit and have therefore not supplied any evidence in support of it. The credit is withheld.

Credit References

None

Further Information/Action

None required

M20	Ease of maintenance	0 of 1 credit achieved

Aim

To recognise and encourage the specification of a building, and building services, that can be easily maintained during its lifecycle.

Credit Criteria

One credit where evidence provided demonstrates that specifications for the building and the building services/systems and landscaping have considered ease and efficiency of maintenance in line with best practice.

Credit Validation

The client has stated that they are not working towards this credit and have therefore not supplied any evidence in support of it. The credit is withheld.

Credit References

None

Further Information/Action
No further information required

M21	Whole Life costing	0 of 2 credits achieved

Aim

To recognise and encourage the development of a Whole Life Cost (WLC) model for the project to improve design, specification and through-life maintenance and operation.

Credit Criteria

One credit where evidence provided demonstrates that an assessment of Whole Life Costing has been undertaken on the building design at a Strategic level.

Two credits where evidence provided demonstrates that an assessment of Whole Life Costing has been, or will be, undertaken on the building design at a Strategic level and Component level.

Credit Validation

The client has stated that they are not working towards this credit and have therefore not supplied any evidence in support of it. The credit is withheld.

Credit References

None

Further Information/Action

None required

3. 2 HEALTH

HW1	Daylighting	1 of 2 credits achieved

Aim

To improve the level of daylighting for building users.

Credit Criteria

One credit where at least 80% of occupied spaces will be adequately daylit with an average daylight factor exceeding 2%.

Two credits where all spaces will be adequately daylit with an average daylight factor exceeding 4% in single storey and 3% in multi-storey buildings.

Credit Validation

Walker Bushe Architects provided calculations confirming that over 80% of the occupied spaces are adequately day lit as required for the first credit.

1 Credit Awarded.

Credit References

1. 'HW-daylighting.doc', received from Claire Paterson, Walker Bushe Architects.

Further Information/Action

None required.