# 41-43 CHALTON STREET

# BREEAM PRE-ASSESSMENT

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| 1 | 31/10/2016 | Draft for comment | AD | SP |
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| | | | | |

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# 1.0 Executive Summary

The predicted BREEAM score and rating for the proposed redevelopment 41-43 Chalton Street is shown in Table 1.1 below.

| Building Type | BREEAM 2014 Rating |
|---|---|
| Office | 72.51% (Excellent) |

**Table 1.1 BREEAM Scores**

The results of this assessment have been based on credits assigned with the objective of ascertaining the feasibility of achieving a BREEAM 'Excellent' rating for the proposed development to meet the requirements of Camden's Development Policies 2010 – 2025 Policy DP22: Promoting Sustainable Design and Construction, which requires all new non-residential developments achieve the BREEAM 'Excellent' standard from 2016.

In compliance with the above requirements from Camden Council, the BREEAM pre-assessment for the proposed building has an anticipated score of 72.51% achieving an 'Excellent' rating. To achieve an 'Excellent' rating a minimum score of 70% is required, as such the current target BREEAM score provides a 2.51% margin of contingency.

It should be noted that in order to achieve a BREEAM 'Excellent' rating it is a minimum standard for at least 5 credits to be achieved under Ene 01. These credits will require review on completion of the building energy modelling to be undertaken. As a large proportion of the development is a refurbishment and will fall under Part L 2B, it may not be possible for all 5 credits to be achieved and as such confirmation from SBEM results will be required.

The credits that have not been achieved are highlighted in blue within the BREEAM assessment in Section 6.0 and the issues which have been achieved are highlighted in green; credits which require further investigation are highlighted in orange in the Tables provided.

The relevant design team members should assess each of the credits that have been awarded to confirm and provide comments upon their validity. This is a live document and the BREEAM score is subject to change throughout the development should the relevant criteria not be met or should further credits become achievable.

# 2.0 Introduction

This report has been prepared by Cudd Bentley Consulting Ltd with regards to the redevelopment of 41-43 Chalton Street with the intent of determining the BREEAM 2014 rating achievable for the development and specifically identify who is responsible for each BREEAM issue.

Sushil Pathak of Cudd Bentley Consulting Limited has been appointed to assist with the BREEAM 2014 UK new construction assessment on the proposed development. Cudd Bentley Consulting and in particular the licensed assessor Sushil Pathak has been trained by the BRE to be able to undertake BREEAM assessments as an Accredited Professional (AP).

# 3.0 BREEAM Overview

BREEAM schemes are an environmental assessment method for buildings. Each standard sets the best practice in environmental design and has become the de facto measure to describe a buildings environmental performance.

BREEAM has the following aims:

- To mitigate the impacts of buildings on the environment;
- To enable buildings to be recognised according to their environmental benefits;
- To provide a credible, environmental label for buildings;
- To stimulate demand for sustainable buildings.

BREEAM has the following objectives:

- To provide market recognition to low environmental impact buildings;
- To ensure best environmental practice is incorporated in buildings;
- To set criteria and standards surpassing those required by regulations and challenge the market to provide innovative solutions that minimise the environmental impact of buildings;
- To raise awareness of owners, occupants, designers and operators of the benefits of buildings with a reduced impact on the environment;
- To allow organisations to demonstrate progress towards corporate environmental objectives.

Credits are awarded over 10 categories of sustainability consisting of a number of issues, summarised in Table 3.1 below.

| | |
|---|---|
| **Management**<br>• Project Design and Brief;<br>• Life Cycle Cost and Service Life Planning;<br>• Responsible Construction Practices;<br>• Commissioning and Handover;<br>• Aftercare. | **Waste**<br>• Construction waste management;<br>• Recycled aggregates;<br>• Operational waste;<br>• Adaption to climate change. |
| **Health & Wellbeing**<br>• Visual comfort;<br>• Indoor air quality;<br>• Thermal comfort;<br>• Water quality;<br>• Acoustic performance;<br>• Safety and security. | **Pollution**<br>• Impact of refrigerants;<br>• NOx emissions from heating/cooling source;<br>• Surface water run-off;<br>• Reduction of night time light pollution;<br>• Noise attenuation. |
| **Energy**<br>• Reduction of $CO_2$ emissions;<br>• Energy monitoring;<br>• Energy efficient external lighting;<br>• Low carbon design;<br>• Energy efficient cold storage;<br>• Energy efficient transportation systems;<br>• Energy efficient laboratory systems;<br>• Energy efficient equipment (process);<br>• Drying space. | **Land Use and Ecology**<br>• Site selection;<br>• Ecological value of site/ protection of ecological features;<br>• Mitigating ecological impact;<br>• Enhancing site ecology;<br>• Long term impact on biodiversity. |
| **Transport**<br>• Public transport accessibility;<br>• Proximity to amenities;<br>• Cyclist amenities;<br>• Maximum car parking capacity;<br>• Travel plan. | **Materials**<br>• Life cycle impacts;<br>• Hard landscaping and boundary protection;<br>• Responsible sourcing of materials;<br>• Insulation;<br>• Designing for robustness. |
| **Water**<br>• Water consumption;<br>• Water monitoring;<br>• Water leak detection and prevention;<br>• Water efficient equipment (process). | **Innovation**<br>• New technology, process and practices. |

**Table 3.1 Summary of Categories covered by BREEAM**

**Scores and Rating**

There are four main elements that determine the building rating:-

**1.) BREEAM rating benchmarks**

Table 3 below summaries the overall percentage score that is required to classify within each rating.

| BREEAM Rating | % Score |
|---|---|
| Unclassified | < 30 |
| Pass | ≥ 30 |
| Good | ≥ 45 |
| Very Good | ≥ 55 |
| Excellent | ≥ 70 |
| Outstanding | ≥ 85 |

**Table 3.2 BREEAM Ratings**

**2.) BREEAM environmental weightings**

Table 4 below outlines the environmental weightings that are adopted in each section to convert the credits awarded into an overall percentage score.

| BREEAM Section | Weighting (%) 2014 | | |
|---|---|---|---|
| | Fully Fitted | Shell and Core | Shell Only |
| Management | 12% | 11% | 12.5% |
| Health & Wellbeing | 15% | 10.5% | 10% |
| Energy | 15% | 15% | 14.5% |
| Transport | 9% | 10% | 11.5% |
| Water | 7% | 7.5% | 4% |
| Materials | 13.5% | 14.5% | 17.5% |
| Waste | 8.5% | 9.5% | 11% |
| Land Use & Ecology | 10% | 11% | 13% |
| Pollution | 10% | 11% | 6% |
| Innovation (additional) | 10% | 10% | 10% |

**Table 3.3 Environmental Section Weightings**

### 3.) Minimum BREEAM standards

To achieve a BREEAM rating, the minimum percentage score must be achieved (Table 3.2) and the minimum standards (number of credits) applicable to that rating level, Table 3.4 below.

| BREEAM Issue | Minimum standards by BREEAM rating level | | | | |
|---|---|---|---|---|---|
| | Pass | Good | Very Good | Excellent | Outstanding |
| Man 01 – Project design and brief | None | None | 1 | 1 | 1 |
| Man 03 – Responsible construction practices | Criterion 2 | Criterion 2 | Criterion 2 | Criterion 2 and 1 credit | Criterion 2 and 1 credit |
| Man 04 – Commissioning and handover | None | None | None | Criterion 9 | Criterion 9 |
| Man 05 – Aftercare | None | None | None | 1 | 1 |
| Ene 01 – Reduction of $CO_2$ emissions | None | None | None | 5 | 8 |
| Ene 02 – Energy Monitoring | None | None | 1 (first credit) | 1 (first credit) | 1 (first credit) |
| Wat 01 – Water consumption | None | 1 | 1 | 1 | 2 |
| Wat 02 – Water monitoring | None | Criteria 1 only | Criteria 1 only | Criteria 1 only | Criteria 1 only |
| Wst 01 – Construction waste management | None | None | None | 1 | 1 |
| Wst 03 – Operational Waste | None | None | None | 1 | 1 |
| Le 03 – Mitigating ecological impact | None | None | 1 | 1 | 1 |

**Table 3.4 Minimum Standards**

## 4.) BREEAM Credits for Innovation

Innovation credits 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.

**Current Assessment – Design parameters**

For these 2014 pre-assessments, the following design parameters were used within the BREEAM Calculator Tool to commence the assessment:

41-43 Chalton Street:

- Scheme - BREEAM UK (New construction) 2014;
- Building Type – Office – General Office Building;
- Project type – New Construction / Shell and Core;
- Functions/facilities specified in the building:
    - Internal or external planting and/or soft landscaping;
    - Building user transportation systems.

# 4.0 Site Analysis

The proposed 41-43 Chalton Street development comprises of 6 floors (inclusive of a basement level) of office space which will be a combination of refurbishment, demolished areas to be rebuilt and complete new build areas. The proposed ground and first floor plans can be seen below in Figures 4.1 and 4.2 below.

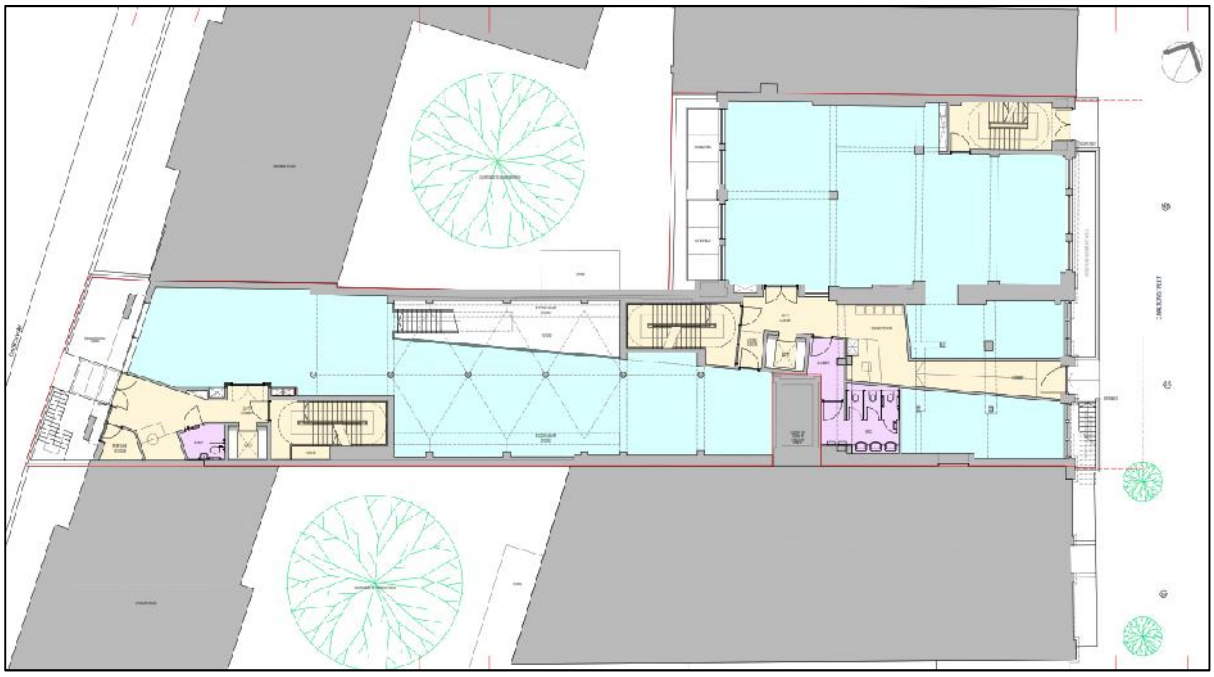


**Figure 4.1 Proposed Ground Floor Plan**

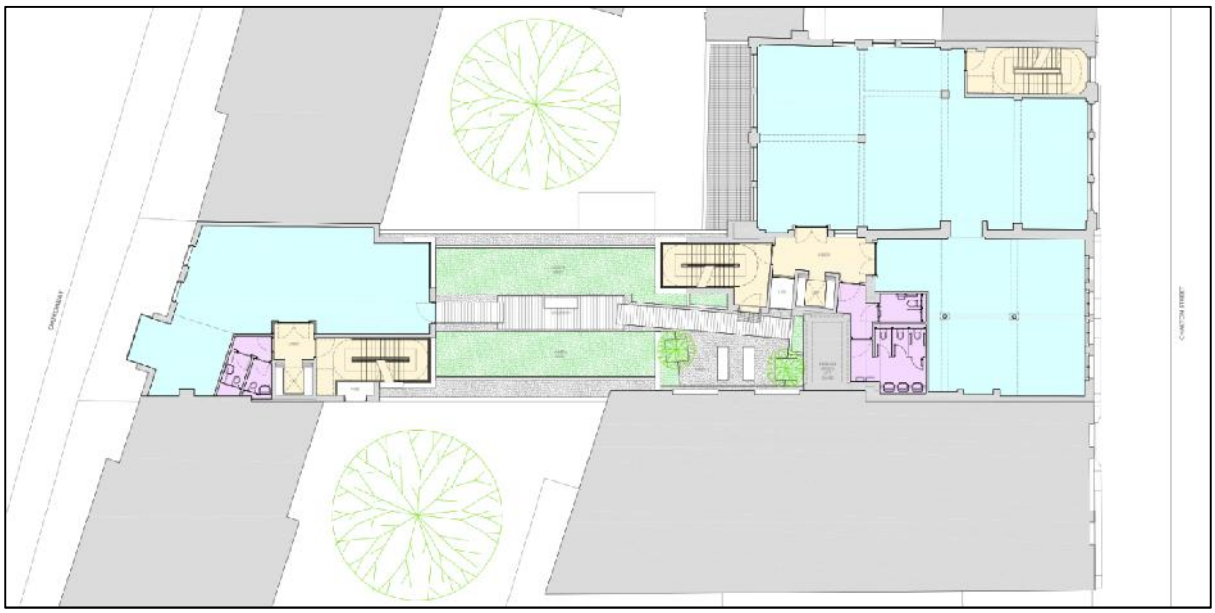


**Figure 4.2 Proposed First Floor Plan**

# 5.0 Summary

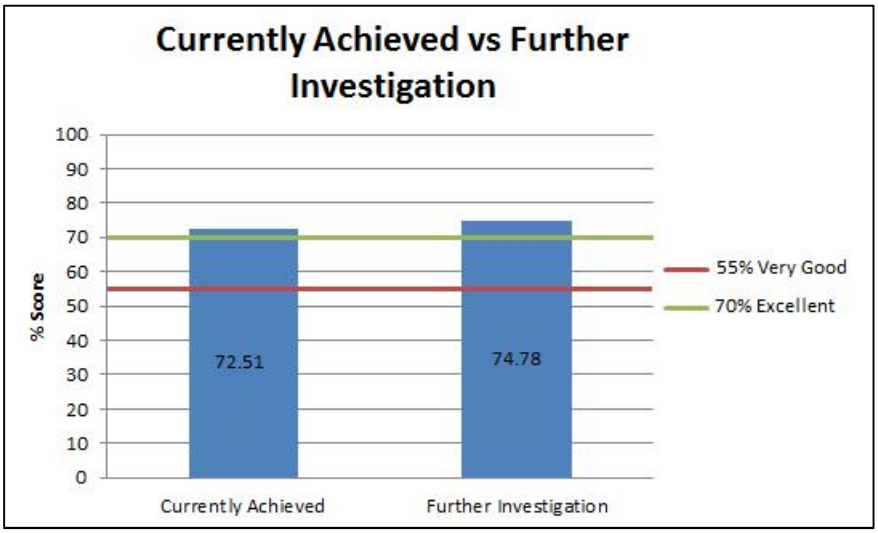
In summary, the BREEAM pre-assessment for the proposed site has an anticipated score of 72.51% achieving an 'Excellent' rating and providing a 2.51% margin of contingency.

The credits within Table 5.1 below have been highlighted for further investigation for inclusion within the assessment. Should they prove to be feasible for the scheme the potential score could increase to 74.78%, providing a larger 4.78% margin of contingency.

| Credit | Requirement | % Contribution |
|---|---|---|
| Man 02 Life Cycle Cost and Service Life Planning | Life Cycle Cost Analysis to be undertaken no later than RIBA Stage 2. | 1.22% |
| Hea 02 Indoor Air Quality | The building will have the potential to provide natural ventilation. | 1.05% |

**Table 5.1 Credits for Further Investigation**

Both of the scores detailed above are visually represented within Graph 5.1 below.




**Graph 5.1 Currently Achieved vs Further Investigation**

# 6.0 BREEAM Assessments

The following section highlights the BREEAM credits that have been awarded for the redevelopment of 41-43 Chalton Street and the corresponding percentage score.

The design stage assessment and subsequent interim BREEAM Certification represents the performance of the building at the design stage of the assessment, typically prior to the beginning of operations on site. Certification at this stage does not, therefore, represent the buildings final 'as built' BREEAM performance.

The post construction stage assessment and subsequent BREEAM Certification represents the final 'as built' performance and BREEAM rating. A final post construction stage assessment is completed and certified after practical completion of the building works.

| Title | 41-43 Chalton Street | BREEAM 2014 Pre-Assessment (Shell and Core) | | | Cudd Bentley Consulting | breeam | |
|---|---|---|---|---|---|---|---|
| **Credit** | **Description** | **Requirements** | **Achieved** | **Comments** | **Credits Available** | **Credits Achieved** | **Percentage %** |
| **Management** | | | | | | | |
| **Man 1 Project Brief and Design** | To recognise and encourage an integrated design process that optimises building performance. | Will roles and responsibilities defined in accordance with BREEAM and set a project delivery for stakeholder contributions. | N | Credit not sought. | 1 | 0 | 0.00% |
| | | Will all relevant third parties been consulted with comments influencing the outcomes of the concept design. | Y | | 1 | 1 | 0.61% |
| | | Will a Sustainability Champion be appointed during the preparation and brief stage to facilitate BREEAM performance targets. | Y | | 1 | 1 | 0.61% |
| | | Will the Sustainability Champion monitor progress throughout the design process? | Y | | 1 | 1 | 0.61% |
| **Man 2 Life Cycle Cost and Service Life Planning** | To deliver whole life value from investment and promote economic sustainability by recognising and encouraging the use of life cycle costing and service life planning to improve design, specification and through-life maintenance and operation. | Will and elemental life cycle cost analysis be carried out at RIBA stage 2 (concept design)? | N | Credit requires further investigation. | 2 | 0 | 0.00% |
| | | Will a component level plan be developed by the end of RIBA stage 4 (technical design)? | N | Credit not sought. | 1 | 0 | 0.00% |
| | | Will the predicted capital cost for the building be reported? | Y | | 1 | 1 | 0.61% |
| **Man 3 Responsible Construction Practices** | To recognise and encourage construction sites which are managed in an environmentally and socially considerate, responsible | Will the principal contractor operate under an Environmental Management System, use responsibly sourced timber and best practice pollution prevention policies? | Y | | 1 | 1 | 0.61% |
| | | Will a Sustainability Champion be appointed to monitor the project during construction, handover and close out stages? | Y | | 1 | 1 | 0.61% |
| | | Will the principal contractor adhere to a considerate construction scheme? | Y | | 2 | 2 | 1.22% |
| | | Will responsibility be assigned for monitoring energy, water and transport data? | Y | | 2 | 2 | 1.22% |
| **Man 4 Commissioning and Handover** | To encourage a properly planned handover and commissioning process that reflects the needs of the building occupants. | Will a thermographic survey or air tightness testing be undertaken? | Y | | 1 | 1 | 0.61% |
| | | Will all building services be commissioned in compliance with BREEAM criteria? | Y | | 1 | 1 | 0.61% |
| | | Will a Specialist Commissioning Manager be appointed for complex systems? | Y | | 1 | 1 | 0.61% |
| | | Will a Building User Guide be developed? | Y | | 1 | 1 | 0.61% |
| | | | | **Total** | **18** | **14** | **8.56%** |

Green - Achieved
Blue - Not Achieved
Orange - To be Investigated

| Title | 41-43 Chalton Street | BREEAM 2014 Pre-Assessment (Shell and Core) | | | Cudd Bentley Consulting | breeam | |
|---|---|---|---|---|---|---|---|
| **Credit** | **Description** | **Requirements** | **Achieved** | **Comments** | **Credits Available** | **Credits Achieved** | **Percentage %** |
| **Health and Wellbeing** | | | | | | | |
| Hea 1 Visual Comfort | To ensure daylighting, artificial lighting and occupant controls are considered at the design stage to ensure best practice visual performance and comfort for building occupants | Will all relevant building areas be designed to achieve the appropriate daylight factor(s)? | N | Credit not sought. | 1 | 0 | 0.00% |
| | | Will the design provide adequate view out for building users? | N | Credit not sought. | 1 | 0 | 0.00% |
| | | Will internal/external lighting be specified in accordance with the relevant CIBSE Guide/ British Standards? | Y | | 1 | 1 | 1.05% |
| Hea 2 Indoor Air Quality | To recognise and encourage a healthy internal environment through the specification and installation of appropriate ventilation, equipment and finishes | Will the building be designed to minimise the concentration and recirculation of pollutants in the building? | N | Credit not sought. | 1 | 0 | 0.00% |
| | | Will the building be designed to, or have the potential to provide, natural ventilation? | N | Credit requires further investigation. | 1 | 0 | 0.00% |
| Hea 4 Thermal Comfort | To ensure that appropriate thermal comfort levels are achieved through design, and controls are selected to maintain a thermally comfortable environment for occupants within the building | Will thermal modelling of the design be carried out? | Y | | 1 | 1 | 1.05% |
| | | Will the building design be adapted for a projected climate change scenario? | Y | | 1 | 1 | 1.05% |

Green - Achieved
Blue - Not Achieved
Orange - To be Investigated

| Title | 41-43 Chalton Street | BREEAM 2014 Pre-Assessment (Shell and Core) | | | | | |
|---|---|---|---|---|---|---|---|
| Credit | Description | Requirements | Achieved | Comments | Credits Available | Credits Achieved | Percentage % |
| Hea 5 Acoustic performance | To ensure the buildings' acoustic performance including sound insulation meet the appropriate standards for its purpose | Will the building meet the relevant acoustic performance standards and testing requirements? | Y | | 1 | 1 | 1.05% |
| Hea 6 Safety and Security | To recognise and encourage effective design measures that promote low risk, safe and secure access to and use of the building | Where external site areas are present, will safe access be designed for pedestrians and cyclists? | Y | | N/A | N/A | 0.00% |
| | | Will a suitably qualified security consultant (Architectural Liaison Officer) be appointed and security considerations accounted for? | Y | | 2 | 2 | 2.10% |
| | | | | Total | 10 | 6 | 6.30% |

Green - Achieved
Blue - Not Achieved
Orange - To be Investigated

| Title | 41-43 Chalton Street | BREEAM 2014 Pre-Assessment (Shell and Core) | | | Cudd Bentley Consulting | breeam | |
|---|---|---|---|---|---|---|---|
| **Credit** | **Description** | **Requirements** | **Achieved** | **Comments** | **Credits Available** | **Credits Achieved** | **Percentage %** |
| **Energy** | | | | | | | |
| **Ene 1 Reduction of CO2 emissions** | To recognise and encourage buildings designed to minimise operational energy demand, consumption and CO2 emissions | A target number of BREEAM credits to be achieved have been defined | Y | To achieve BREEAM Excellent it is a minimum standard that at least 5 credits are achieved under Ene 01. Energy credits will require review on completion of the energy modelling, as due to the large areas of refurbishment works compared to new build works, not all 5 credits may be achieveable. | 12 | 5 | 3.57% |
| **Ene 2 Energy Monitoring** | To recognise and encourage the installation of energy sub-metering that facilitates the monitoring of operational energy consumption | Will a BMS or sub-meters be specified to monitor energy use by tenant/ building function areas? | Y | | 1 | 1 | 0.71% |
| | | Will a BMS or sub-meters be specified to monitor energy consuming systems? | Y | | 1 | 1 | 0.71% |
| **Ene 3 External Lighting** | To recognise and encourage the specification of energy-efficient light fittings for external areas of the development | Will external light fittings and controls be specified in accordance with the BREEAM criteria? | Y | | 1 | 1 | 0.71% |
| **Ene 4 Low Carbon Design** | To encourage the adoption of design measures, which reduce building energy consumption and associated carbon emissions and minimise reliance on active building services systems. | Will Hea 4 (Thermal Comfort) be achieved? | Y | | 3 | 2 | 1.43% |
| | | Will an analysis of the buildings passive design features be carried out? | Y | | | | |
| | | Will the building use a BREEAM compliant free cooling strategy? | N | Credit not sought. | | | |
| | | Will a feasibility study be undertaken and recommended LZC technology installed? | Y | | | | |
| **Energy Efficient Transportation Systems** | To recognise an encourage the specification of energy efficient transportation systems. | Will a transportation system analysis be carried out to determine and specify the optimum number, size and type of lift that is most energy efficient? | Y | | 1 | 1 | 0.71% |
| | | Will the relevant energy-efficient features criteria be met? | Y | | 2 | 2 | 1.43% |
| | | | | **Total** | **21** | **13** | **9.29%** |

Green - Achieved
Blue - Not Achieved
Orange - To be Investigated

| Title | 41-43 Chalton Street | BREEAM 2014 Pre-Assessment (Shell and Core) | | | Cudd Bentley Consulting | breeam | |
|---|---|---|---|---|---|---|---|
| **Credit** | **Description** | **Requirements** | **Achieved** | **Comments** | **Credits Available** | **Credits Achieved** | **Percentage %** |
| **Transport** | | | | | | | |
| **Tra 1 Public Transport Accessibility** | To recognise and encourage development in proximity of good public transport networks, thereby helping to reduce transport-related pollution and congestion | For the purpose of this assessment the building type category is Industrial | Y | | 3 | 3 | 3.33% |
| | | What is the degree of public transport provision for the building's location | Excellent Provision of Public Transport | | | | |
| | | Buildings indicative Accessibility Index | 18 | | | | |
| | | Does the building have a dedicated bus service? | N | | | | |
| **Tra 2 Proximity to Amenities** | To encourage and reward a building that is located in close proximity to local amenities, thereby reducing the need for extended travel or multiple trips | Will the building be in close proximity of and accessible to applicable amenities? | Y | | 1 | 1 | 1.11% |
| **Tra 3 Cyclist Facilities** | To encourage building users to cycle by ensuring adequate provision of cyclist facilities | Will cycle storage spaces be provided? | Y | | 2 | 2 | 2.22% |
| | | Will cyclist facilities be provided? | Y | | | | |
| **Tra 4 Maximum Car Parking Capacity** | To encourage the use of alternative means of transport to the building other than the private car, thereby helping to reduce transport related emissions and traffic congestion associated with the building's operation. | Will the building meet BREEAM's maximum car parking capacity for the building type/ accessibility index? | Y | | 2 | 2 | 2.22% |
| **Tra 5 Travel Plan** | To recognise the consideration given to accommodating a range of travel options for building users, thereby encouraging the reduction of user reliance on forms | Will a transport plan based on site specific travel survey/assessment be developed? | Y | | 1 | 1 | 1.11% |
| | | | | **Total** | **9** | **9** | **10.00%** |

Green - Achieved
Blue - Not Achieved
Orange - To be Investigated

| Title | 41-43 Chalton Street | BREEAM 2014 Pre-Assessment (Shell and Core) | | | Cudd Bentley Consulting | breeam | |
|---|---|---|---|---|---|---|---|
| **Credit** | **Description** | **Requirements** | **Achieved** | **Comments** | **Credits Available** | **Credits Achieved** | **Percentage %** |
| **Water** | | | | | | | |
| **Wat 1 Water Consumption** | To reduce the consumption of potable water for sanitary use in new buildings from all sources through the use of water efficient components and water recycling systems. | Will there be a 25% reduction in the potable water consumption of the units. | Y | | 5 | 2 | 1.67 |
| **Wat 2 Water Monitoring** | To ensure water consumption can be monitored and managed and therefore encourage reductions in water consumption | Will there be a water meter on the mains water supply to the building(s)? | Y | | 1 | 1 | 0.83% |
| | | Will metering/monitoring equipment be specified on the water supply to any relevant plant/ building areas? | N/A | | | | |
| | | Will all specified water meters have a pulsed output? | Y | | | | |
| | | If the site/building has an existing BMS connection, will all pulsed meters be connected to the BMS? | N/A | | | | |
| **Wat 3 Water Leak Detection and Prevention** | To reduce the impact of water leaks that may otherwise go undetected | Will a mains water leak detection system be installed on the buildings mains water supply? | Y | | 1 | 1 | 0.83% |
| | | Will flow control devices be installed in each sanitary area/ facility? | Y | | 1 | 1 | 0.83% |
| **Wat 4 Water Efficient Equipment** | To reduce unregulated water consumption by encouraging specification of water efficient equipment | Will water efficient irrigation methods and/or vehicle wash systems (if relevant) be installed? | Y | | 1 | 1 | 0.83% |
| | | | | **Total** | **9** | **6** | **5.00%** |

Green - Achieved
Blue - Not Achieved
Orange - To be Investigated

| Title | 41-43 Chalton Street | BREEAM 2014 Pre-Assessment (Shell and Core) | | | Cudd Bentley Consulting | breeam | |
|---|---|---|---|---|---|---|---|
| **Credit** | **Description** | **Requirements** | **Achieved** | **Comments** | **Credits Available** | **Credits Achieved** | **Percentage %** |
| **Materials** | | | | | | | |
| **Mat 1 Life Cycle Impacts** | To recognise and encourage the use of construction materials with a low environmental impact (including embodied carbon) over the full life cycle of the building | A target number of BREEAM credits to be achieved will be defined | Y | | 5 | 4 | 4.46% |
| **Mat 2 Hard Landscaping & Boundary Protection** | To recognise and encourage the specification of materials for boundary protection and external hard surfaces that have a low environmental impact, taking account of the full life cycle of materials used | Will ≥80% of all external hard landscaping and boundary protection achieve a Green Guide A or A+ rating? | Y | | 1 | 1 | 1.12% |
| **Mat 3 Responsible Sourcing of Materials** | To recognise and encourage the specification of responsibly sourced materials for key building elements | Will all timber used on the project be 'Legally harvested and traded timber'? | Y | | 4 | 3 | 3.35% |
| | | Will a sustainable procurement plan be developed? | Y | | | | |
| | | Will materials specified for relevant elements will be responsibly sourced? | Y | | | | |
| **Mat 4 Insulation** | To recognise and encourage the use of thermal insulation which has a low embodied environmental impact relative to its thermal properties and has been responsibly sourced | Is the building targeting an insulating index of 2.5 or more? | Y | | 1 | 1 | 1.12% |
| **Mat 5 Designing for Robustness** | To recognise and encourage adequate protection of exposed elements of the building and landscape, therefore minimising the frequency of replacement and maximising materials optimisation | Will suitable durability/ protection measures be specified and installed to vulnerable areas of the building? | Y | | 1 | 1 | 1.12% |
| | | Will exposed building elements incorporate measures to limit degradations due to environmental factors? | Y | | | | |
| **Mat 6 Material Efficiency** | To recognise and encourage measures to optimise material efficiency in order to minimise environmental impact of material use and waste. | Will all appropriate parties be consulted in optimising the use of materials throughout the course of the project? | Y | | 1 | 1 | 1.12% |
| | | | | **Total** | **13** | **11** | **12.27%** |

Green - Achieved
Blue - Not Achieved
Orange - To be Investigated

| Title | 41-43 Chalton Street | BREEAM 2014 Pre-Assessment (Shell and Core) | | | Cudd Bentley Consulting | breeam | |
|---|---|---|---|---|---|---|---|
| **Credit** | **Description** | **Requirements** | **Achieved** | **Comments** | **Credits Available** | **Credits Achieved** | **Percentage %** |
| **Waste** | | | | | | | |
| **Wst 1 Construction Waste Management** | To promote resource efficiency via the effective management and reduction of construction waste | A target number of BREEAM credits to be achieved was defined as 3 | Y | | 4 | 3 | 3.17% |
| **Wst 2 Recycled Aggregates** | To recognise and encourage the use of recycled and secondary aggregates, thereby reducing the demand for virgin material and optimising material efficiency in construction | A target number of BREEAM credits to be achieved was defined as 0 | N | Credit not sought. | 1 | 0 | 0.00% |
| **Wst 3 Operational Waste** | To recognise and encourage the provision of dedicated storage facilities for a buildings operational-related waste stream, so that this waste is diverted from landfill or incineration | Will appropriate facilities for the storage of operational recyclable waste volumes be provided? | Y | | 1 | 1 | 1.06% |
| | | If relevant, will a static waste compactor(s) or baler(s) be specified/installed? | N/A | | | | |
| | | If relevant, will a vessel for composting suitable organic waste be specified/installed? | N/A | | | | |
| **Wst 4 Speculative Floor and Ceiling Finishes** | To encourage the specification and fitting of floor and ceiling finishes selected by the building occupant and therefore avoid unnecessary waste of materials. | Will speculative floor and ceiling finishes be in a show area only? | Y | | 1 | 1 | 1.06% |
| **Wst 5 Adaptation to Climate Change** | To recognise and encourage measures taken to mitigate the impact of extreme weather conditions arising from climate change over the lifespan of the building. | Will a Climate Change Adaptation Strategy appraisal be carried out by the end of RIBA Stage 2 (Concept design)? | N | Credit not sought. | 1 | 0 | 0.00% |
| **Wst 6 Functional Adaptability** | To recognise and encourage measures taken to accommodate future change of use of the building over its lifespan. | Will a Functional Adaptation Strategy appraisal be carried out by the end of RIBA Stage 2 (Concept design)? | N | Credit not sought. | 1 | 0 | 0.00% |
| | | | | **Total** | **9** | **5** | **5.28%** |

Green - Achieved
Blue - Not Achieved
Orange - To be Investigated

| Title | 41-43 Chalton Street | BREEAM 2014 Pre-Assessment (Shell and Core) | | | Cudd Bentley Consulting | breeam | |
|---|---|---|---|---|---|---|---|
| **Credit** | **Description** | **Requirements** | **Achieved** | **Comments** | **Credits Available** | **Credits Achieved** | **Percentage %** |
| **Land Use and Ecology** | | | | | | | |
| **LE 1 Site Selection** | To encourage the use of previously developed and/or contaminated land and avoid land which has not been previously disturbed | Will at least 75% of the proposed developments footprint be located on previously developed land? | Y | | 1 | 1 | 1.10% |
| | | Is the site deemed to be significantly contaminated? | N | Credit not sought. | 1 | 0 | 0.00% |
| **LE 2 Ecological Value of Site and Protection of Ecological Features** | To encourage development on land that already has limited value to wildlife and to protect existing ecological features from substantial damage during site preparation and completion of construction works | Can the land within the construction zone be defined as 'land of low ecological value? | Y | | 2 | 2 | 2.20% |
| | | Will all features of ecological value surrounding the construction zone/site boundary be protected? | Y | | | | |
| **LE 3 Mitigating Ecological Impact** | To minimise the impact of a building development on existing site ecology | There is to be a small negative change or improvement in plant species richness | Y | | 2 | 2 | 2.20% |
| **LE 4 Enhancing Site Ecology** | To recognise and encourage actions taken to maintain and enhance the ecological value of the site as a result of development | Will a suitably qualified ecologist be appointed to report on enhancing and protecting site ecology? | Y | | 2 | 2 | 2.20% |
| | | Will the suitably qualified ecologists general recommendations be implemented? | Y | | | | |
| | | There will be no change in plant species richness as a result of enhancement actions | Y | | | | |
| **LE 5 Long Term Impact on Biodiversity** | To minimise the long term impact of the development on the site and the surrounding area's biodiversity | Will the building meet BREEAMs mandatory criteria for this BREEAM issue? | Y | | 2 | 2 | 2.20% |
| | | | | **Total** | **10** | **9** | **9.90%** |

Green - Achieved
Blue - Not Achieved
Orange - To be Investigated

| Title | 41-43 Chalton Street | BREEAM 2014 Pre-Assessment (Shell and Core) | | | Cudd Bentley Consulting | breeam | |
|---|---|---|---|---|---|---|---|
| **Credit** | **Description** | **Requirements** | **Achieved** | **Comments** | **Credits Available** | **Credits Achieved** | **Percentage %** |
| **Pollution** | | | | | | | |
| **Pol 1 Impact of Refrigerants** | To reduce the level of greenhouse gas emissions arising from the leakage of refrigerants from building systems. | Will all refrigerants used within the building systems have a Global Warming Potential less than 10? | N | Credit not sought. | 3 | 0 | 0.00% |
| **Pol 2 Nox Emissions** | To contribute to a reduction in national Nox emission levels through the use of low emission heat sources in the building. | Will the Nox emissions produced from the building heating source meet BREEAM criteria? | N | Credit not sought. | 3 | 0 | 0.00% |
| **Pol 3 Surface Water Run Off** | To avoid, reduce and delay the discharge of rainfall to public sewers and watercourses, therefore minimising the risk of localised flooding on and off site, watercourse pollution and other environmental damage | What is the actual/likely annual probability of flooding for the assessed site? | Low | | 2 | 2 | 1.69% |
| | | Will a Flood Risk Assessment be undertaken and ground level of the building/access meet BREEAM criteria? | Y | | | | |
| | | Will the site meet the BREEAM criteria for peak rate surface water run off? | Y | | 1 | 1 | 0.85% |
| | | Will the site meet the criteria for surface water run off volume, attenuation and/or limiting discharge? | Y | | 1 | 1 | 0.85% |
| | | Will the site be designed to minimise watercourse pollution in accordance with the BREEAM criteria? | Y | | 1 | 1 | 0.85% |

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| **Pol 4 Reduction of Night Time Light Pollution** | To ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, reducing unnecessary light pollution, energy consumption and nuisance to neighbouring properties | Will the external lighting be designed to reduce light pollution? | Y | | 1 | 1 | 0.85% |
| **Pol 5 Noise Attenuation** | To reduce the likelihood of noise arising from fixed installations on the new development affecting nearby noise-sensitive buildings. | Will acoustic testing be undertaken to ensure noise levels are no greater than existing noise levels? | Y | | 1 | 1 | 0.85% |
| | | | | **Total** | **13** | **7** | **5.92%** |
| | | | | **Total BREEAM Percentage Score** | | | **72.51%** |

Green - Achieved
Blue - Not Achieved
Orange - To be Investigated