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2016

BREEAM 2014 UK Non-Domestic Refurbishment & Fit Out Scheme Assessment

Quality Standards Control

The signatories below verify that this document has been prepared in accordance with our quality control requirements. These procedures do not affect the content and views expressed by the originator.

Revision	-	*Rev A*	*Rev B*	*Rev C*
Date	28/07/2016			
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This document has been developed to identify the proposed route for the BREEAM UK Refurbishment & Fit-out 2014 assessment of the 93 Drummond street development, further to be referred to as 'the proposed development'. The development must demonstrate a route to achieve a minimum rating of 'Excellent' (minimum score of 70%) as per Camden Council's planning requirements.

The Refurbishment and Fit out areas of this proposed development are being assessed under the BREEAM 2014 UK Refurbishment and Fit out (R&FO) route.

The current targeted score is 70.40%, which is equivalent to an 'EXCELLENT'.

Table 1.1 highlights the targeted score and the awarded score.

Table 1.1 – Targeted Score and Rating

	Score	Rating
BREEAM 2014 – Targeted Score	70.40%	EXCELLENT

4. Introduction

This BREEAM Pre-assessment report will be included as part of the planning application that addresses the environmental impact of the development. This report focuses on the environmental strategy for the proposed scheme and how BREEAM measurements will be targeted to achieve the sustainability aspirations of this project and also to meet the planning policy requirements.

The development is to be located in the **London Borough of Camden** and it is in close proximity to Euston Station (approximately 0.2miles to the East) and Regents Park (approximately 0.6miles to the West). The proposal is **a refurbishment of existing warehouse/ shop space at 93 Drummond Street, Kings Cross London to an industrial type office.**

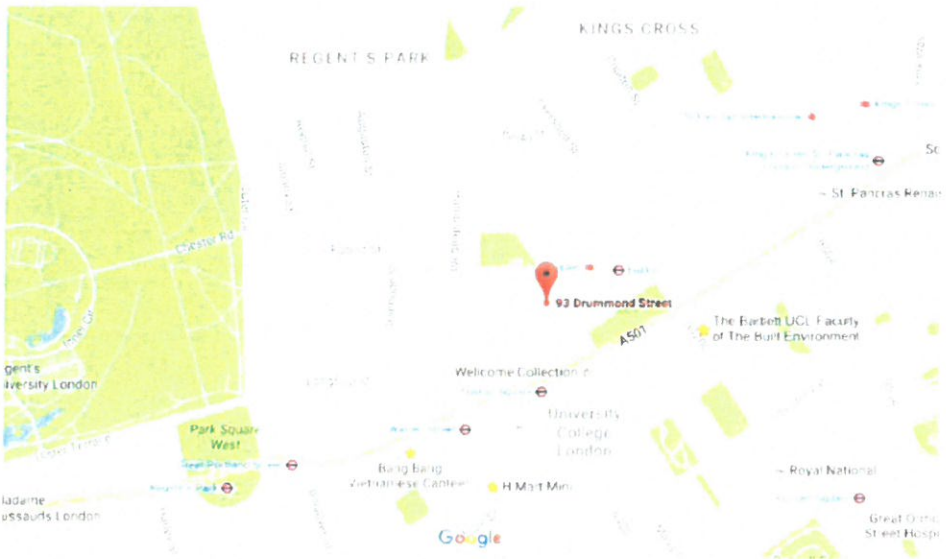

Figure 1 Site Location

The detailed existing and proposed floor plan layouts have been provided under appendix B of this Report.

5. Planning Policy – London Borough of Camden

Camden

5.1. Camden Development Policies 2010 - 2025

Policy DP22: Promoting Sustainable Design and Construction

The Council will require development to incorporate sustainable design and construction measures. Schemes must:

a. demonstrate how sustainable development principles, have been incorporated into the design and proposed implementation; and
b. incorporate green or brown roofs and green walls wherever suitable.

The Council will promote and measure sustainable design and construction by:

c. expecting new build housing to meet Code for Sustainable Homes Level 3 by 2010 and Code Level 4 by 2013 and encouraging Code Level 6 (zero carbon) by 2016.;
d. expecting developments (except new build) of 500sqm of residential floor space or above or 5 or more dwellings to achieve 'very good' in EcoHomes assessments prior to 2013 and encouraging 'excellent' from 2013;
e. expecting non-domestic developments of 500sqm of floor space or above to achieve 'very good' in BREEAM assessments and 'excellent' from 2016 and encouraging zero carbon from 2019.

The Council will require development to be resilient to climate change by ensuring schemes include appropriate climate change adaptation measures, such as:

f. summer shading and planting;
g. limiting run-off;
h. reducing water consumption;
i. reducing air pollution; and
j. not locating vulnerable uses in basements in flood-prone areas.

5.2. Camden Core Strategy 2010 - 2025

Policy CS13 – Tackling climate change through promoting higher environmental standards Reducing the effects of and adapting to climate change

The Council will require all development to take measures to minimise the effects of, and adapt to, climate change and encourage all development to meet the highest feasible environmental standards that are financially viable during construction and occupation by:

a. ensuring patterns of land use that minimise the need to travel by car and help support local energy networks;
b. promoting the efficient use of land and buildings;
c. minimising carbon emissions from there development, construction and occupation of buildings by implementing, in order, all of the elements of the following energy hierarchy:
    1. ensuring developments use less energy,

2. making use of energy from efficient sources, such as the King's Cross, Gower Street, Bloomsbury and proposed Euston Road decentralized energy networks;
3. generating renewable energy on-site;
and

d. ensuring buildings and spaces are designed to cope with, and minimise the effects of, climate change.

The Council will have regard to the cost of installing measures to tackle climate change as well as the cumulative future costs of delaying reductions in carbon dioxide emissions

Local energy generation

The Council will promote local energy generation and networks by:

e. working with our partners and developers to implement local energy networks in the parts of Camden most likely to support them, i.e. in the vicinity of
   - housing estates with community heating or the potential for community heating and other uses with large heating loads;
   - the growth areas of King's Cross; Euston; Tottenham Court Road; West Hampstead Interchange and Holborn;
   - schools to be redeveloped as part of Building Schools for the Future programme;
   - existing or approved combined heat and power/local energy networks (see Map4);

and other locations where land ownership would facilitate their implementation.

f. protecting existing local energy networks where possible (e.g. at Gower Street and Bloomsbury) and safeguarding potential network routes (e.g. Euston Road);

Water and surface water flooding

We will make Camden a water efficient borough and minimise the potential for surface water flooding by:

g. protecting our existing drinking water and foul water infrastructure, including Barrow Hill Reservoir, Hampstead Heath Reservoir, Highgate Reservoir and Kidderpore Reservoir;
h. making sure development incorporates efficient water and foul water infrastructure;
i. requiring development to avoid harm to the water environment, water quality or drainage systems and prevents or mitigates local surface water and downstream flooding, especially in areas up-hill from, and in, areas known to be at risk from surface water flooding such as South and West Hampstead, Gospel Oak and King's Cross (see Map 5).

Camden's carbon reduction measures

The Council will take a lead in tackling climate change by:

j. taking measures to reduce its own carbon emissions;
k. trialling new energy efficient technologies, where feasible; and
l. raising awareness on mitigation and adaptation measures.

Generating renewable energy on-site

13.11 Buildings can also generate energy, for example, by using photovoltaic panels to produce electricity, or solar thermal panels, which produce hot water. Once a building and its services have been designed to make sure energy consumption will be as low as possible and the use of energy efficient sources has been considered, **the Council will expect developments to achieve a reduction in carbon dioxide emissions of 20% from on-site renewable energy generation** (which can include sources of site-related decentralised renewable energy) unless it can be demonstrated that such provision is not feasible. Details on ways to generate renewable energy can be found in our Camden Planning Guidance supplementary document.

5.3. Camden Planning Guidance – Sustainability CPG 3 (July 2015)

Section 4. Sustainability assessment tools

9.13 You are strongly encouraged to meet the following standards in accordance with Development Policy DP22 – Promoting sustainable design and construction:

Time period	Minimum rating	Minimum standard for categories (% of un-weighted credits)
2010-2015	Very good	**Energy 60%** **Water 60%** **Materials 40%**
2016+	Excellent	

9.16 Pre-assessment
At this stage the Council will expect:

- **The submission of a pre-assessment report at the planning application stage.** The report should summarise the design strategy for achieving your chosen level of BREEAM and include details of the credits proposed to be achieved.
- **The pre-assessment report is to be carried out by a licensed assessor. The name of the assessor and their licence number should be clearly stated on the report.**

9.17 Design stage assessment
At this stage the Council will expect:

- **Submission of an early design stage assessment to the Council prior to beginning construction** of the development. This is needed to discharge the relevant condition or Section 106 planning obligation.
- Ensure the assessor submits the final Design Stage Assessment to BRED for certification
- **Submission of a copy of the Design Stage certificate** to the Council

9.17 Post-construction assessment
At this stage the Council will expect:

- A post-construction assessment to be carried out as soon as possible after completion
- **Submission of a copy of the post-construction certificate** to the Council
- Submission of a copy of the Design Stage certificate to the Council, if not already submitted.

6. BREEAM 2014 Non-domestic Refurbishment and Fit-out

6.1. Introduction

This project is classes as Refurbishment and Fit-out scheme and comes under BREEAM 2014 UK Non-domestic Refurbishment and Fit-out. The scheme provides a modular set of criteria that are applied depending upon the scope of works for a particular project type including:

- Part 1: Fabric and Structure
- Part 2: Core Services
- Part 3: Local Services
- Part 4: Interior Design

The scheme is split into these assessment parts to allow the scheme to reflect the aspects of a building that are tenant or landlord responsibilities, as well as the varied life cycle stages that each component or element is upgraded.

6.2. Mandatory Credit Issues

There are mandatory credits set which must be achieved in order to achieve the difference performance ratings. These must be achieved in addition to the optional credits to achieve the targeted ratings.

Failure to meet the mandatory criteria may restrict a development to an UNCLASSIFIED rating, regardless of the overall percentage achieved.

Category	BREEAM Rating	Pass	Good	Very Good	Excellent	Outstanding
	Minimum Score	<30%	<45%	<55%	<70%	<85%
Management	Man 03 – Responsible Construction Practices	-	-	-	1 credit (Considerate construction)	2 credits
	Man 04 – Commissioning and Handover	-	-	-	Criterion 9 (Building User Guide)	1 credit
	Man 05 – Aftercare	-	-	-	Parts 2 and 3 only: 1 credit (Seasonal commissioning)	1 credit
Energy	Ene 01 – Reduction in	-	-	-	Parts 1,2,3 and 4 (full	8 credits

Category	BREEAM Rating	Pass	Good	Very Good	Excellent	Outstanding
	Minimum Score	<30%	<45%	<55%	<70%	<85%
	CO_2 Emissions				assessments): 6 credits, varies for other assessment types	
	Ene 02 – Energy Monitoring	-	-	1 credit	Parts 2,3 and 4: 1 credit (First sub-metering credit)	1 credit
Water	Wat 01 – Water Consumption	-	1 credit	1 credit	1 credit (where applicable)	2 credits
	Wat 02 – Water Metering	-	Criterion 1	Criterion 1	Part 2: Criterion 1 only	Criterion 1
Materials	Mat 03 – Responsible Sourcing	Criterion 1	Criterion 1	Criterion 1	Criterion 1 only	Criterion 1
Waste	Was 01 – Construction Waste Management	None	None	None	None	1 credit
	Was 03 – Operational Waste	-	-	-	1 credit	1 credit

6.3. BREEAM 2014 Credit Weightings

BREEAM 2014 also introduces different credit weightings, i.e. relative scale of importance to various credit issues depending on the assessment route adopted.

The table below outlines the weightings for each of the nine environmental sections included in the BREEAM UK Refurbishment and Fit-out 2014 scheme. The core weightings are applied to a fully fitted building (i.e. a major refurbishment assessed against all Parts 1, 2, 3 and 4) are also used for the basis of defining the weightings for all other projects. For other project types, not being assessed against all parts, such as a fit-out project assessed against Parts 3 or 4 only, the core weightings are applied proportionately according to the number of credits available in each category for that project type.

Table 2.2: BREEAM Environmental section weightings for common project types								
Environmental Section	Core weightings	Part 1 only	Part 2 only	Part 3 only	Part 4 only	Parts 1 and 2	Parts 2 and 3	Parts 3 and 4
Management	12%	15.0%	16.7%	16.5%	20.0%	13.0%	16.5%	14.1%
Health and Wellbeing	15%	14.8%	14.4%	15.3%	19.9%	11.0%	15.3%	15.9%
Energy	19%	16.4%	24.5%	24.3%	2.5%	18.8%	24.3%	22.5%
Transport	8%	10.0%	11.2%	11.1%	13.4%	8.6%	11.1%	9.5%
Water	6%	0.0%	7.5%	7.4%	10.1%	5.7%	7.4%	7.1%
Materials	12.5%	15.6%	5.4%	5.3%	19.3%	13.4%	5.3%	13.7%
Waste	7.5%	9.4%	9.3%	9.2%	11.2%	8.1%	9.2%	7.9%
Land Use and Ecology	10%	12.5%	0.0%	0.0%	0.0%	10.7%	0.0%	0.0%
Pollution	10%	6.3%	11.0%	10.9%	3.6%	10.7%	10.9%	9.3%
Total	100%	100%	100%	100%	100%	100%	100%	100%
Innovation (additional)	10%	10%	10%	10%	10%	10%	10%	10%

7. Credits Requiring Early Actions

Under the BREEAM 2014 UK Non-Domestic Refurbishment & Fit Out criteria, there are a number of credits which require early action by the design team in order for the credits to be awarded. The relevant credits, the actions which need to be carried out and when these would be executed are listed below in Table 2.3.

Table 2.3: BREEAM 2014 Early Stage credits (RIBA Stage 1, 2 & 3)

Credit Issue	RIBA Stage 1 Action Required	RIBA Stage 2 & 3 Actions Required
Man 01: Project Brief and Design	-	**One Credit – Stakeholder Consultation**: Prior to completion of the Concept Design (RIBA Stage 2 or equivalent), the project delivery stakeholders should have met to identify and define their roles, responsibilities and contributions for each of the key phases of project delivery **One Credit – Stakeholder Consultation**: By completion of Concept Design Stage **One Credit – Sustainability Champion**: the defined performance targets must be formally agreed between the client and design/project team
Man 02: Life Cycle Costing and Service Life Planning	-	An elemental level Life Cycle Cost (LCC) analysis has been carried out based on the proposals developed during RIBA Stage 2
Mat 06: Material Efficiency	Consult with relevant design team members to identify and implement measures for efficient use of materials.	-
Hea 06: Safety and Security	-	Appoint security specialist to conduct a Security Needs Assessment (SNA) or consult with an Architectural Liaison office (ALO)

Table 2.3: BREEAM 2014 Early Stage credits (RIBA Stage 1, 2 & 3)		
Credit Issue	**RIBA Stage 1 Action Required**	**RIBA Stage 2 & 3 Actions Required**
Ene 04: Low Carbon Design	-	Carry out a passive design analysis and a renewables feasibility study
Wst 05: Adaption to Climate Change	-	Conduct a climate change adaption strategy appraisal for structural and fabric resistance
Wst 06: Functional Adaptability	-	Undertake a building specific functional adaption strategy study. Incorporate adaption measures into the design where practical and cost effective.
Le 04: Enhancing Site Ecology	The ecologist must be appointed by RIBA Stage 1 to carry out surveys and provide recommendations	-
Le 05: Long Term Impact on Biodiversity	-	The Ecology Report must be available at Stage 2 (following the appointment of the ecologist at Stage 1)

8. Conclusion

In summary the project aims to achieve highest sustainability standards and would adopt features to enhance the environmental performance of the existing building. As can be seen in the table below, the proposed development can achieve Excellent under BREEAM 2014 Non-domestic Refurbishment & Fit-out scheme, and meet the local planning requirement as per Policy DP22. The credits in Energy, Water and Materials categories also meet the local planning requirement set by Camden Planning Guidance – Sustainability CPG 3 Section 4 Sustainability assessment tools.

Table 3.1 – Summary of targeted score

Category	Credits available	Credits targeted	Credits achieved (%)	Weighting	Category score (%)
Management	21	13	61.9 %	16.83 %	10.41 %
Health and Wellbeing	19	7	36.84 %	18.16 %	6.69 %
Energy	17	11	64.70 %	13.72 %	8.88 %
Transport	9	9	100.00 %	8.41 %	8.41 %
Water	8	5	62.50 %	7.48 %	4.67 %
Materials	9	8	88.88 %	12.13 %	10.78 %
Waste	11	8	72.72 %	9.64 %	7.01 %
Land Use and Ecology	1	1	100.00 %	2.80 %	2.80 %
Pollution	10	9	90.00 %	10.78 %	9.71 %
Innovation	10	1	10.00 %	10.00 %	1.00 %
Total	115	72	62.60	-	**70.40 % (Excellent)**

7. Appendix A – BREEAM Pre Assessment Report

8. Appendix B – Existing & Proposed Floor Layouts

7. Appendix A – BREEAM Pre Assessment Report

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Code for a Sustainable Built Environment
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BREEAM UK Refurbishment & Fit-out 2014 - Pre-assessment

93 Drummond Street, Kings Cross

Pre-assessment

Drummond Street

27 July 2016 Assessment Report

PwC's BREEAM Outstanding rated One Embankment Place in London. Image Hufton + Crow.

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