Client:
HanoverCube

PRE-ASSESSMENT REPORT

FOR THE

BREEAM 2008 OFFICE (MAJOR REFURBISHMENT) ASSESSMENT

AT

16 – 19 SOUTHAMPTON PLACE

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1.0 EXECUTIVE SUMMARY

A preliminary BREEAM Office 2008 pre-assessment exercise, facilitated by hurleypalmerflatt has been carried out. The aim of the exercise was to assess where the current design sits within the BREEAM ratings in order to meet Planning Guidance Requirements of the London Borough of Camden set out within the "Camden Planning Guidance" document dated December 2006.

Planning Guidance requires developments to achieve 60% of the available credits in each of the BREEAM Energy and Water sections, and 40% in the Materials section. The report must state clearly whether the percentages have been achieved and, if not, justification provided as to why they cannot be achieved. There is no minimum rating requirement.

This report will provide detail on the credits targeted, as well as highlight any areas of risk or potential for gaining extra credits. A gap analysis has been performed as part of this report to investigate credits at risk in order to determine the most cost effective means of meeting the Camden Planning Guidance Requirements.

1.1 Approach

The approach taken was to assess each credit in turn with comment from the design team, categorising each credit as 'obtainable', 'at risk' or 'unobtainable'. The 'at risk' credits are those which require further feasibility analysis, and are examined in more detail in the gap analysis section of this report.

The BREEAM office system is the most applicable given the proposed layout of the building.

1.2 Output

Table 1 below provides a summary of the current pre-assessment score. If the maximum achievable score – including all 'at risk' credits - is met, a very Good rating will be achieved. If only the achievable credits are targeted, a Pass rating will be awarded.

The buildings at 16-19 Southampton Place are listed (Grade II) and the existing buildings have not been assessed. Every attempt has been made to achieve the necessary credits but the listed status of the building presents considerable constraints to this.

Overall, attempts have been made as part of the proposals to improve the performance of the building wherever possible.

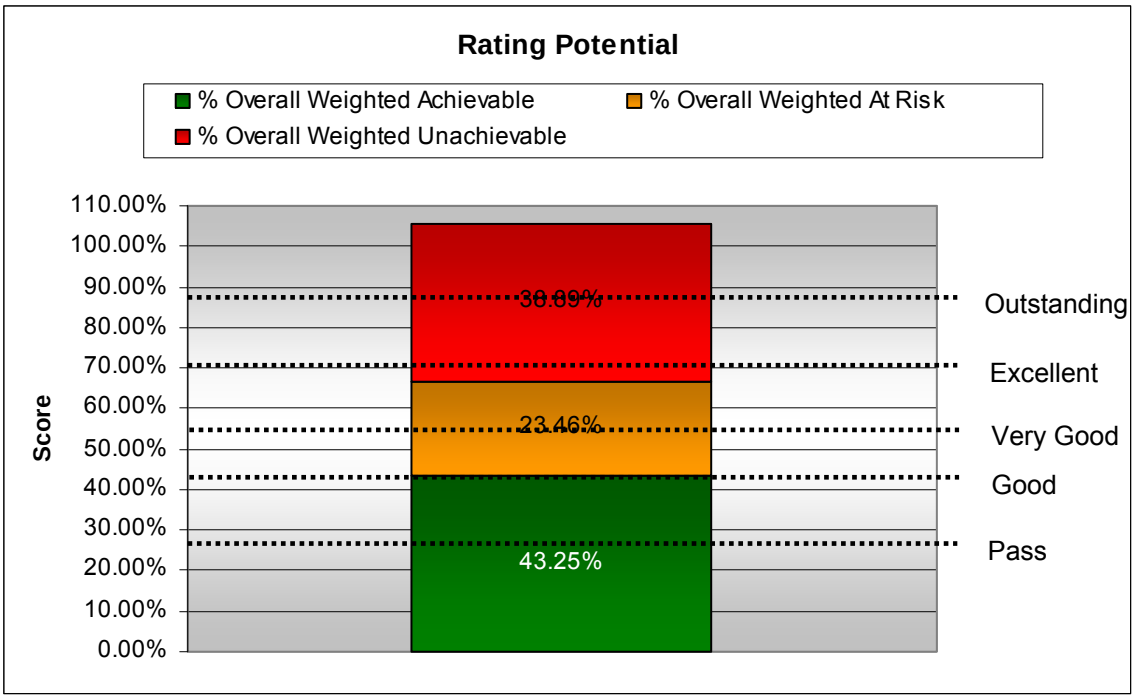
Table 1: BREEAM Pre-assessment Section Weighted Scores

Credit Allocation Table					
Overall Credit Allocation	Env. Weighting	Available	Overall Weighted % Achievable	Overall Weighted % 'at risk'	Overall Weighted % Unobtainable
Management	12.00%	14	4.00%	6.67%	2.67%
Health & Wellbeing	15.00%	13	9.23%	3.46%	2.31%
Energy	19.00%	24	4.13%	0.83%	13.22%
Transport	8.00%	11	5.60%	2.40%	0.00%
Water	6.00%	8	3.00%	2.00%	1.00%
Materials	12.50%	15	4.17%	3.13%	3.13%
Waste	7.50%	6	4.29%	2.14%	1.07%
Land Use & Ecology	10.00%	10	3.00%	2.00%	5.00%
Pollution	10.00%	12	5.83%	0.83%	2.50%
Innovation	10.00%	10	0.00%	0.00%	8.00%
Totals	**110.00%**		**43.25%**	**23.46%**	**38.89%**

Obtainable Score	**43.3%**	Pass
Max achievable Score	**66.7%**	Very Good

Figure 1 demonstrates the project team's assessment of credit achievability, based on the current design.

Figure 1: Results of the BREEAM Pre-assessment Exercise

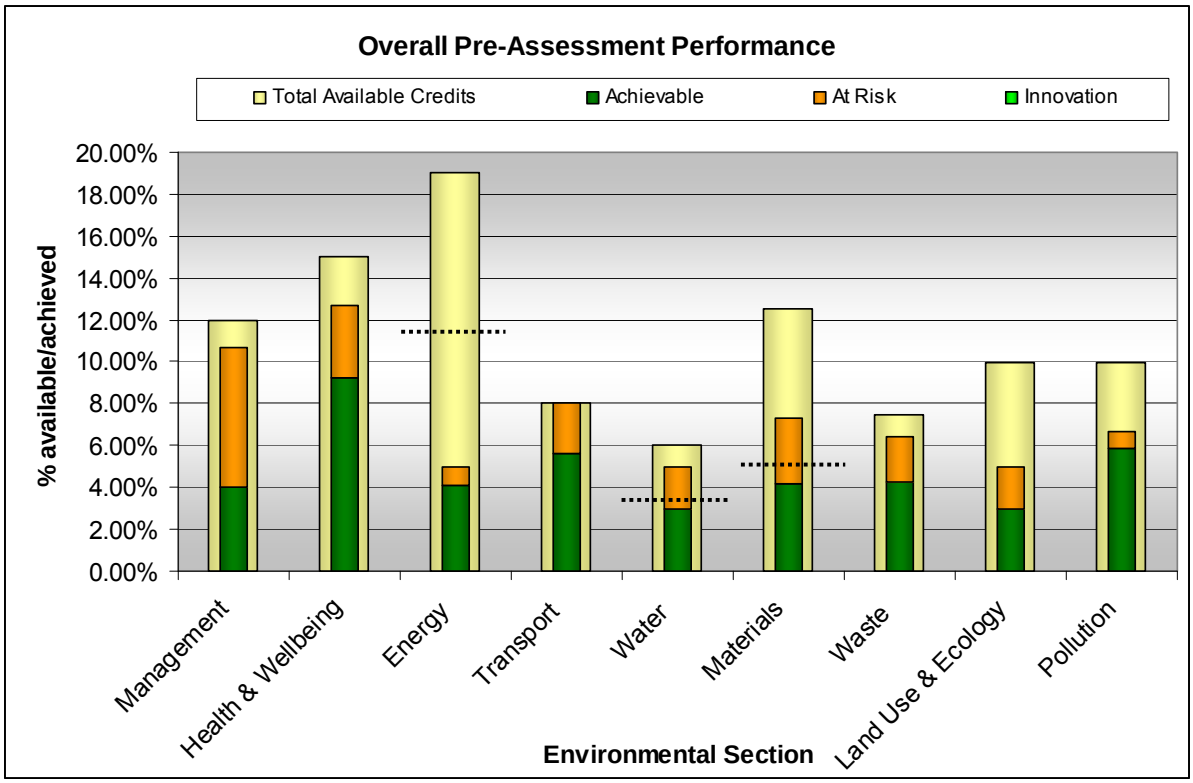


1.3 Sectional scores required for meeting Camden Planning Guidance Requirements

In order to meet planning requirements, target scores within the Energy, Water and Materials sections have been set by Camden Council, as shown in Table 6.

Table 2: Camden Sectional Score Requirements

Environmental Section	Credits available	Camden % requirement	Credits required	Credits deemed 'achievable'	Credits deemed 'at risk'
Energy	23	60%	14	**5 (22%)**	**1 (4%)**
Water	6	60%	4	**3 (50%)**	**2 (33%)**
Materials	12	40%	5	**4 (33%)**	**3 (25%)**



Energy

The maximum potential score (achievable plus at risk) in the energy category is deemed to be 30%, falling short of the Camden planning target of 60%. This is largely due to the buildings predicted low score for Ene 1 – Reduction of CO_2 Emissions, which is based on the rating achieved for the Energy Performance Certificate (EPC) calculation.

No EPC has yet been carried out for 16-19 Southampton Place; therefore the current credit allocation is based on a similar building which achieved a rating of 78 - 'D'. Although Southampton Place is a naturally ventilated, heating only building, the poor thermal properties of the construction result in high annual energy consumption. Opportunities have been explored to improve the performance of the building and the largest potential to improve the credits in this area would relate to façade upgrades.

The building is listed (Grade II) and any changes to this are unlikely to be granted listed building consent.
16-19 Southampton Place is a listed building therefore it is unlikely that listed building consent would be granted for the addition of any Low or Zero Carbon (LZC) energy technologies such as photovoltaic panels, solar thermal or wind turbines (please see the Energy Report investigating the potential for LZC technologies for further explanation). Therefore, only one credit for Ene 5 is potentially achievable for production of the Energy Report and implementation of any recommendations.

In our experience, this is normal for proposals involving listed buildings.

All reasonable attempts to ensure and improve the energy efficiency within the building will be made within the confines of listed building status. For example: new energy efficient condensing boilers will replace existing to provide heating and DHW demand; and existing sash windows are to be replaced or refurbished where necessary to improve air tightness.

Water

The maximum potential score in the water category is 83% which would exceed the Camden Planning Guidance requirement of 60%.

Based on the current design team prediction, 33% equating to 2 credits, are currently assigned to the at risk category. These are for the Wat 1 – Water Consumption credit which is based on the predicted consumption of potable water for sanitary applications (WCs, urinals, showers, taps)

Without the installation of rainwater collection or greywater recycling systems (Which would not be granted for listed building consent), the additional two credits can be achieved through the specification of low flow/low flush fittings such as dual flush WCs, waterless urinals, aerated two-stage mixer taps and flow restricting showers.

Materials

The maximum potential score in the water category is 58%, therefore the Camden Planning Requirement will be met if all achievable and at risk credits are met.

At risk credits to be targeted relate to Mat 1 - Materials Specification (for alterations to external windows, floor finishes and internal walls) and Mat 6 - Insulation (thermal, acoustic and building services insulation). Ratings will depend on the type of construction/material specified based on those listed in the *Green Guide to Specification.*

The design team considered that, for the size of the project, it would be unfeasible to target Mat 5 – Responsible Sourcing of Materials. Similarly, the second credit for Mat 6, which is the responsible sourcing of the insulation materials, would also not be met.

1.4 Conclusion

The ‘achievable’ credits targeted result in a score that achieves a Pass rating. Meeting both ‘achievable’ and ‘at risk’ credits would result in a BREEAM score of Very Good.

Given the listed status of the building, this is considered an appropriate score as the special architectural and historic interest of the building precludes a number of credits from being achieved.

In order to meet the Camden Planning Guidance Requirements, all at risk credits in the Energy, Water and Materials sections should be targeted.

It is important that, following on from the pre-assessment exercise, the ‘at risk’ credits’ compliance requirements are reviewed in detail by the relevant design team members to confirm that the criteria can be met.

2.0 INTRODUCTION

The proposals at 16-19 Southampton Place represent a major refurbishment of a Grade II listed terraced building.

In order to meet the Camden Planning Guidance Requirements, the refurbishment should attain scores of at least 60% in the BREEAM Energy and Water sections, and 40% in the materials section.

The intent of this report is to explain briefly the BREEAM assessment methodology and to demonstrate that the planning requirements are met, together with the anticipated BREEAM rating obtainable following an assessment for development based on BREEAM Office 2008 criteria.

There are some areas of the design that are either still undefined or provide room for flexibility and therefore credits relating to these have been assigned to the 'at risk' category.

If the planning requirement sectional scores are not met, an explanation of why these targets are not achieved will be provided.

Regard has been had to the Camden Planning Guidance 2006 and in particular, paragraph 44.25 which states that:

"where a proposal involves an existing building that has not been assessed, or does not achieve Very Good or Excellent, the proposal should make every attempt to achieve a very good rating for the extension. However, some concession will be allowed where the existing building precludes it. Where conditions allow, a reasonable attempt should be made to improve the performance of the overall building.

3.0 BREEAM 2008 ASSESSMENT METHODOLOGY

The Building Research Establishment Environmental Assessment Method (BREEAM) provides a structured methodology for assessing the performance of a building across a range of sustainability issues. It is administered by the BRE and offers a standardised platform for owners, designers and builders to assess the environmental performance of their buildings and compare these results to other projects. BREEAM uses a weighted scoring system covering the following areas:

- Management
- Health & Wellbeing
- Energy
- Transport
- Water
- Materials
- Waste
- Land Use & Ecology
- Pollution

Each of the above areas offer a number of assessment credits that can be built up to achieve an overall score for the building. These scores contribute towards a rating of Pass, Good, Very Good, Excellent or Outstanding. In addition, Innovation credits are available where the design goes above and beyond best practice recommendations and credit compliance criteria in eight selected credits.

3.1 BREEAM Scoring Methodology

In order for a BREEAM score to give an appropriate balance across such a broad selection of issues, the BRE have developed a weighting system through consultation with a range of industry representatives. The weighting system provides a relative importance to each of the credit categories. The current weightings are shown in Table 2.

Table 3: Environmental section weightings

Category	Weighting for BREEAM Office 2008
Management	12.00%
Health & Wellbeing	15.00%
Energy	19.00%
Transport	8.00%
Water	6.00%
Materials	12.50%
Waste	7.50%
Land Use & Ecology	10.00%
Pollution	10.00%
Innovation	+10.00%

The number of environmental criteria within each of the categories varies, and as a result there are a different number of credits within each category. Due to the different number of credits within each category and the category weightings, the overall value of each individual credit (as a percentage point score) is different depending on the category.

A pre-assessment is an informal process, based on the design team's assessment of what will be achieved through the building's design. For the full assessment, this information must be submitted to the assessor who will then award credits based on evidence of BREEAM criteria compliance. The BREEAM weightings are then applied to the sum total for each category to achieve an overall score. This score is then used to identify the overall BREEAM rating using the ranges in Table 4:

Table 4: BREEAM 2008 Percentage Scores

Ratings classification	% Score
Unclassified	<30
Pass	≥30
Good	≥45
Very Good	≥55
Excellent	≥70
Outstanding	≥85

3.2 Minimum BREEAM Standards

In addition to achieving the percentage score, BREEAM 2008 schemes contain minimum standards applicable to each rating level. The applicable credits indicated in Table 5 must be achieved for the final rating to be awarded, regardless of the overall percentage score achieved.

Table 5: Minimum BREEAM Standards

BREEAM issue		BREEAM Rating / Minimum number of credits				
		Pass	Good	Very Good	Excellent	Outstanding
MAN 1	Commissioning	1	1	1	1	2
MAN 2	Considerate Contractors				1	2
MAN 4	Building User Guide				1	1
HEA 4	High frequency lighting	1	1	1	1	1
HEA 12	Microbial contamination	1	1	1	1	1
ENE 1	Reduction of CO_2 emissions				6	10
ENE 2	Sub-metering of substantial energy uses			1	1	1
ENE 5	Low or zero carbon technologies				1	1
WAT 1	Water consumption		1	1	1	2
WAT 2	Water meter		1	1	1	1
WST 3	Storage of recyclable waste				1	1
LE 4	Mitigating ecological impact			1	1	1

3.3 Major Refurbishment

For the purposes of a BREEAM assessment, major refurbishment refers to a project where there is a provision, extension or alteration of thermal elements and/or building services and fittings.

3.4 BREEAM Stages of Assessment

BREEAM 2008 contains two assessment stages:

- **Design stage, leading to an Interim Certificate**
- **Post Construction Stage, leading to the final BREEAM Certificate.**

Once the final assessment has been carried out at design stage, based on the information submitted by the design team, a report is written by the assessor describing the credits that have been awarded. This report is submitted to the BREEAM team at the BRE for QA procedures. Once the report has passed the QA, the Design stage Interim Certificate is issued.

The Interim Certificate does not constitute the final BREEAM rating; it is required that a Post-Construction review (PCR) is undertaken, after practical completion, to confirm the interim BREEAM rating is achieved. Once the PCR assessment has been submitted and passed the QA procedures, the Final BREEAM Certificate is issued.

4.0 16-19 SOUTHAMPTON PLACE PRE-ASSESSMENT SCORE MATRIX

The pre-assessment outlines the credits that can currently considered achievable or unobtainable. A further category of credits were assigned to the 'at risk' section 'At risk' credits are those not part of the current design which could be targeted with additional cost.

Each of the credits targeted to for the Southampton Place refurbishment are outlined in the following Sections 4.3 to 4.12.

4.1 Sectional scores required for meeting Camden Planning Guidance Requirements

In order to meet planning requirements, target scores within the Energy, Water and Materials sections have been set by Camden Council, as shown in Table 6.

Table 6: Camden Sectional Score Requirements

Environmental Section	Credits available	Camden % requirement	Credits required
Energy	23	60%	14
Water	6	60%	4
Materials	12	40%	5

BREEAM pre-assessment sectional scores for the Southampton Place refurbishment project are shown in Figure 2 below.

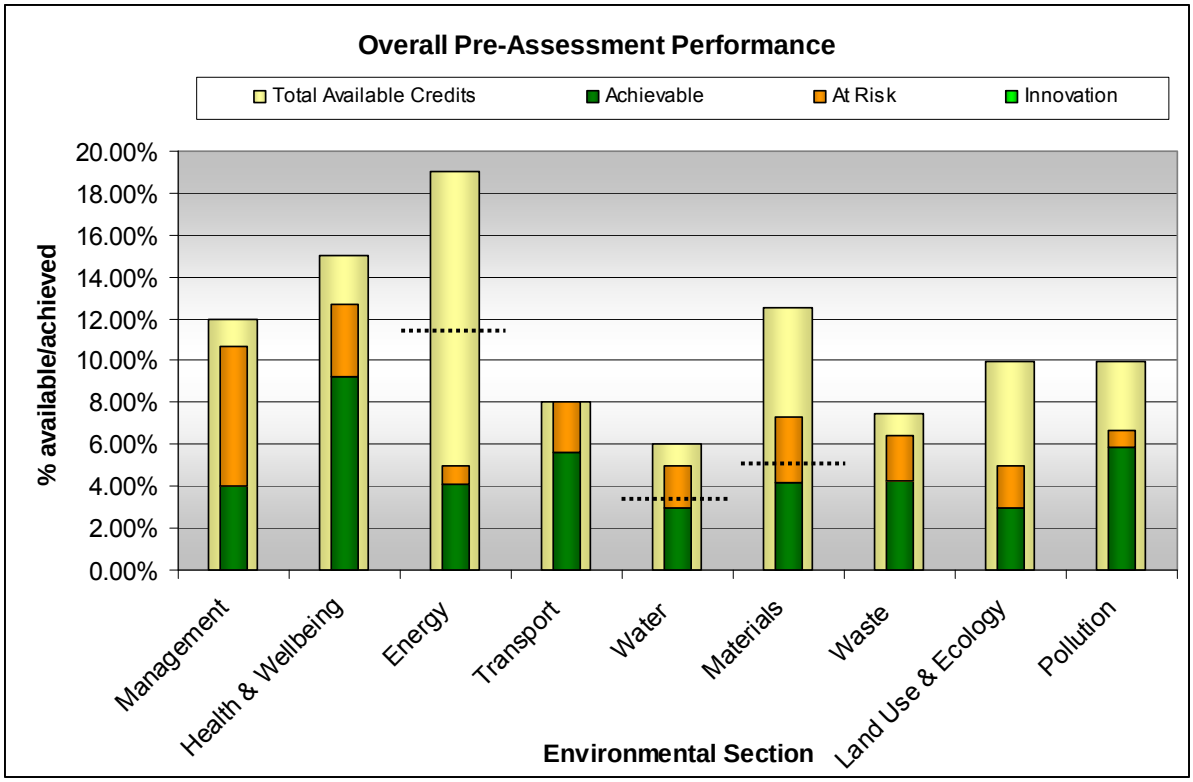


Figure 2: Southampton Place BREEAM Sectional Percentage Scores

The graph shows both achievable and at risk credits.

4.2 Minimum BREEAM Credits Achieved

To achieve a BREEAM rating, the minimum percentage score must be achieved and prerequisites applicable to that rating level complied with.

Table 7 demonstrates the minimum standards achieved by 16-19 Southampton Place pre-assessment exercise.

Table 7: Minimum Standards Achieved

BREEAM issue		Credits achieved	Minimum Very Likely for 'Good' rating?	Minimum Very Likely for 'Very Good' rating?	Minimum Very Likely for 'Excellent' rating?	Minimum Very Likely for 'Outstanding' rating?
MAN 1	Commissioning	**1**	Yes	Yes	Yes	No
MAN 2	Considerate Contractors	**1**	-	-	Yes	No
MAN 4	Building User Guide	**0**	-	-	No	No
HEA 4	High frequency lighting	**1**	Yes	Yes	Yes	Yes
HEA 12	Microbial contamination	**1**	Yes	Yes	Yes	Yes
ENE 1	Reduction of CO2 emissions	**2**	-	-	No	No
ENE 2	Sub-metering of substantial energy uses	**1**	-	Yes	Yes	Yes
ENE 5	Low or zero carbon technologies	**0**	-	-	No	No
WAT 1	Water consumption	**1**	Yes	Yes	Yes	No
WAT 2	Water meter	**1**	Yes	Yes	Yes	Yes
WST 3	Storage of recyclable waste	**1**	-	-	Yes	Yes
LE4	Mitigating ecological impact	**1**	-	-	Yes	Yes

Minimum credits applicable to a 'Good' and 'Very Good' rating are all achieved, however the standards required for an 'Excellent' rating are not reached in MAN4 - Building User Guide, ENE 1 - Reduction of CO_2 emissions, ENE 5 - Low or zero carbon technologies.

In the following tables, minimum performance credits will be highlighted in **bold.**

Sections 4.3 to 4.12 demonstrate the current status of each credit within the scope of BREEAM Office 2008. Credits are either assigned as; Achievable (green), At Risk, (orange) or Unobtainable (red).

4.3 Management

Credit Ref	Management	Points		Y	?	N	Description
MAN1	Commissioning	2		1	1		Ensure an appropriate level of building services commissioning is carried out in a co-ordinated and comprehensive manner.
MAN2	Considerate Constructors	2		1	1		Encourage construction sites to be managed in an environmentally and socially considerate and accountable manner. For 2 points a Code of Considerate Practice score of 32-35.5 is needed
MAN3	Construction site impacts	3		1	2		Encourage construction sites to be managed in an environmentally sound manner in terms of resource use, energy consumptions, pollution and waste.
MAN4	Building User Guide	1			1		Provide guidance for non technical building users so that they can understand and operate the building efficiently.
MAN8	Security	1				1	Recognise and encourage implementation of effective design measures that will reduce the opportunity for and fear of crime on development
Category Subtotal		**9**		**3**	**5**	**1**	

4.4 Health & Wellbeing

Credit Ref	Health and Wellbeing	Points		Y	?	N	Description
HEA1	Daylighting	1				1	At least 80% of occupied areas are adequately daylit
HEA2	View out	1			1		Allow occupants to refocus their eyes and enjoy an external view.
HEA3	Glare control	1			1		Provide an occupant controlled shading system to reduce problems associated with glare.
HEA4	High frequency lighting	1		1			Fit high frequency ballasts to all fluorescent lamps to reduce risk of health problems associated with flicker.
HEA5	Internal and External lighting levels	1		1			Design lighting in accordance with best practice for visual performance and comfort. Some lighting is already installed. Must be checked that this lighting is high frequency
HEA6	Lighting zones	1		1			Ensure lighting is zoned to allow occupants to have easy and accessible control over lighting.
HEA7	Potential for natural ventilation	1		1			Encourage adequate cross flow of air and flexibility for future conversion to a natural ventilation strategy.
HEA8	Indoor Air Quality	1		1			Reduce the risk to health associated with poor indoor air quality.
HEA9	Volatile Organic Compounds	1			1		Specify internal finishes and fittings with low emissions of volatile organic compounds (VOCs).
HEA10	Thermal comfort	1		1			Ensure that appropriate thermal comfort levels are achieved, through use of thermal modelling methods.
HEA11	Thermal zoning	1		1			Provide occupant control of zoned areas to allow independent control of heating/cooling systems.
HEA12	Microbial contamination	1		1			Design to reduce the risk of legionellosis in operation.
HEA13	Acoustic performance	1				1	Ensure acoustic performance meets the appropriate standards for its purpose. Less than 40 dB for office area
Category Subtotal		**13**		**8**	**3**	**2**	

4.5 Energy

Credit Ref	Energy	Points		Y	?	N	Description
ENE1	Reduction of CO2 emissions	15		2	1	11	Design the building to minimise the CO2 emissions associated with its operation energy consumption. Use existing building refurbishment scale. Listed buildings: Additional 2 credits may be awarded where: - Specialist study undertaken by heritage conservation specialist to investigate implication of improving building fabric performance - Makes recommendations for building fabric and vent, air tightness, and moisture control - Study carried out at RIBA stage C or earlier - Recommendations implemented.
ENE2	Submetering of substantial energy uses	1		1			Install energy sub-metering to facilitate the monitoring of in-use energy consumption. Need to sub-meter the following: Space Heating, Domestic Hot Water, Humidification, Cooling, Fans (major), Lighting, Small Power, Other major energy consuming items
ENE3	Submetering of areas/tenancy	1		1			Install energy sub-metering to facilitate the monitoring of in-use energy consumption by tenant or end-user. Provision of accessible sub-meters to relevant function areas within the building/unit
ENE4	External lighting	1				1	Specify energy-efficient light fittings for external areas.
ENE5	Low or Zero Carbon Technologies	3		1		2	Use local energy generation from renewable sources to supply a significant proportion of the energy demand.
ENE8	Lifts	2			2		Specify energy-efficient lifts where possible.
Category Subtotal		**23**		**5**	**3**	**14**	

4.6 Transport

Credit Ref	Transport	Points		Y	?	N	Description
TRA1	Provision of public transport	3		3			Choose site for development in proximity to good public transport networks.
TRA2	Proximity to amenities	1		1			Develop on a site located in proximity to local amenities. Building within 500m of grocery, post box, cash machine
TRA3	Cyclist facilities	2			2		Provide adequate cycle facilities to encourage building users to cycle to work. 10% of building users up to 500 people.
TRA4	Pedestrian and cyclist safety	1			1		Provide safe and secure pedestrian and cycle access routes. Cycle lanes and footpaths to "Sustrans" standards are required
TRA5	Travel plan	1		1			Develop a travel plan giving consideration to a range of travel options for building users to discourage reliance on forms of transport with high environmental impact.
TRA6	Maximum car parking capacity	2		2			Restrict parking on site to encourage the use of alternative means of transport to the building. Credits require 1 car parking space for every 3/4 building users.
Category Subtotal		**10**		**7**	**3**		

4.7 Water

Credit Ref	Water	Points		Y	?	N	Description
WAT1	Water consumption	3		1	2		Specify low water use fittings to minimise the consumption of potable water.
WAT2	Water meter	1		1			Install mains water supply meters to monitor and manage consumption.
WAT3	Major leak detection	1				1	Install a leak detection system to reduce impact of major water leaks.
WAT4	Sanitary supply shut off	1		1			Specify solenoid valves in toilet areas to reduce the risk of minor leaks.
Category Subtotal		**6**		**3**	**2**	**1**	

4.8 Materials

Credit Ref	Materials	Points		Y	?	N	Description
MAT1	Materials specification	4			2	2	Specify construction materials with a low environmental impact over the full life cycle of the building. Applies to external walls, windows, roof and upper floor slabs. For each element reused in situ (i.e. not replaced) can be awarded 'A+' and should be included in Mat1 calculator.
MAT2	Hard landscaping and boundary protection	1		1			At least 80% of all external hard landscaping achieves an A/A+ rating For each element reused in situ (i.e. not replaced) can be awarded 'A+'. New elements to be assessed as outlined.
MAT3	Reuse of façade	1		1			To recognise and encourage the in-situ reuse of existing building facades At least 50% of the total final building façade (area) is reused OR At least 80% of the reused faced (mass) comprises in-situ reused material
MAT4	Reuse of Structure	1		1			To recognise and encourage the in-situ reuse of existing structures previously occupying the site At least 80% by volume of an existing primary structure is reused without significant strengthening or alteration OR Where project is part refurb/new build, reused structure comprises at least 50% volume of the final building.
MAT5	Responsible sourcing of materials	2				0	Specify responsibly sourced materials for key building elements. Newly specified and reused materials to be assessed. Reused in situ to be excluded. Specified reused materials (Such as recycled aggregates) fall within Tier 1
MAT6	Insulation	2			1	1	Specify insulation with low embodied environmental impact and source responsibly for building elements and building services. For each element reused in-situ, allocate A+. Existing in-situ insulating materials not assessed for responsible sourcing. If no new insulating materials specified, both credits can be awarded by default.

Credit Ref	Materials	Points		Y	?	N	Description
MAT7	Designing for robustness	**1**		**1**			Design for adequate protection of building parts and landscape to minimise frequency of replacing materials. Applies only to areas forming part of works or hard landscape for that building.
Category Subtotal		**12**		**4**	**3**	**3**	

4.9 Waste

Credit Ref	Waste	Points		Y	?	N	Description
WST1	Construction site waste management	4		3		1	Promote resource efficiency via effective and appropriate management of construction site waste.
WST2	Recycled aggregates	1			1		To recognise and encourage the use of recycled and secondary aggregates in construction, thereby reducing the demand for virgin material. Where no new aggregate used, credit can be awarded by default.
WST3	Recyclable waste storage	1			1		Provide a dedicated storage facility for the building's operation-related recyclable waste.
WST6	Floor finishes	1		1			To encourage the specification and fitting of floor finishes selected by the building occupant and therefore avoid unnecessary waste of materials.
Category Subtotal		7		4	2	1	

4.10 Land Use & Ecology

Credit Ref	Land use & Ecology	Points		Y	?	N	Description
LE1	Reuse of land	1		1			Where evidence is provided to demonstrate that the majority of the footprint of the proposed development falls within the boundary of previously developed land. Where no new building work or infrastructure constructed, credit can be awarded by default
LE2	Contaminated land	1				1	Where evidence is provided to demonstrate that the land used for the new development has, prior to development, been defined as contaminated and where adequate remedial steps have been taken to decontaminate the site prior to construction.
LE3	Ecological value and protection of ecological features	1		1			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. Refurbishment must protect any existing ecological features. Protection includes clear exclusion procedures for construction traffic/personnel and material storage, as well as physical barriers.
LE4	Mitigating ecological impact	2		1		1	To minimise the impact of a building development on existing site ecology
LE5	Enhancing site ecology	3				3	To recognise and encourage actions taken to maintain and enhance the ecological value of the site as a result of development
LE6	Long term impact on biodiversity	2			2		To minimise the long term impact of the development on the site's, and surrounding area's, biodiversity. Listed building refurbishment: May be exempt if criteria conflict with the need to maintain listed features, or counter to conservation criteria. Confirmation required from SQE that all possible enhancements have been achieved before the credit can be awarded (i.e. requires SQE to be appointed)
Category Subtotal		**10**		**3**	**2**	**5**	

4.11 Pollution

Credit Ref	Pollution	Points		Y	?	N	Description
POL1	Refrigerant GWP - building services	1		1			Specify refrigerants with a low Global Warming Potential (GWP).
POL2	Preventing refrigerant leaks	2		1			Specify a refrigerant leak detection system and pump down facility to reduce emissions of refrigerants to the atmosphere arising from leakages in the cooling plant.
POL4	NOx emissions of heating source	3		2		1	Specify a heating system to supply heat with minimal NOx emissions. If heating demand is met by existing boilers, Nox levels of existing must be assessed.
POL5	Flood risk	3		2		1	To encourage development in low flood risk areas or to take measures to reduce the impact of flooding on buildings in areas with a medium or high risk of flooding. Where no new building/hard landscaping areas developed, attenuation of surface water run-off likely to meet criteria. Therefore (as minimum) Flood Risk Assessment must have been carried out and identified any opportunities to reduce run-off as a result of refurbishment must be implemented
POL6	Minimising watercourse pollution	1				1	Specify SUDs or source control systems to reduce the potential for silt, heavy metals, chemicals or oil pollution to natural watercourses from surface water run-off from buildings and hard surfaces.
POL7	Reduction of night time light pollution	1			1		Design external lighting to reduce unnecessary light pollution, energy consumption and nuisance to neighbouring properties. Follow ILE Guidance. In addition to any new external lighting specified, existing lighting that will remain must be assessed.
POL8	Noise Attenuation	1		1			Reduce likelihood of noise from the new development affecting nearby noise-sensitive buildings. If noise sensitive buildings with 800m then noise impact assessment is needed and where noise from building is less than background noise credit is awarded.
Category Subtotal		**12**		**7**	**1**	**3**	

4.12 Exemplary Performance and Innovation Credits

Exemplary performance credits are awarded where the building design goes above and beyond the requirements of particular criteria. Table 8 outlines the BREEAM issues with exemplary performance criteria, and those that the Southampton Place development is targeting.

Table 8: BREEAM Issues with Exemplary Level Criteria

Credit Ref	Innovation	Points		Y	?	N	Description
MAN2	Considerate Constructors	1				1	Encourage construction sites to be managed in an environmentally and socially considerate and accountable manner.
HEA1	Daylighting	1				1	Ensure building users receive sufficient access to daylight.
ENE1	Reduction of CO2 Emissions	1				1	Carbon neutral building achieved
		1				1	True carbon zero building achieved
ENE5	Low or Zero Carbon Technologies	1				1	Use local energy generation from renewable sources to supply at least 20% of the building's energy demand.
WAT2	Water Meter	1				1	Install sub meters to monitor and manage water consumption of individual plant/building areas. Submeters to water consuming plant that is >=10% of total demand. Each sub meter has a pulsed out put and is connected to BMS
MAT1	Materials Specification	1				1	Specify construction materials with a low environmental impact over the full life cycle of the building. Materials calculations need to be carried out with Architect and Contractor but it is unlikely to be achieved for this type of building
MAT5	Responsible Sourcing of Materials	1				1	Specify responsibly sourced materials for key building elements.
Category Subtotal		**8**		**0**	**0**	**8**	

An additional 1% score can be added to the project's final BREEAM score for each exemplary performance credit achieved.

Innovation credits can also be awarded where the BREEAM assessor makes an application to demonstrate that the building has a particular feature, system or process that innovates in the field of sustainability.

16-19 Southampton Place will not target any additional exemplary performance or innovation credits.

5.0 SUMMARY AND NEXT STEPS

16-19 Southampton Place aspires to achieve a BREEAM rating in order to meet Camden Planning Guidance Recommendations. Based on the results of the pre-assessment, this will be achievable; however, this is reliant on achieving the majority of the 'at risk' credits in the Energy, Water and Materials sections.

This is due to the constraints presented by the listed building.

Those of the design team who participated in the pre-assessment exercise concluded the following:

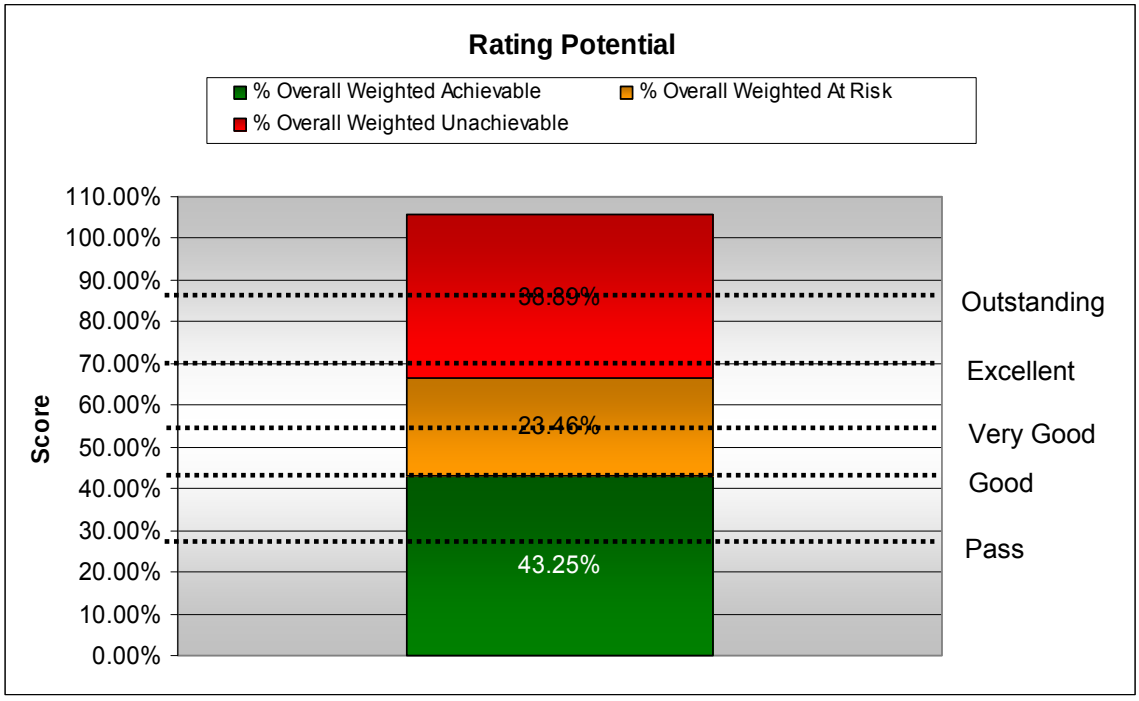
- Credits achievable = 44.07%
- Credits achievable (at risk) = 24.28%
- Credits unobtainable = 37.27%

A total of 45 credits (equating to 44.07% point score) are deemed achievable subject to sufficient and BREEAM compliant evidence being produced. A further 23 credits (equating to 24.28%) are designated as 'at risk', i.e. potentially achievable.

Targeting both achievable and low cost 'at risk' credits would reach a final percentage score of 38.35% attaining a 'Very Good' rating

Figure 3 summarises the potential for the 16-19 Southampton Place development to reach a 'Very Good' rating.

Figure 3: Achievable and Low Cost Credits



To meet the Camden Planning Guidance Requirements the project should achieve 60% of all credits in the Energy and Water sections, and 40% of credits in the

Materials section. Table 9 below shows how the design for Southampton Place currently performs.

Table 9: Camden Sectional Score Requirements

Environmental Section	Credits available	Camden % requirement	Credits required	Credits deemed 'achievable'	Credits deemed 'at risk'
Energy	23	60%	14	**5 (22%)**	**1 (4%)**
Water	6	60%	4	**3 (50%)**	**2 (33%)**
Materials	12	40%	5	**4 (33%)**	**3 (25%)**

At risk credits within each section will need to be targeted in order to meet the planning requirements.

It is highly unlikely that the Energy section target will be met. This is due to a limited number of credits available from EPC score used for Ene 1 - Reduction of CO_2 Emissions. The listed status of Southampton Place is likely to also place restrictions on the implementation of any Low or Zero Carbon (LZC) technologies, therefore restricting the number of credits available for Ene 5.

As part of the proposals, however, reasonable attempts will be made, wherever possible, to improve the performance of the overall building.

5.1 Next steps

The following way forward for the BREEAM assessment process is proposed:

- Conduct immediate further investigation of 'at risk' credits within the Energy, Water and Materials sections to give more certainty to the fulfilment of the Camden planning requirements.
- Carry out an Energy Performance Certificate calculation in order to assess credits available for Ene 1.
- Client and design team to confirm 'at risk' credits to be targeted.