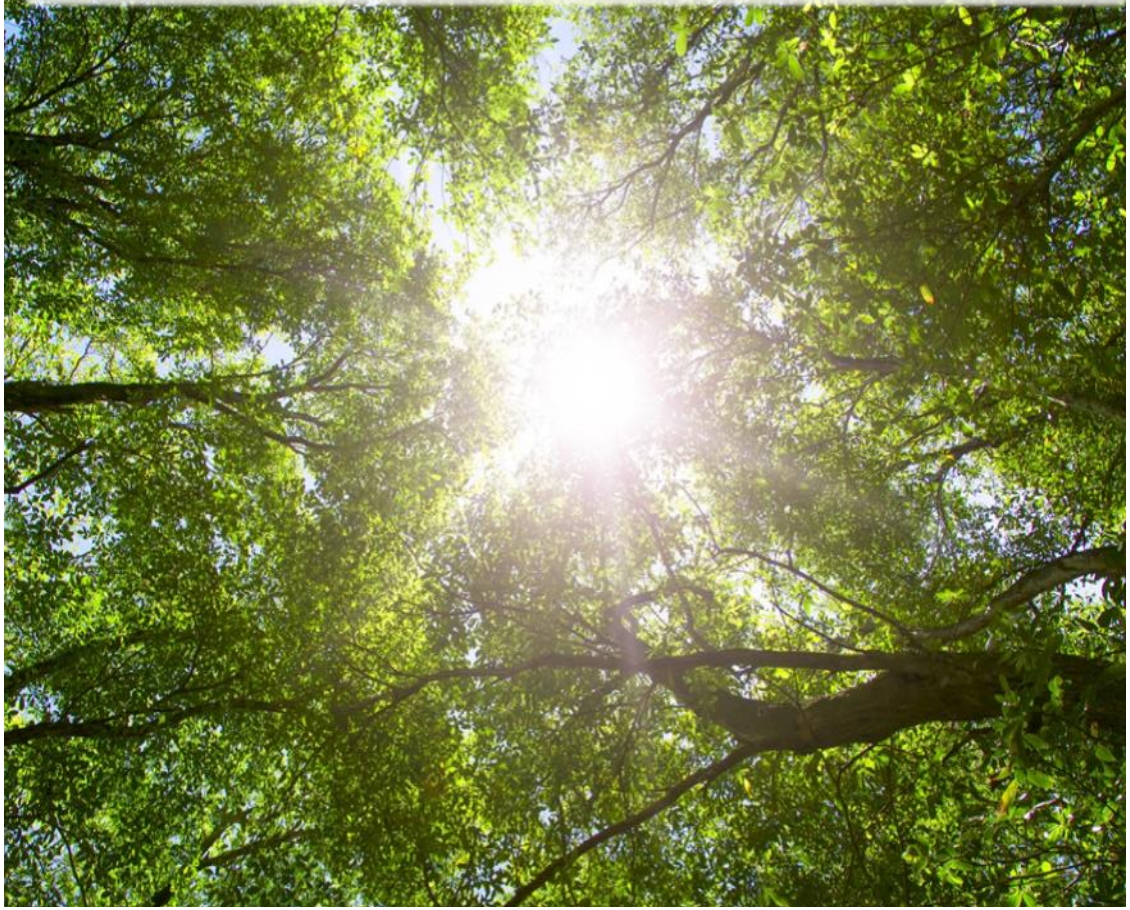
# Boston House
# Fitzroy Square, Camden

## Sustainability Statement

Ensphere Group Ltd on behalf of
New College of the Humanities



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# Boston House, Fitzroy Square

## Sustainability Statement

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## Quality Assurance Approval Status

This document has been prepared and checked in accordance with Ensphere Group Ltd's Quality Management System.

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| Final | V2 | Pete Jeavons | Pete Jeavons | May 2020 |

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# Contents

# 1. Executive Summary

1.1 This Sustainability Statement presents the sustainability credentials for a proposed scheme at Boston House, 36-38 Fitzroy Square, London, W1T 6EY.

1.2 Full planning permission and listed building consent is sought for the change of use of Boston House, 36-38 Fitzroy Square, London, W1T 6EY from office (Class B1a) to a non-residential education institution (Class D1) including internal alterations.

1.3 Proposed physical alterations are internal and largely limited to the subdivision of open plan office space with glazed partition walls. The opportunity to incorporate sustainable design features is therefore reduced. Nevertheless, the following is proposed:

- Highly efficient lighting and control systems;
- Incorporation of an ASHP for space heating;
- Insulation of the external walls and roof;
- Water saving appliances in kitchen areas and reduced flow rates to other taps;
- Partition walls to be responsibly sourced;
- Efficient construction and operational waste management;
- BREEAM “Excellent”.

1.4 Overall, the proposals for the scheme are in line with the overarching principles of sustainable development as well as the policy requirements of the planning authority.

# 2. Introduction

2.1 Ensphere Group Ltd was commissioned by New College of Humanities ("NCH") to produce a Sustainability Statement for a proposed change of use at Boston House, 36-38 Fitzroy Square, London, W1T 6EY.

## Site and Surroundings

2.2 This report has been prepared in support of a land use swap comprising:

- A planning and listed building consent application for the change of use of Boston House, 36-38 Fitzroy Square, London, W1T 6EY from office (Class B1a) to a non-residential education institution (Class D1) including internal alterations, and
- A planning application for the change of use of basement, ground and first floors of County House, Conway Mews, London, W1T 6AA from accountancy school (Class D1) to office (Class B1a)

### Boston House Site Description

2.3 Boston House is located on the south side of Fitzroy Square which is a virtually intact Georgian square fronted by terraced townhouses forming a single formal composition and with a large central private garden.

2.4 It consists of a mid-terrace building which is centrally located to the south of Fitzroy Square, in between the junctions with Fitzroy Street to the east and Conway Street to the west. The building is part of a symmetrical terrace formerly known as the London Foot Hospital and is formed of four storeys plus basement to provide a total of five levels of accommodation.

2.5 The building has an established B1 use comprising 2131 sqm of floorspace. It is currently vacant but was most recently occupied (January 2019) by an architect's firm on the lower ground to first floors and the University College of London to the second and third floors. It is understood that when occupied the building employed approximately 200 people within the building.

2.6 Surrounding buildings on the square are predominantly office use with a range of other uses including residential. The immediate neighbouring buildings include a single residential dwelling at no 34-35 Fitzroy Square (Swiss House) whilst the property on the opposite side at no.39 (Kenana House) is occupied by James Lewis and Co, a property land agent and valuers. Further along the terrace at no.40 is an advanced hair studio clinic.

2.7 Boston House, along with the terraces on the south and east side of Fitzroy Square are Grade I listed. However, to give further background to Boston House, the building was reconstructed as a replica in terms of its street façade with modern offices constructed behind the façade

following extensive bomb damage during World War II. Therefore, whilst the façade of Boston House is of exceptional historic and architectural special interest, the interior of Boston House is now completely modern redevelopment. The terraces to the west and north side of the square are grade II* listed.

2.8 The application site is also located within the Fitzroy Square Conservation area which lies to the south west of the Borough of Camden. The Fitzroy Square Conservation Area Appraisal describes the built environment of the Conservation Area as 'an area of urban character that is consistent with its central London location. The street pattern of the area is composed of a broadly north-south and east-west orientated grid of relatively narrow streets. The main focus of the area is Fitzroy Square'. Regarding the prevailing uses the appraisal identifies that the area was originally developed as a residential district, but that its status as a residential area diminished during the later 19th century leading to a creation of a mix of uses including offices, flats, shops and commercial uses.

2.9 The site is located within 500 metres of Kings Cross and is situated in an area identified by the Camden Local Plan as 'The Knowledge Quarter', a cluster of academic, cultural, research, scientific and media organisations large and small, all within a one mile radius of King's Cross, which falls partly in Central London. The site is also located within the Fitzrovia Area Action Plan which seeks to help shape the future of Fitzrovia and the western part of Bloomsbury Ward, in which the site is located.

2.10 The application site has a PTAL rating of 6B (Best) and is in close proximity to Euston Road and Tottenham Court Road with excellent access to public transport. This includes several bus routes along these roads as well as the London Underground Stations of Warren Street, Great Portland Street and Goodge Street all within a short walking distance from the site

### County House Site Description

2.11 County House is a 1960's basement plus five storey building located within an urban block formed by terraced buildings on the south side of Fitzroy Square, and those on Conway Street, Maple Street and Fitzroy Street. The site is located immediately to the rear (south) of Boston House. The building is currently accessed via a narrow archway on the east side of Conway Street.

2.12 Subject of this application are the basement, ground and first floors which have a floorspace of 680.7 sqm. The basement (171.1sqm), ground (264.3) and first (245.3 sqm) floors are currently occupied by First Intuition, an accountancy school (Class D1) offering a range of accountancy and leadership & management programmes. It is understood that the accountancy school has a maximum of 175 students enrolled on courses at any one time, although students are not present at the building at one time due to the courses being run at different times of the day and 7 days a week.

2.13 The second floor is currently occupied by Marie Stopes UK as an administration office as part of a reproductive health option clinic. The third and fourth floors of the building are in use as residential flats (Class C3). These floorspaces are not subject of the proposal.

2.14 The site is surrounded by a mix of development which backs onto the site including residential properties and a range of commercial uses which occupy both individual sites and/or are located to the ground floors beneath residential properties.

2.15 The building is not listed but is located within the Fitzroy Square Conservation Area where the building is identified as making a neutral contribution (neither positive contributor or a detractor) to the character and appearance of the Conservation Area. The terrace to the north west on Fitzroy Square, part terraces to the south west on Conway Street and north east on Fitzroy Square are all listed.

2.16 Similar to that of Boston House, the site has a high accessibility to public transport with a PTAL rating of 6B (Best) and has excellent access to bus routes and the London Underground Stations of Warren Street, Great Portland Street and Goodge Street.

## Proposed Development

2.17 Full planning permission and listed building consent is sought for the change of use of Boston House, 36-38 Fitzroy Square, London, W1T 6EY from office (Class B1a) to a non-residential education institution (Class D1) including internal alterations.

2.18 The change of use is required for the relocation of the NCH from its current site in Bedford Square to Boston House. The building will provide the new headquarters for NCH and the building will provide the following main components:

- Office/admin space;
- Teaching classrooms;
- Office meeting rooms/student collaboration space;
- Kitchen facilities;
- Toilet/shower facilities;
- Internal cycle storage facilities;

2.19 No residential accommodation is proposed as part of the proposed development.

2.20 The proposed works are limited to internal alterations and reconfiguration of space to include approximately 12,000sq. ft. of teaching space, 4,000sq. ft of office space and 4,000sq. ft. of student areas.

- Ground floor – At ground floor level the works would include the subdivision of the open plan office space. This includes insertion of glass partitions to the south of the existing reception;
- First floor – This floor is largely retained as existing with some minor reconfiguration and subdivision;
- Second floor – The second floor is currently completely open plan space. The proposals here include the subdivision of the space to create multiple office/meeting or classrooms along the existing structural divisions of the concrete frame. The partitions would be glazed;
- Third floor – The alterations at third floor level would be similar to that of the second floor. The existing open plan space would be partitioned using glass to create more cellular meeting or classrooms spaces;
- External – There are no external changes proposed although a new door entry system will be required.

2.21 Proposed student numbers for the 2019/20 academic year will be up to approximately 550, comprising 250 full time NCH students and 300 Northeastern University (NU) students (the majority of whom are only there for the autumn term). However, the site will not be attended by all 550 students at any one time and on average it is expected that students will be on site for teaching for 13 hours per week. Teaching of students will be carried out over three separate academic terms; September to December, January to March, and April to June; primarily between Monday to Friday from 9am-6pm (term time only). There will be occasional evening activities for students, including guest lectures and social evenings although it is envisaged that these occur once a month.

2.22 Regarding staffing, this will consist of the following; 35 x administrative staff (2 x part-time); 28 full-time & 32 part-time teaching staff.

### Report Objective

2.23 The objective of the Sustainability Statement is to outline how sustainability and the principles of sustainable development have been incorporated into the development proposals.

# 3. Assessment Methodology

## Sustainability & Sustainable Development

3.1 "Sustainability" is a broad concept generally used to describe the ability to perpetuate a particular state of being. It is widely used in the context of development and where there is potential for changing circumstances to cause an impediment to the perpetuation of a phenomenon.

3.2 The term is subjective and the understanding of the concept is influenced by perceptions and aspirations. "Sustainability" is therefore variably defined but normally encapsulates a wide range of issues, often characterised by their relationship with the economy, society and the environment (the "three pillars" of sustainability).

3.3 These issues are not necessarily mutually exclusive and whilst they are often presented as such, technically, the economy is a function of society; and society concerns the interrelationships and behaviours of one species within the wider environment. Nevertheless, the identification and characterisation of these issues enables a better understanding of the things that matter in decision making, which enable a balance to be struck when priorities compete.

3.4 The term "sustainable development" is often used interchangeable with "sustainability" but it is narrower in scope and seeks to promote the perpetuation of human advancement. The "Brundtland Report" (officially titled "Our Common Future" and written by the United Nations World Commission on Environment and Development, Chaired by Gro Harlem Brundtland in 1987), presents perhaps the most widely cited and understood interpretation of this concept:

> *"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs"*

3.5 The definition introduces the concept of "needs" and the generational timeframe for evaluating whether an action is sustainable or otherwise.

## Analysis Methodology

3.6 Given the broad definitions associated with the terminology of "sustainability" and "sustainable development", understanding how these concepts have been interpreted and incorporated into the local planning regime requires a review of the planning policy as well as the documents upon which the policy is based. The report therefore commences with an overview of the planning policy and other considerations.

3.7 An appraisal of the sustainability credentials of the scheme then follows. Structure is important when assessing sustainability due to the breadth of issues being considered; an approach has been created based upon the phases of the development cycle relevant to the planning decision making processes, with consideration given to the "three pillars" (discussed above) and requirements of policy.

**Assessment Matrix**

| | Economic | Social | Environmental |
|---|---|---|---|
| Strategic | ✓ | ✓ | ✓ |
| Design | ✓ | ✓ | ✓ |
| Construction | ✓ | ✓ | ✓ |

3.8 It is recognised that the scale and nature of the scheme will affect the relative importance of the matrix dimensions and entries. For example, a single residential unit is unlikely to be viewed as having a major societal impact on the basis of its scale relative to its context. However, the societal implications of an urban extension may be much more significant.

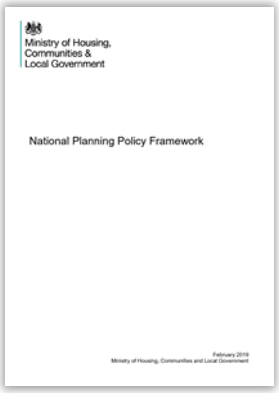
3.9 The emphasis is therefore case specific, and the assessment sections of this report seek to highlight the relevant factors in a suitably balanced manner.

# 4. Planning Context

4.1 Local planning policy relevant to sustainable development is considered below:

## National Context

### National Planning Policy Framework (2019)




4.2 The National Planning Policy Framework (NPPF) was updated in February 2019. Paragraphs 7, 8 and 10 of the revised NPPF include reference to the following:

*7. "the purpose of the planning system is to contribute to the achievement of sustainable development. At a very high level, the objective of sustainable development can be summarised as meeting the needs of the present without compromising the ability of future generations to meet their own needs".*

*8. "Achieving sustainable development means that the planning system has three overarching objectives, which are interdependent and need to be pursued in mutually supportive ways (so that opportunities can be taken to secure net gains across each of the different objectives):*

- *An economic objective*
- *A social objective*
- *An environmental objective"*

*10. "So that sustainable development is pursued in a positive way, at the heart of the Framework is a presumption in favour of sustainable development"*

### Planning Practice Guidance (2016; updated 2018)

- Climate Change - Advises how planning can identify suitable mitigation and adaption measures in plan-making and the application process to address the potential for climate change.
- Design - Design affects how people interact with places and can affect a range of economic, social and environmental objectives. The guidance states that planning policies and decisions should seek to ensure that the physical environment supports these objectives.
- Natural Environment - Explains key issues in implementing policy to protect biodiversity, including local requirements.

## London Context

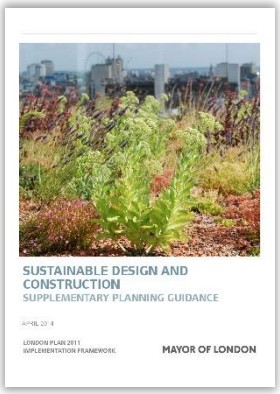
### The London Plan Consolidated with Alterations Since 2011 (2016)


4.3 The London Plan was further updated in March 2016. The Plan is the overall strategic plan for London. Chapter five of the Plan details London's Response to Climate Change. The following policies are considered pertinent to this Statement:

- Policy 5.2 (*Minimising Carbon Dioxide Emissions*) – includes:
  - An Energy Hierarchy: Be Lean; Be Clean; Be Green;
  - Carbon reduction targets for major developments; including a "zero carbon" target for 2019;
  - Sets out the information requirements for energy assessments.
- Policy 5.3 (*Sustainable Design & Construction*) – encourages consideration of sustainability as part of the design and construction;
- Policy 5.5 (*Decentralised Energy Networks*) – requires planning authorities to require developers prioritise connection to existing or planned decentralised energy networks where feasible;
- Policy 5.6 (*Decentralised Energy in Development Proposals*) – encourages development to establish or connect to energy networks;
- Policy 5.7 (*Renewable Energy*) – within the framework of the Energy Hierarchy, major development proposals should provide a reduction in expected carbon dioxide through the use of on-site renewable energy generation, where feasible;
- Policy 5.9 (*Overheating and Cooling*) – major development proposals should reduce potential overheating and reliance on air conditioning systems in accordance with a Cooling Hierarchy;
- Policy 5.10 (*Urban Greening*) – encourages development proposals to integrate green infrastructure;
- Policy 5.11 (*Green Roof and Development Site Environs*) – encourages major development to include roof, wall and site planting;
- Policy 5.12 (*Flood Risk Management*) – development proposals must comply with the flood risk assessment and management requirements of the NPPF;

- Policy 5.13 (*Sustainable Drainage*) – encourages developers to utilise sustainable drainage systems (SUDS) unless there are practical reasons for not doing so;
- Policy 5.15 (*Water Use and Supplies*) – development should minimise the use of mains water by incorporating water saving measures and targeting 105 litres of less per head per day;
- Policy 5.17 (*Waste Capacity*) – suitable waste and recycling storage facilities are required in all new development.

### Sustainable Design and Construction Supplementary Planning Guidance (2014)




4.4 This SPG aims to support developers, local planning authorities and neighbourhoods to achieve sustainable development. It provides guidance on to how to achieve the London Plan objectives effectively, supporting the Mayor's aims for growth, including the delivery of housing and infrastructure.

4.5 The guidance in this SPG is intended to:

- provide detail on how to implement the sustainable design and construction and wider environmental sustainability policies in the London Plan;
- provide guidance on how to develop more detailed local policies on sustainable design and construction;
- provide best practice guidance on how to meet the sustainability targets set out in the London Plan; and
- provide examples of how to implement sustainability measures within developments.

### Emerging London Plan (2019)

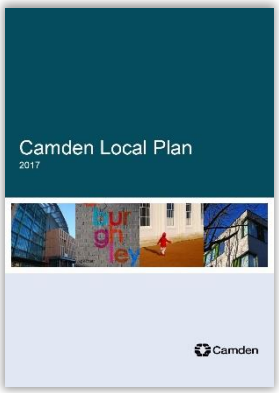

4.6 The draft New London Plan is a broad plan to shape the way London develops over the next 20-25 years. Sustainability and energy are discussed in Chapter 3 (Design), Chapter 8 (Green Infrastructure and Natural Environment) and Chapter 9 (Sustainable Infrastructure). The following draft policies are considered important to this report:

- Draft Policy D1 *(London's Form, Character and Capacity for Growth)* – Development should aim for high sustainability standards (with reference to the policies within London Plan Chapter's 8 and 9);

- Draft Policy D6 *(Housing Quality and Standards)* – Encourages developers to consider qualitative aspects of a development to ensure successful sustainable housing;
- Draft Policy SI1 *(Improving Air Quality)* – Development should not lead to further deterioration of existing poor air quality;
- Draft Policy SI2 (*Minimising GHG Emissions*) – Encourages major development to be zero-carbon and minimise annual and peak energy demand in accordance to 'Be Lean, Be Clean, Be Green, Be Seen' energy hierarchy.
- Draft Policy SI3 *(Energy Infrastructure)* – Major development proposals in Heat Network Priority Areas should have a communal low-temperatures heating system and the heating source should be selected in accordance to the Heating Hierarchy;
- Draft Policy SI4 *(Managing Heat Risk)* – Encourages development to minimise adverse impacts on the urban heat island and to assess the risk of internal overheating and reduce reliance on air conditioning.

## Local Context

### Camden Local Plan (June 2017)



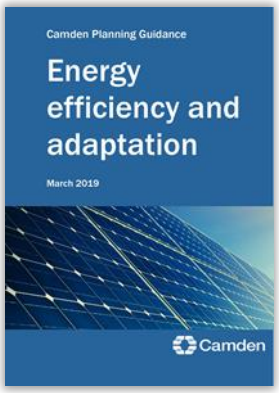

4.7 The Local Plan sets out the planning policies, site allocations and land designations Borough-wide and is the central document in the Borough's Development Plan.

4.8 The following policies are considered relevant to this report:

- Policy G1 (*Delivery and Location of Growth*) – promotes sustainability with regards to the efficient use of land and buildings;
- Policy D1 (*Design*) – includes a requirement for development to be sustainable with regards to design and construction;
- Policy CC1 (*Climate Change Mitigation*) – promotes zero carbon development, consideration of the Energy Hierarchy (encouraging connection to District Energy Networks), reduced reliance on transport by car and resource efficiency;
- Policy CC2 (*Adapting to Climate Change*) – requires development to seek to protect existing green space, use of SUDS, incorporating biodiverse roofs, consideration of overheating risks, encourages the use of the Home Quality Mark and Passivhaus Standards along with BREEAM "excellent" for non-domestic and refurbishment developments >500sqm;

- Policy DM1 (*Delivery and Monitoring*) – supports sustainable development;

**Camden Planning Guidance – Energy Efficiency & Adaptation (March 2019)**




4.9 This guidance provides information on key energy and resource issues within the borough and supports Local Plan Policies CC1 Climate change mitigation and CC2 Adapting to climate change.

4.10 Includes requirements concerning credits under certain BREEAM categories (60% energy, 60% water and 40% materials); and reference the 20% renewables target.

# 5. Site Context

5.1 In line with the "three pillars" of sustainability discussed within the methodology section, the site context has been considered with regard to its economic, social and environmental context; acknowledging that interrelationships exist between many of these issues.

## Socio Economic Context

### Output Area Classifications

5.2 Area classifications for Great Britain have been produced after every census since 1971, and as of the 2001 Census, they have been extended to cover the UK as a whole.

5.3 Using socioeconomic and demographic data from each census, the classifications seek to identify areas of the country with similar characteristics. Therefore, the presented information should not be interpreted as an assessment specific to the Application Site and the surrounding area; but rather it is a reflection of the characteristics of areas with a similar socioeconomic and demographic pattern.

5.4 Data from the 2011 Census has been released identifying the site as having an Output Area Code of E00004187 and is classified as "Cosmopolitans" (Supergroup Code 2), "Aspiring and Affluent" (Group Code 2d) and "EU White Collar Workers" (Subgroup Code 2d3).

5.5 Radial Plots are provided by the Office for National Statistics. Each data point on a radial plot displays the value for each one of the 60 standardised and transformed 2011 Census variables used.

5.6 The data indicates higher than average number of persons aged 25-44; population density; and full-time students. Residential accommodation is predominantly flats with social renting being more prevalent than ownership or private renting. Overcrowding levels are above average. The radial plots indicate that for those persons who work, employment is more likely to be in finance / insurance / real estate and information and communication sectors.

### Indices of Multiple Deprivation

5.7 The English Indices of Deprivation use 38 separate indicators, organised across seven distinct domains of deprivation. The Indices of Multiple Deprivation data are then constructed by combining the seven transformed domain scores, using the following weights; income (22.5%); employment (22.5%); health and disability (13.5%); education, skills and training (13.5%); barriers to housing and services (9.3%); crime (9.3%); and living environment (9.3%).

5.8 The IMD can be used to rank every Lower Layer Super Output Area in England according to their relative level of deprivation. The data is not a measure of affluence; therefore the area ranked as the least deprived is not necessarily the most affluent.

5.9 The IMD data comprise a numeric value in a scale of 1 to 32,844 (1=most deprived) and are represented in a coloured scale of deciles (1=most deprived – dark red; 10=least deprived – dark blue) in the respective maps. Government data (illustrated below) indicates that the area ranks 18,953 out of 32,844; where 1 is the most deprived. The area is therefore considered to have an average level of deprivation overall.

5.10 The table below provides the data for the individual domains:

**Table 5.1 IMD Domain Scores**

| Domain | Score |
|---|---|
| Income Rank | 27,860 |
| Employment Rank | 30,738 |
| Education, Skills and Training Rank | 25,104 |
| Health Deprivation and Disability Rank | 30,485 |
| Crime Rank | 17,753 |
| Barriers to Housing and Services Rank | 10,685 |
| Living Environment Rank | 45 |
| **Rank of IMD Score** | **18,390** |

Note: Scores out of 32,844, where 1 is the most deprived.

## Environmental Context

5.11 The environmental context is assessed in greater detail in the accompanying environmental reports. The following provides an overview of the pertinent matters:

### Land Use

5.12 The site constitutes brownfield land, meaning that its development will reduce the pressure to develop elsewhere and on greenfield.

### Flooding

5.13 From review of the Environment Agency (EA) Flood Map for Planning, the site is identified as being in a Flood Zone 1, with a low probability of flooding.

### Ecology

5.14 The site is entirely covered by hardstanding and existing structures. The current ecological value is considered negligible.

### Local Amenities & Public Transport

5.15 Many of the social and economic issues concern accessibility, which in its broadest sense is regarded as a combination of access to local shops, services, amenities, employment opportunities; as well as access to public and other transport facilities. Therefore, the accessibility of the proposed scheme to local amenities is a relevant consideration in determining whether the site represents a sustainable location.

5.16 The site's location close to the city centre puts a wide array of amenities and services within walking distance of the site, whilst nearby bus stops offer an alternative sustainable means of accessing the facilities.

5.17 The site has a PTAL rating of 6b (best), indicating excellent access to public transport.

# 6. Sustainable Design Proposals

6.1 This section presents an overview of the proposed sustainable design features for the scheme.

## Environmental Standards

6.2 It is proposed to subject the site to assessment against the BREEAM Refurbishment and Fitout standard, targeting an "Excellent" rating. A Pre-Assessment has been appended to this Sustainability Statement for reference.

## Energy

6.3 Further detail on energy matters is presented in the Energy Statement accompanying the application.

### Energy Efficiency

6.4 Opportunities to affect the building fabric are limited on the basis that the building structure and envelope will remain largely unchanged. However, external walls and roof will be insulated internally to improve the thermal performance of the property. Given the nature of the existing fabric, the design will seek to mitigate the risk of any condensation build up associated with the incorporation of additional insulation.

6.5 Internally, it is anticipated that a revised lighting design will be required and there is therefore an opportunity to replace all existing bulbs with highly efficient LEDs.

6.6 Control systems can also be improved with manual switching replaced by PIR sensors and dimming; where appropriate.

### Low Carbon & Renewable Technologies

6.7 Renewable and low carbon technologies have been considered as part of the design following the prioritisation of efficiency. It is proposed to replace the heating system with a reversible Air Source Heat Pump (ASHP).

## Water Conservation, Water Quality and Flooding

6.8 Water fittings within the property will remain largely unchanged; however, where new fittings are proposed (potentially as part of the reconfiguration of the kitchen on the first floor), these will be low flow. Furthermore, flow rates will be reduced by adjusting balancing valves on the pipework leading up to the fitting.

6.9 The existing site is entirely hardstanding impermeable ground and therefore the volume of water run-off over the development's lifecycle will be no greater than it would have been prior to development.

### Materials & Waste

6.10 In light of the “change of use” nature of the proposals, most of the major building elements will remain the same as those currently on site.

6.11 Where fabric is introduced (e.g. glazed partition walls, insulation), efforts will be made to ensure that these are sustainably sourced and suppliers that operate Environmental Management Systems shall be prioritised.

6.12 The operational waste strategy comprises provision of dedicated space of adequate size and in convenient locations for storage of general refuse, recyclables and food waste. Internal and external storage will be considerate of the Building Regulations and Council requirements.

### Pollution

6.13 Transport emissions shall be minimal, as the site offers excellent connections to public transport services and a wide range of amenities at walking distance.

6.14 The developer will also endeavour to avoid the use of materials with a high VOC (volatile organic compound) content; therefore ensuring an improved air quality for the completed development.

### Ecology

6.15 Opportunities to enhance the ecology of the site are restricted on the basis that the footprint is entirely covered by the building and hardstanding. Furthermore, the proposed works to not include structural upgrades, which might be necessary for any significant additional weight at roof level (e.g. green roofs). Nevertheless, it is proposed to further investigate the potential inclusion of some lightweight planting options which might provide habitat; with the southern side of the roof likely being more suitable due to the structure being more modern.

# 7. Sustainable Construction Proposals

7.1 It is recognised that the construction industry has the potential to cause significant environmental impacts through resource use, waste generation and pollution. It is therefore proposed to manage the construction phase in a sustainable manner to ensure that these impacts are reduced.

## Responsible Construction Practices

### Impacts on Neighbours, Pedestrians, Road Users and Workforce

7.2 The scheme will be registered with the Considerate Constructors Scheme to ensure that the contractor carries out the construction operations in a safe and considerate manner, with due regard to local residents, road users, the workforce and the environment. A target of achieving a score of at least 35 and with a minimum score of 7 in each of the five sections shall be set. This represents a high level of performance and a commitment to responsibly manage construction activities.

### Environmental Management

7.3 It is expected that the principal contractor for the project shall also operate a third party certified Environmental Management System (EMS), demonstrating sound management and systematic control of environmental impacts.

## Materials Optimisation and Waste

7.4 The development will aim for more than 95% by tonnage of demolition and construction waste to be diverted from landfill as per minimum.

## Pollution Prevention

### Pollution Prevention Guidelines

7.5 The Environment Agency's (EA) Pollution Prevention Guidelines (PPG) shall be followed as appropriate to minimise pollution risks from construction activities; works will also be in line with the Environment Agency's Building a better environment, A guide for developers (2006) guidance.

### Air Pollution

7.6 Best practice methods for minimising the formation of dust and emissions from construction activities shall be implemented, as appropriate to the specific site and proposed activities. Control measures may include:

- Appropriate site layout;

- Solid screens/barriers or other physical boundaries around dust/emission generating activities;
- Good site maintenance and regular inspections for liquid spillages; and
- Sealed storage for cement, sand and fine aggregates.

7.7 In addition to the above, the contractor shall comply with the BRE Code of Practice to control dust from construction and demolition activities.

### Water Pollution

7.8 Appropriate measures shall be implemented to minimise risks of watercourse and underground water pollution, in line with EA's PPG 5 Works in, near or liable to affect watercourses and the Guide for developers Building a better environment, as stated above. Specific measures shall be outlined in the contractor's CEMP.

# 8. Summary

8.1 This Sustainability Statement provides an overview as to how the proposed scheme contributes to sustainable development in the context of the strategic, design and construction considerations.

8.2 Sustainability is a broad concept and covers a range of environmental, social and economic considerations. A review of Camden Council's planning policies has identified a number of requirements relating to sustainable development. Of these, Local Plan policies G1 (*Delivery and Location of Growth*), D1 (*Design*), CC1 (*Climate Change Mitigation*), CC2 (*Adapting to Climate Change*) and DM1 (*Delivery and Monitoring*) are considered most pertinent. Consideration has also been given to the National and London planning policy framework.

8.3 Full planning permission and listed building consent is sought for the change of use of Boston House, 36-38 Fitzroy Square, London, W1T 6EY from office (Class B1a) to a non-residential education institution (Class D1) including internal alterations.

8.4 Proposed physical alterations are therefore internal and largely limited to the subdivision of open plan office space with glazed partition walls. The opportunity to incorporate sustainable design features is therefore reduced. Nevertheless, the following is proposed:

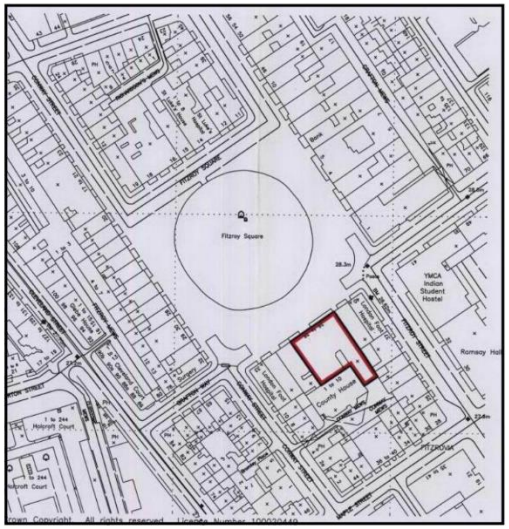
- Highly efficient lighting and control systems;
- Incorporation of an ASHP for space heating;
- Insulation of the external walls;
- Water saving appliances in kitchen areas and reduced flow rates to other taps;
- Partition walls to be responsibly sourced;
- Efficient construction and operational waste management;
- BREEAM "Excellent".

8.5 Overall, the proposals for the scheme are in line with the overarching principles of sustainable development as well as the policy requirements of the planning authority.

# Appendices

# A. Site Plans

A2




| Issue | Date | By | Chkd | Appd |
|---|---|---|---|---|

Client

Job Title
Boston House
Site Location Plan

Scale at A2 1:1250 @A3

Discipline

Job No

Drawing Status
**Existing**

Drawing No
**BH. S.0100**

Issue

Do not scale

# B. Key Local Planning Policy Requirements

## London Planning Policy Framework

Key London Plan planning policy is detailed below:

### The London Plan as Altered (2016)

The London Plan is the overall strategic plan for London. Chapter five details London's Response to Climate Change and includes a number of policies that set the overarching principles for reducing carbon emissions in the built environment:

**Policy 5.2 – Minimising Carbon Dioxide Emissions**

**Planning Decisions**

A) Development proposals should make the fullest contribution to minimising carbon dioxide emissions in accordance with the following energy hierarchy:

1) Be lean: use less energy;

2) Be clean: supply energy efficiently;

3) Be green: use renewable energy.

B) The Mayor will work with boroughs and developers to ensure that major developments meet the following targets for carbon dioxide emissions reduction in buildings. These targets are expressed as minimum improvements over the Target Emission Rate (TER) outlined in the national Building Regulations leading to zero carbon residential buildings from 2016 and zero carbon non-domestic buildings from 2019.

Residential Buildings:

| Year | Improvement in 2010 Building Regs |
|---|---|
| 2010-2013 | 25% (Code Level 4) |
| 2013-2016 | 40% |
| 2016-2031 | Zero Carbon |

Non-Residential Buildings:

| Year | Improvement in 2010 Building Regs |
|---|---|
| 2010-2013 | 25% |
| 2013-2016 | 40% |
| 2016-2019 | As per building regulations requirements |
| 2019-2031 | Zero Carbon |

C) Major development proposals should include a detailed energy assessment to demonstrate how the targets for carbon dioxide emission reduction outlined above are to be met within the framework of the energy hierarchy.

D) As a minimum, energy assessments should include the following details:

a) Calculations of the energy demand and carbon dioxide emissions covered by the Building Regulations and, separately, the energy demand and carbon dioxide emissions from any other part of the development, including

plant or equipment, that are not covered by the Building Regulations (see paragraph 5.22) at each stage of the hierarchy;

b) Proposals to reduce carbon dioxide emissions through the energy efficient design of the site, buildings and services;

c) Proposals to reduce carbon dioxide emissions through the use of decentralised energy where feasible, such as district heating and cooling and combined heat and power (CHP);

d) Proposals to further reduce carbon dioxide emissions through the use of on-site renewable energy technologies.

The carbon dioxide reduction targets should be met on-site. Where it is clearly demonstrated that the specific targets cannot be fully achieved on-site, any shortfall may be provided off-site or through a cash in lieu contribution to the relevant borough to be ring fenced to secure delivery of carbon dioxide savings elsewhere.

**Policy 5.3 – Sustainable Design & Construction**

**Strategic**

A) The highest standards of sustainable design and construction should be achieved in London to improve the environmental performance of new developments and to adapt to the effects of climate change over their lifetime.

**Planning Decisions**

B) Development proposals should demonstrate that sustainable design standards are integral to the proposals, including its construction and operation, and ensure that they are considered at the beginning of the design process.

C) Major development proposals should meet the minimum standards outlined in the Mayor's supplementary planning guidance and this should be clearly demonstrated within a design and access statement. The standards include measures to achieve other policies in this Plan and the following sustainable design principles apply:

a) Minimising carbon dioxide emissions across the site, including the building and services (such as heating and cooling systems);

b) Avoiding internal overheating and contributing to the urban heat island effect;

c) Efficient use of natural resources (including water), including making the most of natural systems both within and around buildings;

d) Minimising pollution (including noise, air and urban run-off);

e) Minimising the generation of waste and maximising reuse or recycling;

f) Avoiding impacts from natural hazards (including flooding);

g) Ensuring developments are comfortable and secure for users, including avoiding the creation of adverse local climatic conditions;

h) Securing sustainable procurement of materials, using local supplies where feasible; and

i) Promoting and protecting biodiversity and green infrastructure.

Within LDFs boroughs should consider the need to develop more detailed policies and proposals based on the sustainable design principles outlined above and those which are outlined in the Mayor's supplementary planning guidance that are specific to their local circumstances.

**Policy 5.5 – Decentralised Energy Networks**

**Strategic**

A) The Mayor expects 25 per cent of the heat and power used in London to be generated through the use of localised decentralised energy systems by 2025. In order to achieve this target the Mayor prioritises the development of decentralised heating and cooling networks at the development and area wide levels, including larger scale heat transmission networks.

**LDF Preparation**

B) Within LDFs boroughs should developer policies and proposals to identify and establish decentralised energy network opportunities. Boroughs may choose to develop this as a supplementary planning document and work jointly with neighbouring boroughs to realise wider decentralised energy network opportunities. As a minimum, boroughs should:

a) Identify and safeguard existing heating and cooling networks;

b) Identify opportunities for expanding existing networks and establishing new networks. Boroughs should use the London Heat Map tool and consider any new developments, planned major infrastructure works and energy supply opportunities which may arise;

c) Developer energy master plans for specific decentralised energy opportunities which identify;

- Major heat loads (including anchor heat loads, with particular reference to sites such as universities, hospitals and social housing);
- Major heat supply plant;
- Possible opportunities to utilise energy from waste;
- Possible heating and cooling network routes;
- Implementation options for delivering feasible projects, considering issues of procurement, finding and risk in the role of the public sector.

Require developers to prioritise connection to existing or planned decentralised energy networks where feasible.

**Policy 5.6 – Decentralised Energy in Development Proposals**

**Planning Decisions**

A) Development proposals should evaluate the feasibility of Combined Heat and Power (CHP) systems, and where a new CHP system is appropriate also examine opportunities to extend the system beyond the site boundary to adjacent sites.

B) Major development proposals should select energy systems in accordance with the following hierarchy:

1) Connection to existing heating or cooling networks;

2) Site wide CHP network;

3) Communal heating and cooling.

Potential opportunities to meet the first priority in this hierarchy are outlined in the London Heat Map tool. Where future network opportunities are identified, proposals should be designed to connect to these networks.

**Policy 5.7 – Renewable Energy**

**Strategic**

A) The Mayor seeks to increase the proportion of energy generated from renewable sources, and expects that the projections for installed renewable energy capacity outlined in the Climate Change Mitigation and Energy Strategy and in supplementary planning guidance will be achieved in London.

**Planning Decisions**

B) Within the framework of the energy hierarchy (see Policy 5.2), major development proposals should provide a reduction in expected carbon dioxide through the use of on-site renewable energy generation, where feasible.

**LDF Preparation**

C) Within LDFs boroughs should, and other agencies may wish to development more detailed policies and proposals to support the development of renewable energy in London – in particular, to identify broad areas where specific renewable energy technologies, including large scale systems and the large scale deployment of small scale systems, are appropriate. The identification of areas should be consistent with any guidelines and criteria outlined by the Mayor.

All renewable energy systems should be located and designed to minimise any potential adverse impacts on biodiversity, the natural environment and historical assets, and to avoid any adverse impacts on air quality.

**Policy 5.9 – Overheating and Cooling**

**Strategic**

A) The Mayor seeks to reduce the impact of the urban heat island effect in London and encourages the design of places and spaces to avoid overheating and excessive heat generation, and to reduce overheating due to the impacts of climate change and the urban heat island effect on an area wide basis.

**Planning Decisions**

B) Major development proposals should reduce potential overheating and reliance on air conditioning systems and demonstrate this is in accordance with the following cooling hierarchy:

1) Minimise internal heat generation through energy efficient design;

2) Reduce the amount of heat entering a building in summer through orientation, shading, albedo, fenestration, insulation and green roofs and walls;

3) Manage the heat within the building through exposed internal thermal mass and high ceilings;

4) Passive ventilation;

5) Mechanical ventilation;

6) Active cooling.

C) Major development proposals should demonstrate how the design, materials, construction and operation of the development would minimise overheating and also meet its cooling needs. New development in London should also be designed to avoid the need for energy intensive air conditioning systems as much as possible. Further details and guidance regarding overheating and cooling are outlined in the London Climate Change Adaptation Strategy.

**LDF Preparations**

Within LDFs boroughs should develop more detailed policies and proposals to support the avoidance of overheating and to support the cooling hierarchy.

**Policy 5.10 – Urban Greening**

**Strategic**

A) The Mayor will promote and support urban greening, such as new planting in the public realm (including streets, squares and plazas) and multifunctional green infrastructure, to contribute to the adaptation to, and reduction of, the effects of climate change.

B) The Mayor seeks to increase the amount of surface area greened in the Central Activities Zone by at least five per cent by 2030, and a further five per cent by 2050.

**Planning Decisions**

C) Development proposals should integrate green infrastructure from the beginning of the design process to contribute to urban greening, including the public realm. Elements that can contribute to this include tree planting, green roofs and walls, and soft landscaping. Major development proposals within the Central Activities Zone should demonstrate how green infrastructure has been incorporated.

**LDF Preparation**

D) Boroughs should identify areas where urban greening and green infrastructure can make a particular contribution to mitigating the effects of climate change, such as the urban heat island.

**Policy 5.11 – Green Roof and Development Site Environs**

**Planning Decisions**

A) Major development proposals should be designed to include roof, wall and site planting, especially green roofs and walls where feasible, to deliver as many of the following objectives as possible:

a) adaptation to climate change (i.e. aiding cooling);

b) sustainable urban drainage;

c) mitigation of climate change (i.e. aiding energy efficiency);

d) enhancement of biodiversity;

e) accessible roof space;

f) improvements to appearance and resilience of the building;

g) growing food.

**LDF Preparation**

B) Within LDFs boroughs may wish to develop more detailed policies and proposals to support the development of green roofs and the greening of development sites. Boroughs should also promote the use of green roofs in smaller developments, renovations and extensions where feasible.

**Policy 5.12 – Flood Risk Management**

**Strategic**

A) The Mayor will work with all relevant agencies including the Environment Agency to address current and future flood issues and minimise risks in a sustainable and cost effective way.

**Planning Decisions**

B) Development proposals must comply with the flood risk assessment and management requirements set out in the NPPF and the associated technical Guidance on flood risk1 over the lifetime of the development and have regard to measures proposed in Thames Estuary 2100 (TE2100 – see paragraph 5.55) and Catchment Flood Management Plans.

C) Developments which are required to pass the Exceptions Test set out in the NPPF and the Technical Guidance will need to address flood resilient design and emergency planning by demonstrating that:

a) the development will remain safe and operational under flood conditions;

b) a strategy of either safe evacuation and/or safely remaining in the building is followed under flood conditions

c) key services including electricity, water etc will continue to be provided under flood conditions

d) buildings are designed for quick recovery following a flood.

D) Development adjacent to flood defences will be required to protect the integrity of existing flood defences and wherever possible should aim to be set back from the banks of watercourses and those defences to allow their management, maintenance and upgrading to be undertaken in a sustainable and cost effective way.

**LDF Preparation**

E) In line with the NPPF and the Technical Guidance, boroughs should, when preparing LDFs, utilise Strategic Flood Risk Assessments to identify areas where particular flood risk issues exist and develop actions and policy approaches aimed at reducing these risks, particularly through redevelopment of sites at risk of flooding and identifying specific opportunities for flood risk management measures.

**Policy 5.13 – Sustainable Drainage**

**Planning Design**

A) Development should utilise sustainable urban drainage systems (SUDS) unless there are practical reasons for not doing so, and should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible in line with the following drainage hierarchy:

1) store rainwater for later use;

2) use infiltration techniques, such as porous surfaces in non-clay areas;

3) attenuate rainwater in ponds or open water features for gradual release;

4) attenuate rainwater by storing in tanks or sealed water features for gradual release

5) discharge rainwater direct to a watercourse

6) discharge rainwater to a surface water sewer/drain

7) discharge rainwater to the combined sewer.

Drainage should be designed and implemented in ways that deliver other policy objectives of this Plan, including water use efficiency and quality, biodiversity, amenity and recreation.

**LDF Preparation**

B) Within LDFs boroughs should, in line with the Flood and Water Management Act 2010, utilise Surface Water Management Plans to identify areas where there are particular surface water management issues and develop actions and policy approaches aimed at reducing these risks.

**Policy 5.15 – Water Use and Supplies**

**Strategic**

A) The Mayor will work in partnership with appropriate agencies within London and adjoining regional and local planning authorities to protect and conserve water supplies and resources in order to secure London's needs in a sustainable manner by:

a) minimising use of mains water;

b) reaching cost-effective minimum leakage levels;

c) in conjunction with demand side measures, promoting the provision of additional sustainable water resources in a timely and efficient manner, reducing the water supply deficit and achieving security of supply in London;

d) minimising the amount of energy consumed in water supply

e) promoting the use of rainwater harvesting and using dual potable and grey water recycling systems, where they are energy and cost effective

f) maintaining and upgrading water supply infrastructure

g) ensuring the water supplied will not give rise to likely significant adverse effects to the environment particularly designated sites of European importance for nature conservation.

**Planning Decisions**

B) Development should minimise the use of mains water by:

a) incorporating water saving measures and equipment

b) designing residential development so that mains water consumption would meet a target of 105 litres or less per head per day

C) New development for sustainable water supply infrastructure, which has been selected within water companies' Water Resource Management Plans, will be supported.

**Policy 5.17 – Waste Capacity [extract]**

**Planning Decisions**

E) Suitable waste and recycling storage facilities are required in all new developments.

### Camden Local Plan (June 2017)

The Local Plan was adopted by Council on 3 July 2017 and has replaced the Core Strategy and Camden Development Policies documents as the basis for planning decisions and future development in the borough. Policies relevant to this report are presented below:

**Policy G1 Delivery and Location of Growth [extract]**

The Council will create the conditions for growth to deliver the homes, jobs, infrastructure and facilities to meet Camden's identified needs and harness the benefits for those who live and work in the borough.

Delivery of Growth

The Council will deliver growth by securing high quality development and promoting the most efficient use of land and buildings in Camden by:

a) Supporting development that makes best use of its site, taking into account quality of design, its surroundings, sustainability, amenity, heritage, transport accessibility and any other considerations relevant to the site;

[…]

**Policy D1 Design [extract]**

The Council will seek to secure high quality design in development. The Council will require that development:

[…]

c) Is sustainable in design and construction, incorporating best practice in resource management and climate change mitigation and adaptation; is of sustainable and durable construction and adaptable to different activities and land uses;

[…]

**Policy CC1 Climate Change Mitigation**

The Council will require all development to minimise the effects of climate change and encourage all developments to meet the highest feasible environmental standards that are financially viable during construction and occupation.

We will:

a) Promote zero carbon development and require all development to reduce carbon dioxide emissions through following the steps in the energy hierarchy;

b) Require all major development to demonstrate how London Plan targets for carbon dioxide have been met;

c) Ensure that the location of the development and mix of land uses minimise the need to travel by car and help to support decentralised energy networks;

d) Support and encourage sensitive energy efficiency improvements to existing buildings;

e) Require all proposals that involve substantial demolition to demonstrate that it is not possible to retain and improve the existing building; and

f) Expect all developments to optimise resource efficiency.

For decentralised energy networks, we will promote decentralised energy by:

g) Working with local organisations and developers to implement decentralised energy networks in the parts of Camden most likely to support them;

h) Protecting existing decentralised energy networks (e.g. at Gower Street Bloomsbury, Kings Cross, Gospel Oak, and Somers Town) and safeguarding potential network routes; and

i) Requiring all major developments to assess the feasibility of connecting to an existing decentralised energy network, or where this is not possible establishing a new network.

To ensure that the Council can monitor the effectiveness of renewable and low carbon technologies, major developments will be required to install appropriate monitoring equipment.

**Policy CC2 Adapting to Climate Change**

The Council will require development to be resilient to climate change.

All development should adopt appropriate climate change adaptation measures such as:

a) The protection of existing green spaces and promoting new appropriate green infrastructure;

b) Not increasing, and wherever possible reducing, surface water run-off through increasing permeable surfaces and use of Sustainable Drainage Systems;

c) Incorporating bio-diverse roofs, combination green and blue roofs and green walls where appropriate; and

d) Measures to reduce the impact of urban and dwelling overheating, including application of the cooling hierarchy.

Any development involving 5 or more residential units of 500sqm or more of any additional floorspace is required to demonstrate the above in a Sustainability Statement.

Sustainable Design and Construction Measures

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

e) Ensuring development schemes demonstrate how adaptation measures and sustainable development principles have been incorporated into the design and proposed implementation;

f) Encourage new build residential development to use the Home Quality Mark and Passivhaus design standards;

g) Expecting developments (conversions / extensions) of 500sqm of residential floorspace or above or five or more dwellings to achieve “excellent” in BREEAM domestic refurbishment; and

h) Expecting non-domestic developments of 500sqm of floorspace or above to achieve “excellent” in BREEAM assessments and encouraging zero carbon in new developments from 2019.

**Policy DM1 Delivery and Monitoring [extract]**

The Council will deliver the vision, objectives and policies of the Local Plan by:

[…]

d) Using planning contributions where appropriate to:

i. Support sustainable development;

# C. BREEAM Pre-Assessment

| Issue ID | Issue ID/ Description/Aim | Credit Summary | Available Credits | Predicted Credits | Contingency Credits | Available Score | Predicted Score | Contingency Credits | RIBA Stage - Critical | Responsibilities/Comments |
|---|---|---|---|---|---|---|---|---|---|---|
| Man01 | **Project brief and design**<br>To recognise and encourage an integrated design processthat optimises building performance. | **Stakeholder consultation**<br>Stakeholder consultation covering project delivery and relevant third parties.<br>**Sustainability champion**<br>Sustainability champion appointed to facilitate the setting, monitoring and achievement of BREEAM performance target(s) for the project. | 4 | 4 | 0 | 2.29% | 2.29% | 0.00% | Early Action<br>RIBA Stage 2 | **Responsibilities**<br>Client<br>Project Manager<br>Architect<br>BREEAM AP<br>**Comments**<br>Early actions required<br>Ensphere to provide letter template |
| Man02 | **Life cycle cost and service life planning**<br>To deliver w hole life value by encouraging the use of life cycle costing to improve design, specification, through-life maintenance and operation , and through the dissemination of capital cost reporting promote economic sustainability. | **Life Cycle Cost (LCC)**<br>Recognising and encouraging the use of life cycle costing and service life planning and the sharing of data to raise aw areness and understanding. | 4 | 4 | 0 | 2.29% | 2.29% | 0.00% | Early Action<br>RIBA Stage 2 | **Responsibilities**<br>Client<br>Contractor<br>**Comments**<br>Early actions required |
| Man03 | **Responsible Construction Practices**<br>To recognise and encourage construction sites w hich are managed in an environmentally and socially considerate, responsible and accountable manner. | **Environmental Management**<br>The principal contractor demonstrates sound environmental management practices and consideration for neighbours across their activities on-site.<br>**Responsible Construction Management**<br>Site related energy, w ater and transport impacts are monitored and reported to ensure ongoing compliance during the Refurbishment, Handover and Close Out stages and to improve aw areness and understanding for future projects. | 6 | 6 | 0 | 3.43% | 3.43% | 0.00% | | **Responsibilities**<br>Contractor<br>**Comments**<br>Ensphere to provide letter templates |
| Man04 | **Commissioning and handover**<br>To encourage a properly planned handover and commissioning process that reflects the needs of the building occupants. | **Commissioning**<br>Schedule of commissioning including optimal timescales and appropriate testing and commissioning of all building services systems and building fabric in line w ith best practice<br>**Testing and Inspecting Building Fabric**<br>Inspecting, testing, identifying and rectifying defects via an appropriate method.<br>**Handover**<br>Provision of a non-technical Building User Guide and user/operator training timed appropriately around handover and proposed occupation. | 4 | 3 | 1 | 2.29% | 1.71% | 0.57% | | **Responsibilities**<br>Commissioning Manager<br>M&E<br>Client<br>**Comments**<br>Ensphere to provide letter templates |
| Man05 | **Aftercare**<br>To provide post-handover aftercare to the building ow ner/occupants follow ing the refurbishment w orks to ensure the building operates and adapts, w here relevant, in accordance w ith the design intent and operational demands. | **Aftercare Support**<br>Provision of the necessary infrastructure and resources to provide aftercare support to the building occupier(s).<br>**Seasonal Commissioning**<br>Seasonal commissioning activities w ill be completed over a minimum 12 month period, once the building becomes substantially occupied.<br>**Post Occupancy Evaluation**<br>The client or building occupier commit to carrying out a post occupancy evaluation (POE) exercise one year after initial building occupation and to disseminate the findings in terms of the building's post occupancy performance. | 3 | 3 | 0 | 1.71% | 1.71% | 0.00% | | **Responsibilities**<br>Client<br>Building Occupier<br>**Comments**<br>Ensphere to provide letter templates |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Hea01** | **Visual comfort**<br>To encourage and recognise projects that maximise opportunities for good daylighting, artificial lighting and occupant controls at the design stage to ensure best practice in visual performance and comfort for building occupants. | **Glare Control**<br>Potential for disabling glare has been designed out of all relevant building areas.<br>**Daylighting**<br>Good practice daylighting levels have been met.<br>**View Out**<br>Floor space in relevant building areas has an adequate view out to reduce eye-strain and provide a link to the outside.<br>**Internal and external lighting levels, zoning and control**<br>Internal and external lighting systems are designed to avoid flicker and provide appropriate illuminance (lux) levels.<br>Internal lighting is zoned to allow for occupant control. | 7 | 2 | 2 | 5.53% | 1.58% | 1.58% | | **Responsibilities**<br>Daylight Consultant<br>Architect<br>M&E<br><br>**Comments**<br>Ensphere to provide letter template |
| **Hea02** | **Indoor air quality**<br>To recognise and encourage a healthy internal environment through the specification and installation of appropriate ventilation, equipment and finishes. | **Air Quality**<br>Minimising sources of air pollution through careful design specification and planning.<br>**Ventilation**<br>Building ventilation strategy is designed to be flexible and adaptable to potential future building occupant needs and climatic scenarios. | 5 | 2 | 2 | 3.95% | 1.58% | 1.58% | | **Responsibilities**<br>Air Quality Consultant<br>M&E<br>Architect<br>Contractor<br><br>**Comments**<br>Ensphere to provide letter template |
| Hea03 | **Safe containment in laboratories**<br>To recognise and encourage a healthy internal environment through the safe containment and removal of pollutants. | N/A | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | | |
| **Hea04** | **Thermal comfort**<br>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. | **Thermal Modelling**<br>Thermal modelling carried out to appropriate standards.<br>**Design for Future Thermal Comfort**<br>Projected climate change scenario(s) considered as part of the thermal model.<br>**Thermal Zoning and Controls**<br>The thermal modelling analysis has informed the temperature control strategy for the building and its users. | 3 | 3 | 0 | 2.37% | 2.37% | 0.00% | | **Responsibilities**<br>M&E |
| **Hea05** | **Acoustic performance**<br>To ensure the building's acoustic performance including sound insulation meet the appropriate standards for its purpose. | **Acoustic Performance**<br>The building meets appropriate acoustic performance standards and testing requirements in terms of:<br>- Sound insulation<br>- Indoor ambient noise level<br>- Reverberation times. | 3 | 0 | 1 | 2.37% | 0.00% | 0.79% | | **Responsibilities**<br>Acoustician |
| **Hea06** | **Safety and security**<br>To recognise and encourage effective measures that promote safe and secure use and access to and from the building. | **Security of Site and Building**<br>Provision of effective measures which support safe access to and from the building.<br>Security needs are understood and taken into account in the design and specification. | 1 | 0 | 1 | 0.79% | 0.00% | 0.79% | Early Action RIBA Stage 2 | **Responsibilities**<br>Security Specialist<br>Architect<br><br>**Comments**<br>Early actions required |
| **Ene 01** | **Reduction of energy use and carbon emissions**<br>To recognise and encourage refurbishment and fit-out projects that reduce operational energy demand, primary energy consumption and carbon emissions. | **Energy Model**<br>Recognise improvements in the energy performance of the refurbished building over existing building performance in relation to heating and cooling energy demand, primary energy consumption and carbon dioxide emissions.<br>Encouraging steps taken to reduce energy demand through building design and systems specification. | 15 | 15 | 0 | 10.96% | 10.96% | 0.00% | Early Action<br><br>RIBA Stage 2 | **Responsibilities**<br>Energy Specialist<br><br>**Comments**<br>Early actions required |
| **Ene02** | **Energy monitoring**<br>To recognise and encourage the installation of energy sub-metering that facilitates the monitoring of operational energy consumption. | **Sub-metering of Major Energy Consuming Systems**<br>Energy metering systems are installed to enable energy consumption to be assigned to end uses.<br>**Sub-metering of High Energy Load and Tenancy Areas**<br>Sub-meters are provided for high energy load and tenancy areas. | 2 | 2 | 0 | 1.46% | 1.46% | 0.00% | | **Responsibilities**<br>M&E |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Ene03** | **External lighting**<br>To recognise and encourage the specification of energy efficient light fittings for existing and new lighting within the scope of refurbishment works. | **External Lighting**<br>Specification of energy efficient light fittings for external areas of the development and controls to prevent use during daylight hours or when not needed. | 1 | 1 | 0 | 0.73% | 0.73% | 0.00% | | **Responsibilities**<br>M&E |
| **Ene04** | **Low carbon design**<br>To encourage the adoption of design measures, which reduce building energy consumption and associated carbon emissions and minimise reliance on active building services systems. | **Passive Design Analysis**<br>Analysis of the existing building is undertaken to identify opportunities for, and encourage the adoption of, passive design solutions, including free cooling.<br>**Low and Zero Carbon Technologies**<br>A feasibility study has been carried out to establish the most appropriate on-site/near-site low or zero carbon (LZC) energy source(s) for the building/development and is specified. | 3 | 2 | 0 | 2.19% | 1.46% | 0.00% | Early Action<br><br>RIBA Stage 2 | **Responsibilities**<br>M&E<br><br>**Comments**<br>Early actions required |
| **Ene05** | **Energy efficient cold storage**<br>To recognise and encourage the installation of energy efficient refrigeration systems, therefore reducing operational greenhouse gas emissions resulting from the system's energy use. | **Refrigeration System**<br>The refrigeration system, its controls and components have been designed, installed and commissioned in accordance with appropriate codes and standards and demonstrates a saving in indirect greenhouse gas emissions ($CO_2$ eq.) over the course of its operational life. | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | | **Responsibilities**<br>M&E |
| **Ene06** | **Energy efficient transportation systems**<br>To recognise and encourage the specification of energy efficient transportation systems. | **Energy Consumption**<br>An analysis of the transport demand and usage patterns is undertaken to determine the optimum number and size of lifts, escalators and/or moving walks.<br>**Energy Efficient Features**<br>Energy efficient installations are specified. | 3 | 0 | 0 | 2.19% | 0.00% | 0.00% | | **Responsibilities**<br>Lift Consultant |
| **Ene07** | **Energy efficient laboratory systems**<br>To recognise and encourage laboratory areas that are designed to be energy efficient and minimise the $CO_2$ emissions associated with their operational energy consumption. | **Design Specification**<br>Client engagement to determine occupant requirements and define laboratory performance criteria to optimise energy demand of the laboratory facilities.<br>**Best Practice Energy Efficient Features**<br>Specification of best practice energy efficient equipment and measures as appropriate. | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | | **Responsibilities**<br>M&E |
| **Ene08** | **Energy efficient equipment**<br>To recognise and encourage a reduction in the building's unregulated energy load through the use of energy efficient equipment to ensure optimum performance and energy savings in operation. | **Energy Efficient Equipment**<br>Identification of the building's unregulated energy consuming loads which have a major impact on the total unregulated energy demand.<br>Demonstrate a meaningful reduction in the total unregulated energy demand of the building. | 2 | 2 | 0 | 1.58% | 1.58% | 0.00% | | **Responsibilities**<br>M&E |
| **Ene09** | **Drying Space**<br>To provide a reduced energy means of drying clothes. | **Drying Space**<br>Provision of adequate internal or external space and equipment. | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | | **Responsibilities**<br>M&E |
| **Tra01** | **Public transport solutions**<br>To recognise projects where the proximity of good public transport networks has been reviewed, and encourage the implementation of alternative transport solutions where proximity to public | **Accessibility Index**<br>Recognition for projects where proximity to good public transport networks has been reviewed and where poor, alternative measures have been implemented, thereby helping to reduce transport-related pollution and congestion. | 5 | 5 | 0 | 3.64% | 3.64% | 0.00% | | **Responsibilities**<br>Transport Consultant |
| **Tra02** | **Proximity to amenities**<br>To encourage and reward projects that review the building's access to local services and where necessary enhance existing services, reducing the environmental, social and economic impacts | **Amenities**<br>Recognition of projects where proximity of, and accessibility to, local amenities which are likely to be frequently required and used by building occupants has been reviewed. | 1 | 1 | 0 | 0.73% | 0.73% | 0.00% | | |
| **Tra03** | **Cyclist facilities**<br>To encourage building users to cycle, so promoting exercise and helping reduce congestion and emissions, by ensuring adequate provision of cyclist facilities. | **Cycle Storage & Facilities**<br>Provision of compliant cycle storage spaces and facilities to encourage safe and healthy cycling. | 2 | 0 | 0 | 1.45% | 0.00% | 0.00% | | |
| **Tra04** | **Maximum car parking capacity**<br>To encourage change of use projects to consider the provision of car parking in order to promote the use of alternative means of transport other than the private car to and from the building, thereby | **Car Parking Capacity**<br>To ensure change of use projects review provision of car parking spaces to optimise car parking capacity and encourage alternatives to car travel. | 2 | 2 | 0 | 1.45% | 1.45% | 0.00% | | |

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| **Tra05** | **Travel pan**<br>To recognise the consideration given to accommodating a range of travel options for building users, thereby encouraging the reduction of reliance on forms of travel that have the highest environmental impact. | **Travel Plan**<br>To promote sustainable reductions in transport burdens by undertaking a site specific travel assessment/statement and developing a travel plan based on the needs of the particular site. | 1 | 1 | 0 | 0.73% | 0.73% | 0.00% | | **Responsibilities**<br>Transport Consultant |
| **Wat01** | **Water consumption**<br>To reduce the consumption of potable water for sanitary use in existing buildings from all sources through the use of water efficient components and water recycling systems. | **Water Consumption**<br>Reducing the demand for potable water through the provision of efficient sanitary fitting, rainwater collection and water recycling systems | 5 | 2 | 1 | 3.33% | 1.33% | 0.67% | | **Responsibilities**<br>BREEAM Assessor<br>Architect |
| **Wat02** | **Water monitoring**<br>To ensure water consumption can be monitored and managed, and therefore encourage reductions. | **Water Monitoring**<br>Specification of a water meter/s on the mains water supply to encourage water consumption management and monitoring to reduce the impacts of inefficiencies and leakage. | 1 | 1 | 0 | 0.67% | 0.67% | 0.00% | | **Responsibilities**<br>M&E |
| **Wat03** | **Water leak detection**<br>To reduce the impact of water leaks that may otherwise go undetected.<br>Assessment criteria | **Leak Detection System**<br>Recognition of leak detection systems capable of detecting a major water leak on the mains water supply<br>**Flow Control Devices**<br>Flow control devices that regulate the supply of water to each WC area/facility to reduce water wastage. | 2 | 1 | 1 | 1.33% | 0.67% | 0.67% | | **Responsibilities**<br>M&E |
| **Wat04** | **Water efficient equipment**<br>To reduce unregulated water consumption by encouraging specification of water efficient equipment. | **Unregulated Water Demand**<br>Identifying a building's total unregulated water demand and mitigating or reducing consumption through systems and/or processes. | 1 | 1 | 0 | 0.67% | 0.67% | 0.00% | | **Reponsibilities**<br>Contractor<br><br>**Comments**<br>Ensphere to provide a letter template |
| **Mat01** | **Environmental impact of materials**<br>To reward projects where materials have been selected to reduce their life cycle environmental impacts through the use of robust life cycle environmental assessment tools and robust environmental data. | **Project Life Cycle Impacts**<br>Reductions in the building's environmental life cycle impacts through the reuse of materials and the use of tools to analyse the life cycle impact of any new materials using robust environmental information assessment of the main building elements. | 6 | 6 | 0 | 5.77% | 5.77% | 0.00% | | **Responsibilities**<br>Architect<br>Structural Engineer<br>LCA modeller<br><br>**Comments**<br>Early actions required |
| Mat02 | **Hard landscaping and boundary protection**<br>An issued dedicated to hard landscaping and boundary protection is not included in this scheme. Hard landscaping and boundary protection are assessed in Mat01 Lifecycle impacts. | There is no standalone hard landscaping and boundary protection issue applicable to this scheme. Hard landscaping and boundary protection is assessed within Mat 01 Life cycle impacts. | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | | **Responsibilities**<br>Architect<br>Structural Engineer<br>Building Services |
| **Mat03** | **Responsible sourcing of materials**<br>To recognise and encourage the specification and procurement of responsibly sourced materials for key materials used in refurbishment and fit-out. | **Sustainable Procurement Plan**<br>Materials sourced in accordance with a sustainable procurement plan.<br>**Measuring Responsible Sourcing**<br>Key building materials are responsibly sourced to reduce environmental and socio-economic impacts. | 4 | 2 | 2 | 3.85% | 1.92% | 1.92% | | **Responsibilities**<br>Architect<br>Structural Engineer<br>M&E<br><br>**Comments**<br>Early actions required |
| **Mat04** | **Insulation**<br>To recognise and encourage the use of thermal insulation which has a low embodied environmental impact relative to its thermal properties. | **Embodied Impact**<br>Recognition of the use of thermal insulation which has a low embodied environmental impact relative to its thermal properties. | 1 | 1 | 0 | 0.96% | 0.96% | 0.00% | | |

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| **Mat05** | **Designing for durability and resilience**<br>To recognise and encourage adequate protection of exposed elements of the building and landscape, therefore minimising the frequency of replacement and maximising materials optimisation. | **Protecting Vulnerable Parts of the Building from Damage**<br>The building incorporates measures to reduce impacts associated with damage and wear-and-tear.<br>**Protecting Exposed Parts of the Building from Material Degradation**<br>1Relevant building elements incorporate appropriate design and specification measures to limit material degradation due to environmental factors. | 1 | 1 | 0 | 0.96% | 0.96% | 0.00% | | **Responsibilities**<br>Architect |
| **Mat 06** | **Material efficiency**<br>To recognise and encourage measures to optimise material efficiency in order to minimise environmental impact of material use and waste. | **Material Efficiency**<br>Opportunities and measures have been identified and taken to optimise the use of materials. | 1 | 1 | 0 | 0.96% | 0.96% | 0.00% | Early Action RIBA Stage 1/2 | **Responsibilities**<br>Architect<br>Structural Engineer<br>M&E<br><br>**Comments**<br>Early actions required |
| **Wst01** | **Project waste management**<br>To promote resource efficiency via the effective management and reduction of refurbishment and fit-out waste and the reuse and direct recycling of materials. | **Pre-refurbishment audit**<br>Development of a pre-refurbishment audit to identify options for reuse and recycling.<br>**Reuse and direct recycling of materials**<br>Actions to reuse or directly recycle materials.<br>**Resource efficiency**<br>Development of a refurbishment resource management plan.<br>Reducing project waste related to on-site construction and off-site manufacture/fabrication.<br>**Diversion of resources from landfill**<br>Diverting non-hazardous construction (on-site and dedicated off-site manufacture/fabrication), demolition and excavation waste (where applicable) generated by the project from landfill. | 7 | 5 | 2 | 4.77% | 3.41% | 1.36% | Early Action<br><br>RIBA Stage 2 | **Responsibilities**<br>Waste Consultant<br>Contractor<br><br>**Comments**<br>Early actions required |
| **Wst02** | **Recycled aggregates**<br>To recognise and encourage the use of recycled, secondary aggregates and reuse of aggregates in situ, thereby reducing the demand for virgin material and optimising material efficiency in major refurbishment works. | **Recycled Aggregate**<br>Percentage levels of recycled or secondary aggregate specified against set targets. | 1 | 0 | 0 | 0.68% | 0.00% | 0.00% | | **Responsibilities**<br>Structural Engineer<br>Contractor |
| **Wst03** | **Operational Waste**<br>To recognise and encourage the provision of dedicated storage facilities for a building's operational-related recyclable waste streams, so that this waste is diverted from landfill or | **Operational Waste**<br>Provision of suitable space and facilities to allow for segregation and storage of operational recyclable waste volumes generated by the assessed building/unit, its occupant(s) and activities. | 1 | 1 | 0 | 0.68% | 0.68% | 0.00% | | **Responsibilities**<br>Architect<br>Waste Consultant |
| **Wst04** | **Speculative finishes**<br>To encourage the specification and fitting of finishes selected by the building occupant and therefore avoid unnecessary waste of materials. | **Speculative floor and ceiling finishes (Office Buildings Only)**<br>Specification of floor and ceiling finishes only where agreed with the occupant or for tenanted areas where the future occupant is not known, carpets, other floor finishes and ceiling finishes are installed in a show area only to reduce wastage. | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | | **Responsibilities**<br>Architect |
| **Wst05** | **Adaptation to climate change**<br>To recognise and encourage measures taken to mitigate the impact of extreme weather conditions arising from climate change over the lifespan of the building. | **Structural and fabric resilience**<br>Encourage consideration and implementation of measures to mitigate the impact of more extreme weather conditions arising from climate change over the lifespan of the building. | 1 | 1 | 0 | 0.68% | 0.68% | 0.00% | Early Action RIBA Stage 2 | **Responsibilities**<br>Architect<br>Structural Engineer<br>M&E<br><br>**Comments**<br>Early actions required |
| **Wst06** | **Functional adaptability**<br>To recognise and encourage measures taken to accommodate future changes of use of the building over its lifespan. | **Functional Adaptability**<br>Encourage consideration and implementation of measures to accommodate future changes to the use of the building and its systems over its lifespan. | 1 | 1 | 0 | 0.68% | 0.68% | 0.00% | Early Action RIBA Stage 2 | **Responsibilities**<br>Architect<br>Structural Engineer<br>M&E<br><br>**Comments**<br>Early actions required |

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| LE01 | **Site selection**<br>This issue is not applicable to BREEAM UK Refurbishment and Fit-out 2014. | This issue is not applicable to BREEAM UK Refurbishment and Fit-out 2014. | 2 | 1 | 1 | 3.33% | 1.67% | 1.67% | | **Responsibilities**<br>Client<br>Contractor<br>Contaminated land consultant |
| LE02 | **Protection of ecological features**<br>To encourage the protection of existing ecological features from substantial damage during refurbishment or fit-out works. | **Protection of ecological features**<br>Recognition of where existing features have been protected prior to and during site operations. | 1 | 1 | 0 | 1.67% | 1.67% | 0.00% | | **Responsibilities**<br>Ecologist<br>Selected team member<br><br>**Comments**<br>Early actions required |
| LE03 | **Minimising impact on existing site ecology**<br>This issue is not applicable to BREEAM UK Refurbishment and Fit-out 2014. | This issue is not applicable to BREEAM UK Refurbishment and Fit-out 2014. | 0 | 0 | 0 | 0.00% | 0.00% | 0.00% | | **Responsibilities**<br>Ecologist<br>Selected team member<br><br>**Comments**<br>Early actions required |
| LE04 | **Enhancing site ecology**<br>To encourage actions taken to enhance the ecological value of the site as a result of development. | **Ecologist's report and recommendations**<br>Recognition of steps taken to enhance site ecology through the advice of a suitably qualified ecologist. | 1 | 1 | 0 | 1.67% | 1.67% | 0.00% | | **Responsibilities**<br>Ecologist<br>Selected team member |
| LE05 | **Long term impact on biodiversity**<br>To encourage long term protection and enhancement of biodiversity on the site and surrounding area. | **Long Term Impact on Biodiversity**<br>The production of a long term landscape and habitat management plan to encourage measures that improve the site's long term biodiversity. | 2 | 2 | 0 | 3.33% | 3.33% | 0.00% | | **Responsibilities**<br>Ecologist<br>Selected team member<br>Client |
| Pol01 | **Impact of refrigerants**<br>To reduce the level of greenhouse gas emissions arising from the leakage of refrigerants from building systems. | **Refrigerant Use**<br>Avoidance or reduction of the impact of refrigerants through specification and leak prevention/detection. | 3 | 1 | 0 | 2.31% | 0.77% | 0.00% | | **Responsibilities**<br>M&E |
| Pol02 | **NOx emissions**<br>To contribute to a reduction in national NOx emission levels through the use of low emission heat sources in the building. | **Local Air Quality**<br>Reduction in emissions of nitrous-oxides (NOx) arising from the building's space and water heating systems. | 3 | 0 | 0 | 2.31% | 0.00% | 0.00% | | **Responsibilities**<br>M&E |
| Pol03 | **Flood risk management and reducing surface water run-off**<br>To recognise projects that have identified flood risks and put in place measures to avoid, reduce and delay the discharge of rainfall to public sewers and watercourses, and minimise the risk and impact of localised flooding on and off-site, watercourse pollution and other environmental damage. | **Flood Risk Managment**<br>Identifying the buildings flood risk and adopting flood resilience or resistance measures through refurbishment or fit-out works.<br>**Surface Water Run-off**<br>Surface water run-off is managed to be no worse as a result of refurbishment works.<br>**Minimising Water Course Pollution**<br>Watercourse pollution prevention systems are in place. | 5 | 2 | 1 | 3.85% | 1.54% | 0.77% | | **Responsibilities**<br>Flood Risk Consultant<br>Drainage Engineer |
| Pol04 | **Reduction of night time light pollution**<br>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. | **Night Time Light Pollution**<br>External light pollution is eliminated through effective design or the removal of the need for unnecessary external lighting. | 1 | 1 | 0 | 0.77% | 0.77% | 0.00% | | **Responsibilities**<br>M&E |

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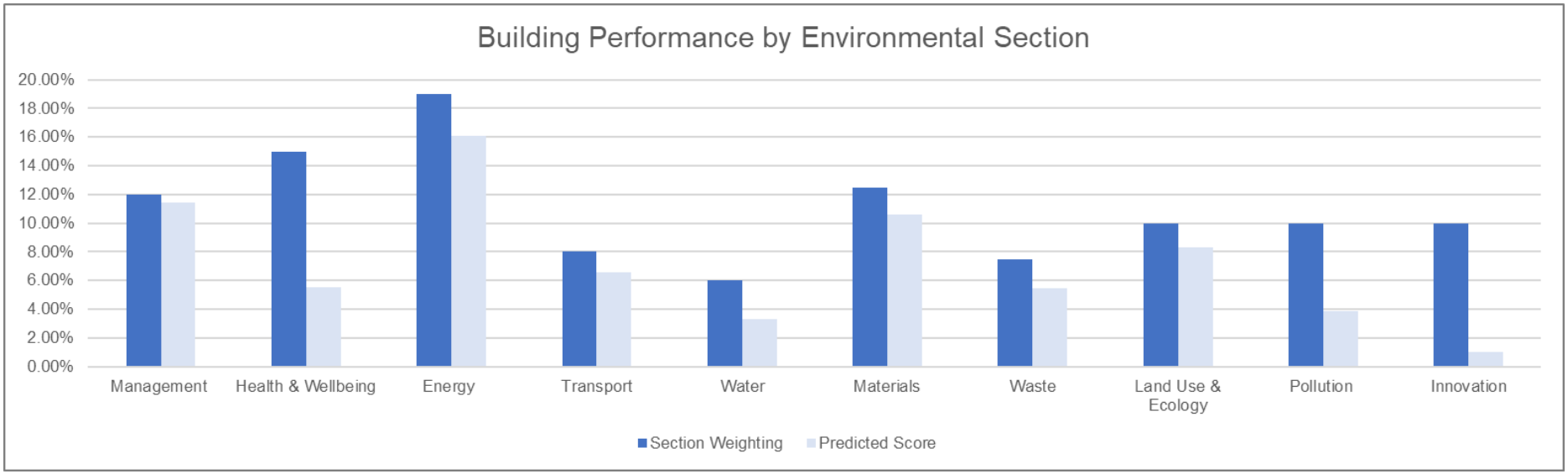
| **Pol05** | **Reduction of noise pollution**<br>To reduce the likely impacts of noise arising from existing or newly specified fixed installations affecting nearby noise-sensitive buildings. | **Reduction of Noise Pollution**<br>Measures to reduce the likelihood of disturbance arising as a result of noise from fixed installations on the development. | 1 | 1 | 0 | 0.77% | 0.77% | 0.00% | | **Responsibilities**<br>Acoustician |
| **Inn01** | **Innovation**<br>Test out new ideas which, if successful, could change the status quo of the industry. Allow the industry to explore new opportunities and evolve its processes. | **Up to 10 Credits** | 10 | 1 | 0 | 10.00% | 1.00% | 0.00% | | |
| **Total** | | | | | | | 72.24% | 12.36% | | |



# D. General Notes

The report is based on information available at the time of the writing and discussions with the client during any project meetings. Where any data supplied by the client or from other sources have been used it has been assumed that the information is correct. No responsibility can be accepted by Ensphere Group Ltd for inaccuracies in the data supplied by any other party.

The review of planning policy and other requirements does not constitute a detailed review. Its purpose is as a guide to provide the context for the development and to determine the likely requirements of the Local Authority.

No site visits have been carried out, unless otherwise specified.

This report is prepared and written in the context of an agreed scope of work and should not be used in a different context. Furthermore, new information, improved practices and changes in guidance may necessitate a re-interpretation of the report in whole or in part after its original submission.

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