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Sustainability Statement

Land at Midland Crescent
Finchley Road, Camden

On behalf of
Stadium Capital Holdings

15/08/2014
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EXECUTIVE SUMMARY

I. This Sustainability Statement for the proposed development of the site at Midland Crescent, Finchley Road in the London Borough of Camden follows the Mayor of London's Supplementary Planning Guidance (SPG), as noted in London Plan Policy 5.3: Sustainable Design and Construction.

II. This report details how the design team has considered the site's potential environmental impacts and how those impacts can be managed and mitigated in line with the prevailing spatial planning policies, the Code for Sustainable Homes (Addendum 2014) and the BREEAM 2014 New Construction environmental assessment scheme.

III. The proposed development has targeted sustainability throughout the lifetime of the proposal. In particular through energy and water efficiency, pollution prevention and biodiversity measures, that will be integral to the building's design and specification. Passive design measures will also feature within the building to prevent overheating and avoid excessive requirements for heating/cooling.

IV. The design will feature renewable energy in the form of a Photovoltaic (PV) array and Solar Thermal Hot Water, which in conjunction with energy efficiency measures and Mechanical Ventilation with Heat Recovery (MVHR) will deliver an overall carbon reduction of 23.0% against part L1A and L2A 2013.

V. All of the proposed measures in this report will reduce the site's impact on the environment and contribute to its sustainability. The proposed development satisfies the high standards of sustainability as prescribed by the relevant tiers of planning policy. The BREEAM 2014 New Construction pre-assessment for the student accommodation and commercial areas demonstrates that the proposed development can achieve a rating of Excellent with a score of 70.85%. The Code for Sustainable Homes (the Code) pre-assessment for the residential apartments demonstrates that the proposed development can achieve Code Level 4 certification with a score of 73.17%.

CONTENTS

1.0 INTRODUCTION

1.0.1 This Sustainability Statement has been prepared by Metropolis Green on behalf of Stadium Capital Holdings, to accompany the planning application submitted to the London Borough of Camden, for the development of the site at Midland Crescent, Finchley Road in the West Hampstead Ward.

1.0.2 This report follows the sustainability statement structure suggested by the Mayor of London's Supplementary Planning Guidance (SPG) on Sustainable Design and Construction, as noted in London Plan Policy 5.3, and also addresses the relevant sustainability and energy planning policies of the London Borough of Camden.

1.0.3 This report describes how the applicable sustainability policies and standards can be met by the proposed development. In addition, pre-assessments of the proposed development have been prepared under the Code for Sustainable Homes (Code) and Building Research Establishment Environmental Assessment Method (BREEAM) environmental assessment schemes. This report assumes a basic understanding of the Code and BREEAM assessment methodologies; however, for further information please refer to the Code for Sustainable Homes November 2010[1] and 2014 addendum[2] and the BREEAM New Construction 2014 technical guides.

1.0.4 Section 2.0 of this report provides a description of the site and the proposed development. Section 3.0 provides an overview of the applicable planning context, including national, regional and local policies and a summary of the Code and BREEAM environmental assessment schemes applied to the proposal. Sections 4.0 - 6.0 contain an analysis of how the proposed development addresses the sustainable design and construction issues noted in the London Plan, the Mayor's SPG and the relevant London Borough of Camden planning policies.

1.0.5 This Sustainability Statement should be read alongside the Energy Strategy prepared by Metropolis Green, the Design and Access Statement prepared by CZWG architects and other supplemental environmental reports submitted with the application.

[1] https://www.gov.uk/government/publications/code-for-sustainable-homes-technical-guidance
[2]https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/315504/250414__Code_Addedum_2014_Combined_Final_V10.pdf

2.0 SITE AND PROPOSED DEVELOPMENT

2.1 Site and Surrounding Area

2.1.1 The subject site is located to the north of Regents Park on the Finchley Road (A41), a busy thoroughfare connecting Regents Park and west-end of London to the south with the A 406 North Circular road and M1 motorway to the north. See Figure 1 overleaf for an aerial view showing the site location and approximate boundaries.

2.1.2 The site was first developed as the Finchley Road and St John's Wood station in 1868 but has remained as vacant brownfield land since 1980's, with all previous building demolished. The proposed Midland Crescent site is a previously designated site located within the West Hampstead Interchange Growth Area, recognised in the Camden Councils Core Strategy.

2.1.3 The site has an excellent Public Transport Accessibility Level (PTAL) rating of 6a, located in close proximity to a number of public transport facilities. Finchley Road Underground Station and Finchley Road and the Frognal Overground are located less than 3 minute walk of the site and provides frequent rail services. Local bus routes (13, 82, 113, 187, 268 and C11) operate near the site and provide services throughout London.

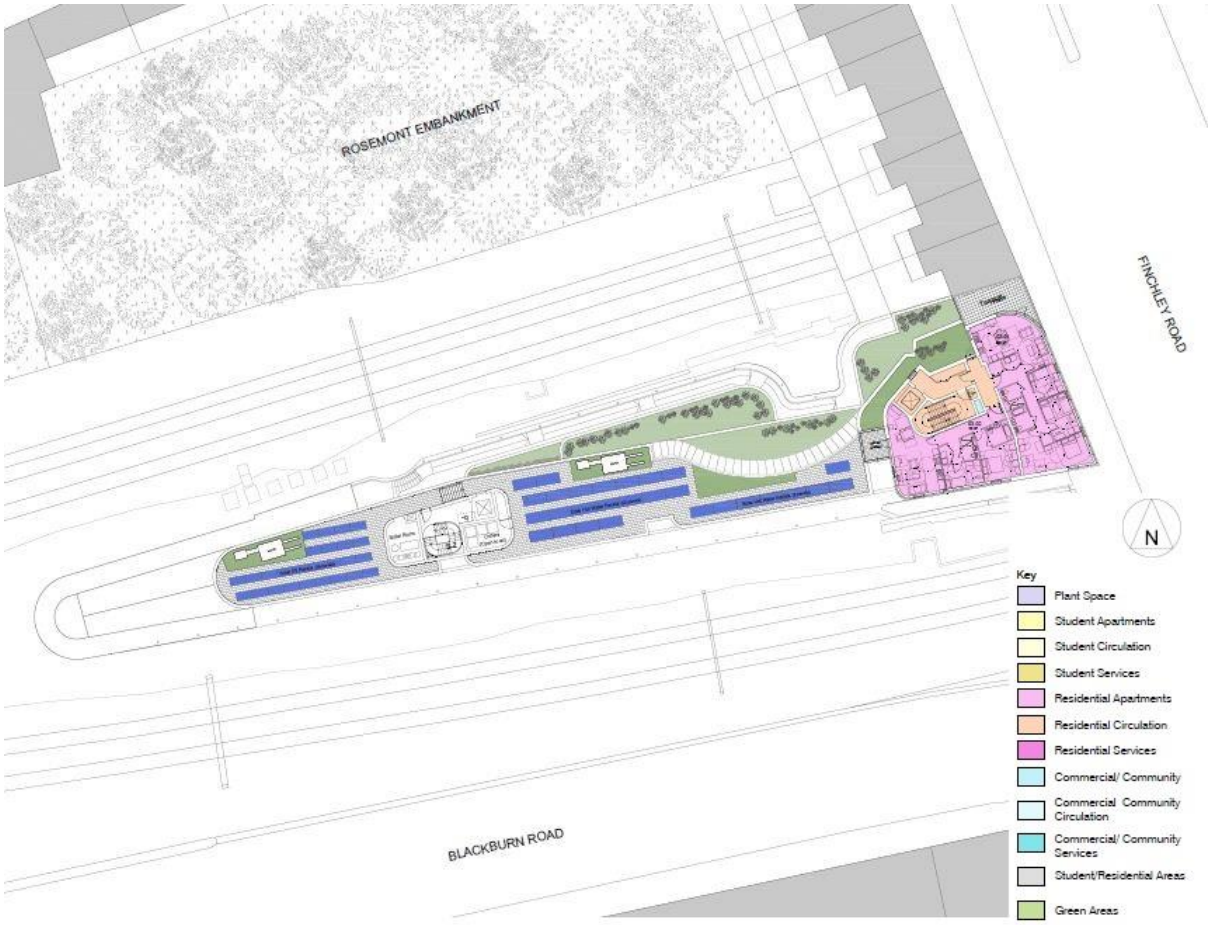
2.2 Proposed Development

2.2.1 The proposal application proposes a ground plus 4 storey building with a double level basement comprising:

- flexible commercial space (use Classes A1/A2/A3/A4/B1/D1 and D2) at lower basement and round ground floor levels,
- 60 student bedrooms with communal kitchen, lounge and common areas at upper basement to third floor levels, with communal kitchen, lounge and common room areas.
- 9 residential units, located in the first to fourth floors. A range of 1-3 bedrooms flats will be available, with a penthouse in the top level. Each flat will have its own balcony or terrace.

2.2.2 For more information regarding the design of the proposal, please refer to the drawings and the Design and Access Statement prepared by CZWG Architects LLP.

Figure 1 – Midland Crescent, third floor roof plan



3.0 POLICY CONTEXT

3.0.1 Sustainable development is the "golden thread" principle underpinning planning and planning has a key role to play in the creation of sustainable communities. In order to ensure the implementation of sustainable development and to determine the targets and standards to be met by the proposed development, it is necessary to review the relevant national, regional and local planning policies with respect to sustainability and the site's location. A summary of the planning policy context for the site and proposed development is provided below.

3.1 National Policy

National Planning Policy Framework, March 2012

3.1.1 The National Planning Policy Framework (NPPF) was published in March 2012. It sets out the Government's planning policies for England and how these policies are expected to be applied. The policies in the document, taken as a whole, constitute the Government's view of what sustainable development in England means in practice for the planning system.

3.1.2 Paragraph 14 of the NPPF states that:

> At the heart of the National Planning Policy Framework is a **presumption in favour of sustainable development**, which should be seen as a golden thread running through both plan-making and decision-taking.
>
> For **decision-taking** this means:
>
> - approving development proposals that accord with the development plan without delay

3.1.3 The NPPF outlines a set of core land-use planning principles that should underpin plan-making and decision-taking, three of which are particularly relevant to this report. Under paragraph 17, these principles are that planning should:

> - support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources (for example, by the development of renewable energy);

- contribute to conserving and enhancing the natural environment and reducing pollution.
- allocations of land for development should prefer land of lesser environmental value, where consistent with other policies in this Framework; and
- encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value.

3.1.4 Design is addressed in section 7 of the NPPF, and paragraph 56 states:

> The Government attaches great importance to the design of the built environment. Good design is a key aspect of sustainable development, is indivisible from good planning, and should contribute positively to making places better for people.

3.1.5 Meeting the challenge of climate change is addressed in section 10 of the NPPF. In here, paragraph 93 notes that planning plays a key role in helping shape places to secure radical reductions in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change and supporting the delivery of renewable and low carbon energy and associated infrastructure. This is central to the economic, social and environmental dimensions of sustainable development.

3.1.6 Further to the above, paragraphs 95 and 96 state:

> To support the move to a low carbon future, local planning authorities should:
>
> - plan for new development in locations and ways which reduce greenhouse gas emissions;
> - actively support energy efficiency improvements to existing buildings; and
> - when setting any local requirement for a building's sustainability, do so in a way consistent with the Government's zero carbon buildings policy and adopt nationally described standards.
>
> In determining planning applications, local planning authorities should expect new development to:
>
> - comply with adopted Local Plan policies on local requirements for decentralised energy supply unless it can be demonstrated by the applicant, having regard to the type of development involved and its design, that this is not feasible or viable; and

- take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption.

3.1.7 Conserving and enhancing the natural environment is addressed in section 11 of the NPPF. In this section, and excerpts from paragraph 109 state that the planning system should contribute to and enhance the natural and local environment by:

- minimising impacts on biodiversity and providing net gains in biodiversity where possible, contributing to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures; and
- preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability.

3.1.8 Paragraph 118 notes that when determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by encouraging opportunities to incorporate biodiversity in and around developments.

3.1.9 Noise is addressed under paragraph 123 which notes that planning policies and decisions should aim to:

- avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development; and
- mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions.

3.1.10 Additionally, paragraph 125 notes that by encouraging good design, planning policies and decisions should limit the impact of light pollution from artificial light on local amenity.

3.2 Regional Policy

The London Plan: Spatial Development Strategy for Greater London, July 2011

3.2.1 The London Plan was published in July 2011 and is the overall strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the development of London until 2031. The policies relevant to this report are found in Chapter 5 (and to a lesser extent in Chapter 7) of the London Plan.

Policy 5.2: Minimising Carbon Dioxide Emissions

3.2.2 Policy 5.2 addresses carbon dioxide emission reductions and energy assessment requirements. The policy states:

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 on 2010 Building Regulations
2010-2013	25 per cent (Code level 4)
2013-2016	40 per cent
2016-2031	Zero carbon

   Non-domestic buildings:

Year	Improvement on 2010 Building Regulations
2010-2013	25 per cent
2013-2016	40 per cent
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 emissions 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. calculation 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 at each stage of the energy hierarchy

   b. proposals to reduce carbon dioxide emissions through the energy efficient design of the site, buildings and services

c. proposals to further 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.

E. 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.

3.2.3 As outlined in the Sustainable Design and Construction Supplementary Planning Guidance (SPG) published in April 2014, from 6 April 2014, the Mayor will apply a 35 per cent carbon reduction target beyond Part L 2013 of the Building Regulations - this is deemed to be broadly equivalent to the 40 per cent target beyond Part L 2010 of the Building Regulations, as set out in London Plan Policy 5.2 for 2013-2016.

Policy 5.3: Sustainable Design and Construction

3.2.4 Policy 5.3 is the main policy within the London Plan which addresses sustainable design and construction and states:

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 proposal, 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:

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.

3.2.5 The Mayor's supplementary planning guidance, referred to in part C. of Policy 5.3 above, is addressed further in sections 3.2.6 and 3.2.7 of this report below.

3.2.6 The London Plan contains a number of other policies relevant to this report, which are not outlined in full. These policies can be found in the list below, and reference should be made to the London Plan Chapter 5 (Climate Change) for further information:

- Policy 5.5: Decentralised Energy Networks
- Policy 5.6: Decentralised Energy in Development Proposals
- Policy 5.7: Renewable Energy
- Policy 5.8: Innovative Energy Technologies
- Policy 5.9: Overheating and Cooling
- Policy 5.10: Urban Greening
- Policy 5.11: Green Roofs and Development Site Environs
- Policy 5.12: Flood Risk Management
- Policy 5:13: Sustainable Drainage
- Policy 5.15: Water Use and Supplies

Sustainable Design and Construction: The London Plan Supplementary Planning Guidance, April 2014

3.2.7 The Mayor's Supplementary Planning Guidance (SPG) on Sustainable Design and Construction was published in May 2006, and later updated in April 2014, to provide additional information to support the implementation of the London Plan. Policy 5.3 of the current London Plan continues to refer to this SPG.

3.2.8 The SPG is based on three broad sustainable design and construction categories (Resource Management; Adapting to Climate Change and Greening the City; and Pollution Management - Land, Air, Noise, Light and Water) and contains both Mayor's Priority and Mayor's best practice standards for the proposed development within each section. As encouraged in paragraph 1.4.11 of the SPG, this Sustainability Statement is structured around the sections of the SPG and notes how the proposed development addresses the Mayor's Priority and best practice standards.

3.3 Local Policy

London Borough of Camden Core Strategy, November 2010

3.3.1 The London Borough of Camden's Core Strategy sets out the key elements of the Council's planning vision and strategy for the borough. It is the central part of Local Development Framework (LDF) and was adopted in November 2010. The LDF is a group of documents setting out the borough's planning strategy and policies.

3.3.2 The Core Strategy contributes to achieving the vision and objectives of Camden's Community Strategy and helps the Council's partners and other organisations deliver relevant parts of their programmes. It covers the physical aspects of location and land use but also addresses other factors that make places attractive, sustainable and successful, such as social and economic matters. It plays a key part in shaping the kind of place Camden will be in the future, balancing the needs of residents, businesses and future generations.

3.3.3 Within the Core Strategy there are specific policies relating to sustainability.

3.3.4 The Core Strategy sets out the Council's approach to managing Camden's growth so that it is sustainable, meets our needs for homes, jobs and services, and protects and enhances quality of life and the borough's many valued and high quality places. Section 3 focuses on delivering the key elements of Camden's strategy relating to:

- making Camden more sustainable and tackling climate change, in particular improving the environmental performance of buildings, providing decentralised energy and heating networks, and reducing and managing our water use;
- promoting a more attractive local environment through securing high quality places, conserving our heritage, providing parks and open spaces, and encouraging biodiversity;
- improving health and well-being;
- making Camden a safer place while retaining its vibrancy; and
- dealing with our waste and increasing recycling.

3.3.5 The implications of our actions on the environment are increasingly clear and action is needed at global, national and local levels. The Core Strategy has an important role in reducing Camden's environmental impact and achieving sustainable development – meeting our social, environmental and economic needs in ways that protect the environment and do not harm our ability to meet our needs in the future. A Sustainable Camden that adapts to a growing population is one of the elements in the vision in Camden's Community Strategy.

3.3.6 The Core Strategy Policy CS13 sets out the approach that developers should take when considering energy and carbon reductions for developments.

CS13: Tackling climate change through promoting higher environmental standards

3.3.7 London Borough of Camden Core Strategy Policy CS13 states:

Reducing the effects of and adapting to climate change

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

a) ensuring patterns of land use that minimise the need to travel by car and help support local energy networks;

b) promoting the efficient use of land and buildings;

c) minimising carbon emissions from the redevelopment, construction and occupation of buildings by implementing, in order, all of the elements of the following energy hierarchy:

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

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

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

Local energy generation

The Council will promote local energy generation and networks by:

e) working with our partners and developers to implement local energy networks in the parts of Camden most likely to support them;

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

Water and surface water flooding

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

g) protecting our existing drinking water and foul water infrastructure, including Barrow Hill Reservoir, Hampstead Heath Reservoir, Highgate Reservoir and Kidderpore Reservoir;

h) making sure development incorporates efficient water and foul water infrastructure;

i) requiring development to avoid harm to the water environment, water quality or drainage systems and prevents or mitigates local surface water and down-stream flooding, especially in areas up-hill from, and in, areas known to be at risk from surface water flooding such as South and West Hampstead, Gospel Oak and King's Cross.

Camden's carbon reduction measures

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

j) taking measures to reduce its own carbon emissions;

k) trialling new energy efficient technologies, where feasible; and

l) raising awareness on mitigation and adaptation measures.

3.3.8 The objectives of Section 13 are enforced through policy DP22 Promoting sustainable design and construction and DP23 Water.

Policy DP22: Promoting sustainable design and construction

3.3.9 Policy DP22 has been developed to provide details on sustainability standards and states:

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

a) demonstrate how sustainable development principles, including the relevant measures set out in paragraph 22.5, have been incorporated into the design and proposed implementation; and

b) incorporate green or brown roofs and green walls wherever suitable.

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

c) expecting new build housing to meet Code for Sustainable Homes Level 3 by 2010 and Code Level 4 by 2013 and encouraging Code Level 6 (zero carbon) by 2016.

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

d) summer shading and planting;

e) limiting run-off;

f) reducing water consumption;

g) reducing air pollution; and

h) not locating vulnerable uses in basements in flood-prone areas.

Policy DP23: Water

3.3.10 Policy DP23 relates to water, in general, targeting the reduction of water consumption and limiting the amount of waste water entering the combined storm water and sewer network. The policy states:

The Council will require developments to reduce their water consumption, the pressure on the combined sewer network and the risk of flooding by:

a) incorporating water efficient features and equipment and capturing, retaining and re-using surface water and grey water on-site;

b) limiting the amount and rate of run-off and waste water entering the combined storm water and sewer network through the methods outlined in part a) and other sustainable urban drainage methods to reduce the risk of flooding;

c) reducing the pressure placed on the combined storm water and sewer network from foul water and surface water run-off and ensuring developments in the areas identified by the North London Strategic Flood Risk Assessment and shown on Map 2 as being at risk of surface water flooding are designed to cope with the potential flooding;

d) ensuring that developments are assessed for upstream and downstream groundwater flood risks in areas where historic underground streams are known to have been present; and

e) encouraging the provision of attractive and efficient water features.

Camden Planning Guidance Sustainability (CPG3)

3.3.11 The Core Strategy is supported by Supplementary Planning Documents (SPDs) which play an important role in planning decisions. SPDs

provide detailed guidance on how planning strategy and policies will be implemented for specific topics, areas and sites.

3.3.12 CPG3 contains advice and guidance for developers on ways to achieve carbon reductions and more sustainable developments. It also highlights the Council's requirements and guidelines which support the relevant Local LDF policies, including DP22 as noted above.

3.3.13 Section 9 covers sustainability assessment tools, with Code and BREEAM being of particular relevance to this development (see section 3.3.14 below). The key message of the document is that:

> A new build dwelling will have to be designed in line with the Code for Sustainable Homes
>
> A development of 500sq m or more of non-residential floor space will need to be designed in line with BREEAM.

3.3.14 Developers are strongly encouraged to meet the following standards in accordance with Development Policy DP22 - Promoting sustainable design and construction and CPG3 – Sustainability;

Building Type	**Time period**	**Minimum rating**	**Minimum standard for categories (% of un-weighted credits)**
Residential	2013 - 2015	Level 4	Energy 50% Water 50%
	2016 +	Level 6 'zero carbon'	Materials 50%
Non Residential	2013 +	Excellent	Energy 60% Water 60% Materials 40%

3.4 BREEAM 2014 New Construction

3.4.1 BREEAM is the world's leading and most widely used environmental assessment method for buildings. It sets the standard for best practice in sustainable design and is used to describe a building's designed environmental performance.

3.4.2 BREEAM 2014 New Construction is a performance based assessment method and certification scheme for new buildings. The primary aim of BREEAM 2014 New Construction is to mitigate the life cycle impacts of new buildings on the environment in a robust and cost effective manner.

3.4.3 The BREEAM 2014 New Construction scheme can be used to assess the environmental life cycle impacts of new non-domestic buildings at the design and construction stages. 'New Construction' is defined as development that results in a new standalone structure, or new extension to an existing structure, which will come into operation/use for the first time upon completion of the works.

3.4.4 The scheme can also be used to assess the environmental life cycle impacts of major non-residential refurbishments at the design and construction stages. Major refurbishment is defined as a construction project that results in the fundamental remodelling or adaptation of existing elements of the building envelope, structure and renewal of key building services; and where, on completion of the works, such remodelling/renewal will materially impact on the performance of the building.

3.4.5 BREEAM credits are awarded in 9 categories (plus an additional Innovation category) of sustainable design according to performance. These credits are then added together to produce a single overall score on a scale of Pass, Good, Very Good, Excellent and Outstanding, dependent on the total score received from achieving credits across the various categories. There are minimum standards that must be achieved in order to meet the higher rating levels under BREEAM. For more detail, please refer to the BREEAM 2014 New Construction Technical Manual.

3.4.6 Like the Code (for new residential buildings), a building can be assessed at Design Stage (DS) - leading to an Interim BREEAM Certificate and/or at the Post Construction Stage (PCS) – leading to a Final BREEAM Certificate.

3.4.7 The proposed non-domestic component of the development at Midland Crescent consists of two building uses: commercial space on the lower ground -2 level and student accommodation units (and ancillary cycle storage, lobby, management and common room uses) on the other levels of the building. For the purposes of a BREEAM pre-assessment, given the small size and unknown end use of the commercial space, the whole non-domestic development has been defined as a multi-residential (student halls of residence) building type. In order to demonstrate the ability to achieve certification at the desired rating, a BREEAM pre-assessment has been prepared under the multi-residential building type criteria, and are found as Appendix B to this report.

3.5 Code for Sustainable Homes

3.5.1 The Code for Sustainable Homes (Code) is an environmental assessment for rating and certifying the designed performance of new dwellings. It is a national standard and was published by the Department for Communities and Local Government in December 2006. From April 2007, the Code replaced EcoHomes. The Building Research Establishment (BRE) are responsible for administering and monitoring the scheme and are also responsible for all certification and quality assurance of this national environmental standard for housing.

3.5.2 The Code measures the sustainability of a new home against 9 categories of sustainable design, rating the 'whole home' as a complete package. The Code uses a 1 to 6 star rating system to communicate the overall level of the environmental performance of the new home.

3.5.3 The 9 categories of sustainability under the Code include: Energy, Water, Materials, Surface Water Run-off, Waste, Pollution, Health and Wellbeing, Management and Ecology.

3.5.4 Each category consists of a number of issues, and each issue seeks to mitigate the impact of a new build element of the building against performance targets and assessment criteria.

3.5.5 The Code assessment is completed in two phases – the Design Stage and the Post Construction Stage (PCS). Only after the PCS assessment has been completed and all the evidence for achieving the target level has been submitted will the final certification for the dwelling be issued by BRE.

3.5.6 The 9 residential units in the scheme will be assessed against the Code. A pre-assessment has been prepared and can be found as Appendix A to this report.

3.6 Code for Sustainable Homes Addendum 2014

3.6.1 As of May 2014, alterations were made to the Code in order to bring it in line with regulatory and national guidance changes which have occurred recently, in particular the introduction of Part L 2013 Building Regulations and SAP 2012 methodology. Standards have not changed.

3.6.2 No alterations have been made to the format and layout of the Code. In addition, the weightings and number of credits available for each Code category remain unchanged.

3.6.3 However Code 2014 pre assessment and energy tools have been used to provide the up to date reference points for the scheme and new Part L regulations.

4.0 RESOURCE MANAGEMENT

4.0.1 London is a growing city with a limited supply of land for economic, residential, recreational and natural land uses. Therefore it is essential that developers make the most of the opportunities provided by their site, based on its specific circumstances. Buildings and their surroundings should be designed and built to improve the local and wider environment and minimise their demand on wider resources including land, energy, water and materials. This also helps to minimise the need for expensive physical infrastructure.

4.1 Land

4.1.1 This section of the Sustainability Statement responds to the SPG guidance on the following key areas:

- optimising the use of land, including through optimising density and design, considering the accessibility of the site and its local context;
- the excavation of the basements and lightwells, including giving consideration to ground and surface water flooding, land stability, impact on neighbours and the local environment; and
- local food growing.

Optimising the Use of Land		
	Commentary	**Compliance**
Mayor's Priorities Through both their Local Plans and planning decisions, boroughs should aim for 100% of development to be delivered on previously developed land.	The site is currently vacant, but previously contained a crescent-shaped retail and commercial building and was also previously used as a railway station. The entirety of the site does not technically meet the definition of previously developed land under BREEAM issue LE 01; however, given the site's location within the urban area and between two railway lines, it can be practically defined as previously developed land.	Yes

Optimising the Use of Land		
	Commentary	**Compliance**
Developers should optimise the scale and density of their development, considering the local context, to make efficient use of London's limited land.	The site's location favours redevelopment and is identified by the London Borough of Camden as a potential development site. The design team has extensively analysed the design options for the development and the proposed building makes highly efficient use of a constrained site, whilst providing a high standard of built form. The proposed development sensitively introduces 60 student accommodation units, commercial space and 9 residential apartments to the site, alongside the existing buildings on Finchley Road, and the site density has been appropriately maximised.	Yes

Basements and Lightwells		
	Commentary	**Compliance**
Mayor's Priorities When planning a basement development, developers should consider the geological and hydrological conditions of the site and surrounding area, proportionate to the local conditions, the size of the basement and lightwell and the sensitivity of adjoining buildings and uses, including green infrastructure.	Two lower ground floor levels are proposed to house plant rooms, refuse storage as well as student accommodation and commercial space. The underground parts of the scheme proposed will lie underneath the development, therefore is not anticipated to negatively affect neighbouring properties. The scheme has been designed to site plant rooms, lift shafts and refuse storage in areas that are embedded in the hillside. Occupied areas on the lower ground floors, benefit from natural light provision via windows; where the topography naturally falls to the west, and therefore do not require the inclusion of lightwells. In addition, the design team have fully investigated any potential adverse impacts of the basement/lower groundfloor levels on local geological and hydrological conditions, the investigations conclude that risks to ground and water conditions are minor. A Screening study to determine whether a Basement Impact Assessment, was produced by Ramboll, Geotechnical engineers. The study concluded that a Basement impact assessment would not be necessary for the site.	Yes
When planning and constructing a basement development, developers should consider the amenity of neighbours.	Please see above.	

Local Food Growing		
	Commentary	**Compliance**
Mayor's Priority To protect existing established food growing spaces.	The site currently contains inaccessible scrubland. As such, no food growing spaces exist or will be impacted upon.	N/A
Mayor's best practice To provide space for individual or communal food growing, where possible and appropriate.	Winter gardens/balconies are provided0 for the apartments providing an element of outdoor space for these dwellings. This could provide the opportunity for some individual food growing. However site constraints prevent there being sufficient space for large communal food growing areas.	Yes
To take advantage of existing spaces to grow food, including adapting temporary spaces for food growing.	As a result of noise and vibration considerations in relation to the railway lines, the site is not appropriate for the provision of outdoor amenity space for the student accommodation and commercial areas. Therefore provision of dedicated food growing space is not appropriate for this site location.	Not feasible

4.2 Site Layout and Building Design

4.2.1 This section of the Sustainability Statement responds to the SPG guidance on the following key areas:

- reuse of buildings;
- existing landform;
- mix of land uses;
- site layout; and
- micro-climate, including local wind conditions.

Site Layout and Design		
	Commentary	**Compliance**
Mayor's Priorities The design of the site and building layout, footprint, scale and height of buildings as well as the location of land uses should consider: Existing features • The possible retention and reuse of existing buildings and structures; and	The site is currently vacant, and therefore contains no existing buildings or structures.	N/A
• the retention of existing green infrastructure, including trees and other ecological features, and potential for its improvement and extension;	An Ecological Impact Assessment has been prepared by Capita Symonds. The report concludes that the site is dominated by existing dense scrub vegetation and hardstanding and as such offers a low ecological value due to its location and habitats present on site. It has been assessed that the proposed works are unlikely to result in a significant ecological impact to the wider environment. While the site has been deemed to have low ecological value, the Ecological Impact Assessment notes that there are, however, several tree corridors in neighbouring roads, including a small parcel of woodland to the north of the site, this is a designated Site of Interest for Nature Conservation (SINC).	

Site Layout and Design		
	Commentary	**Compliance**
• access routes to public transport and other facilities that minimise the use of private transport ;	There is significant existing public transport capacity within walking distance from the site to serve the proposed density of development, including: numerous bus routes, Finchley Road underground station (Jubilee and Metropolitan lines) and Finchley Road & Frognal railway station (London Overground services). For further information regarding local public transport facilities, please refer to the Transport Assessment prepared by Tim Spencer & Co.	Yes
New design of development • the existing landform; • the potential to take advantage of natural systems such as wind, sun and shading;	The proposed design uses the natural fall in the existing landform moving eastwards down the site. This creates the opportunity for a highly glazed southern façade and the opportunity to maximise winter passive solar gains. Ventilation is addressed in the Energy Strategy prepared by Metropolis Green. This report notes that due to the location of the site and the impacts of noise and air pollution (as set out in the Local Air Quality Assessment prepared by Ramboll), windows will not be openable and passive ventilation cannot be provided for the commercial areas and student units. Apartments with winter gardens/balconies have openable doors providing access to balconies which provide a measure of natural ventilation to assist occupants in controlling their internal environment.	Yes

Site Layout and Design		
	Commentary	**Compliance**
	Fresh air ventilation will be provided to the whole building via MVHR system including heat recovery, which will contribute to mitigating the risk of summer overheating and reducing carbon emissions. Surface Water is attenuated within the green roof with the potential of further attenuation storage across the paved areas proposed within the site.	
• the principles sets out London Plan policies 7.1 and 7.6;	The proposed redevelopment of the site will appropriately optimise the density of the site and will meet the requirements of policies 7.1 and 7.6 as set out in the London Plan. For further details please refer to the further sections of this report, the drawings and Design and Access Statement prepared by CZWG Architects.	Yes
• the potential for adaption and reuse in the future;	The design of the apartments allow for adaptation by meeting the Lifetime Home Standards and although these standards are not required to be met for the student accommodation, the design team has chosen to design to adopt the key criteria that are relevant to the proposed development. The needs of wheelchair users have been considered throughout the design of the proposed development and in excess of the required 10% of the units within the scheme have been designed for wheelchair users. For further information regarding inclusive design, please refer to the Design and Access Statement.	Yes

Site Layout and Design		
	Commentary	**Compliance**
	There is also consideration that the proposed framed concrete construction at the lower level ensures that this space will be adaptable. The use of a column grid ensures that the structure is minimised, and provides a consistent and generic internal environment, which does not become an obstacle to possible future spatial divisions, access or services. This offers future flexibility by allowing the building's use and layout to be easily converted in the future.	
• potential for incorporating green infrastructure, including enhancing biodiversity; • potential for incorporating open space, recreation space, child play space;	The Ecological Impact Assessment prepared by Capita Symonds provides a series of recommendations to enhance the ecological value of the site including: a green roof and artificial habitats. Please refer to the original report for further details regarding the recommendations. The report further notes that the removal of the scrub vegetation and construction of the proposed structure will remove all the vegetation currently on site, but with the provision of nesting boxes and a green roof, would sufficiently reduce the overall net loss of habitats within the local environment. Further as part of the commitment to meet BREEAM Excellent and Level 4 in the Code, it is anticipated that the ecologist's recommendations will be implemented in the proposed development and credits have currently been allocated under BREEAM issues LE 03, 04 and 05 and Code issues Eco 1-4.	Yes

Site Layout and Design		
	Commentary	**Compliance**
	Given the constraints of the location, size and shape of the site, it is not feasible or appropriate to provide publicly accessible open space. The Design and Access Statement prepared by CZWG Architects notes that there are a great many public open green spaces of various sizes offering a wide range of facilities and planting in and around the area of the site. For a detailed review of public open space, please refer to the original report. Additionally, as noted in section 6.3 of this report, as a result of noise and vibration considerations, the site is not appropriate for the provision of outdoor amenity space for the student accommodation, although winter gardens/balconies will be provided for apartments.	
• energy demands and the ability to take advantage of natural systems and low and zero carbon energy sources;	The proposed roof space will include areas of green roof which will provide surface water attenuation, will increase biodiversity on the site and roof space not given over to other uses will integrate renewable energy technology through Solar Thermal and PV panels. For more information see the Energy Strategy produced by Metropolis Green.	Yes
• the promotion of low carbon transport modes, including walking and cycling; • access to low carbon transport modes;	The design features dedicated cycle storage for the apartments and student accommodation with 60 and 18 secure cycle spaces respectively. The scheme is therefore eligible for 1 credit under BREEAM Tra 03 Cyclist Facilities and 1 credit under the Code Ene 08 Cycle storage.	Yes

Site Layout and Design		
	Commentary	**Compliance**
• potential to address any local air quality, noise disturbance, flooding and land contamination issues; and	A Noise and Vibration Assessment for the site and proposed development has been prepared by AECOM. The report concludes that appropriate noise and vibration levels can be achieved with mitigation measures, as recommended. For further information regarding noise and vibration please refer to the original report. It is anticipated that the noise attenuation requirements under BREEAM issue Pol 05 can be achieved. A Local Air Quality Assessment for the proposed development has been prepared by Ramboll. The report notes that appropriate mitigation measures have been incorporated into the design of the development; such as sealed windows and MVHR, to ensure that exposure and emissions are reduced and the proposed development would therefore be in accordance with planning policy and guidance relating to air quality impacts. For further information regarding air quality, please refer to the original report. An initial review has determined that the site is located in an area designated by the Environment Agency as Flood Zone 1, with little or no risk of fluvial or tidal flooding. At the time of the full BREEAM and Code assessments, a full Flood Risk Assessment for the site will be required in order to demonstrate compliance with BREEAM issue Pol 03 and Code issue Sur 2.	Yes

Site Layout and Design		
	Commentary	**Compliance**
	The phase 1- Geo-environmental report produced by Capita Symonds indicates that contamination risk attached to the site is assessed to be low to moderate based on a future mixed residential/commercial development scenario with no soft landscaping	
• the potential effect on the micro climate.	The proposed building is a part 3, part 4 and part 5 storeys in height and located on a site adjacent to two railway lines and with limited street frontage. As such, the local climate is not considered to be affected. Furthermore, the scheme is not near a large expanse of water and occurrences such as wind tunnelling are not considered to be an issue for this site. Therefore the development meets the standard by avoiding the creation of adverse local climatic conditions. A full wind comfort/safety assessment has not been deemed necessary by the design team.	Yes
Mayor's best practice Any existing buildings that can be practically refurbished, retrofitted, altered, or extended should be retained and reused.	The site is currently vacant	N/A
A mix of uses, where suitable should be included to provide a range of services commensurate to the public transport accessibility.	The proposal includes for a mix of uses to include residential units; helping address the boroughs housing needs, and student accommodation reducing pressure on the local private rental market. In addition the scheme features commercial space that will provide flexible provision for local residents and businesses.	Yes

Site Layout and Design		
	Commentary	**Compliance**
	As previously mentioned the close links to local transport facilities will enable the users of the development to easily access other parts of the city and local area.	

4.3 Camden Policy DP22: Promoting sustainable design and construction

4.3.1 Policy DP22 has been developed to provide details on sustainability standards and states:

	Commentary	**Compliance**
The Council will require development to incorporate sustainable design and construction measures. Schemes must: a) demonstrate how sustainable development principles, including the relevant measures set out in paragraph 22.5, have been incorporated into the design and proposed implementation; and b) incorporate green or brown roofs and green walls wherever suitable. The Council will promote and measure sustainable design and construction by: c) expecting new build housing to meet Code for Sustainable Homes Level 3 by 2010 and Code Level 4 by 2013 and encouraging Code Level 6 (zero carbon) by 2016.	The Design an Access Statement produced by CZWG Architects and the Energy Strategy produced by Metropolis Green along with the previous section, outlines how the design and layout have been optimised for energy efficiency, taking into account the orientation of the site, the mechanical services and materials selection. The design will also feature green roofs to help increase biodiversity and storm water attenuation. The proposed development is of high quality design and by demonstrating that the target of achieving a BREEAM rating of 'Excellent' and Code Level 4 can be met, will ensure the councils goals of promoting sustainable design and construction are met.	Yes

	Commentary	Compliance
The Council will require development to be resilient to climate change by ensuring schemes include appropriate climate change adaptation measures, such as: d) summer shading and planting; e) limiting run-off; f) reducing water consumption; g) reducing air pollution; and h) not locating vulnerable uses in basements in flood-prone areas	The design includes features such as; a green roof, low water usage features, low NOx boilers and its location in flood zone 1 will incur a low risk of flooding. These measures will help ensure the development is resilient to climate change and the scheme will also be targeting BREAAM credits under Wst 05 Adaption to climate change.	

4.4 Energy and Carbon Dioxide Emissions

4.4.1 This section of the Sustainability responds to SPG guidance on the following key areas:

- preparing energy demand assessments;
- using less energy, including through both passive and active design measures;
- planning for, using or installing an efficient energy supply, including developing energy master plans, facilitating district heating networks through development, and by installing site wide energy networks and communal heating;
- planning for and installing renewable energy;
- carbon dioxide off-setting, including setting a price for carbon dioxide, setting up a fund, delivery of measures and monitoring; and
- retrofitting energy and water saving measures.

Energy and Carbon Dioxide Emissions		
	Commentary	**Compliance**
Mayor's Priorities The overall carbon dioxide emissions from a development should be minimised through the implementation of the energy hierarchy set out in London Plan policy 5.2.	An Energy Strategy has been prepared by Metropolis Green. The report has been prepared in line with GLA guidance on energy assessments, London Plan policy, London Borough of Camden policy requirements, and follows the Mayor's energy hierarchy: Be Lean, Be Clean, and Be Green. The report describes these policies, the calculation methodology used, and the measures taken to achieve policy requirements. All energy and carbon figures have been calculated using approved Simplified Building Energy Modelling (SBEM) and Standard Assessment Procedure (SAP) 2012 software, which is used to demonstrate compliance with Approved Document Part L2A and L1A, 2013 edition (Building Regulations 2000) and BREEAM New Construction 2014 and Code for Sustainable Homes (the Code) requirements, respectively.	Yes

<table>
<tr><th colspan="3">Energy and Carbon Dioxide Emissions</th></tr>
<tr><th></th><th>Commentary</th><th>Compliance</th></tr>
<tr><td>Development should be designed to meet the following Regulated carbon dioxide standards, in line with London Plan policy 5.2.

<table>
<tr><td colspan="2">Residential buildings</td></tr>
<tr><td>Year</td><td>Improvements beyond 2013 Building Regulations</td></tr>
<tr><td>1st October 2013-2016</td><td>35 per cent</td></tr>
<tr><td>2016-2031</td><td>Zero carbon</td></tr>
</table>

<table>
<tr><td colspan="2">Non-domestic buildings</td></tr>
<tr><td>Year</td><td>Improvements beyond 2013 Building Regulations</td></tr>
<tr><td>1st October 2013-2016</td><td>35 per cent</td></tr>
<tr><td>2016-2019</td><td>As per the Building Regulation requirements</td></tr>
<tr><td>2019-2031</td><td>Zero carbon</td></tr>
</table>
</td><td>London Plan policy 5.2 requires a 35% reduction in carbon emissions over Part L 2010 standards. The total overall carbon reduction for the development is predicted to be 23%

The provision of roof mounted PV panels and Solar Thermal will contribute to a carbon emissions reduction of 18.3%

This has meant that the GLA 35% reduction target cannot be met through onsite renewables, and demand reduction. The dense nature of the site with a limited roof area has prohibited the inclusion of more onsite renewables, with all available space utilised for PV and Solar Thermal.

The Energy Strategy produced by Metropolis Green demonstrates a 20.7% improvement in Building Emissions Rate (BER) over Target Emissions Rate (TER) and of 35.4% improvement in Dwelling Emissions Rate (DER) over Target Emission Rate (TER).</td><td>Not feasible</td></tr>
<tr><td>Mayor’s best practice

Developments should contribute to ensuring resilient energy infrastructure and a reliable energy supply, including from local low and zero carbon sources.</td><td>The design features a highly energy efficient building fabric, airtightness and MVHR. A Local Air Quality Impact report produced by Ramboll showed that a CHP would have adverse impact on air quality, therefore heating and hot water will be provided by a high efficiency gas boilers. The scheme will also feature zero carbon renewable energy in the form of Solar Thermal Hot Water and Solar PV.</td><td>Yes</td></tr>
</table>

Energy and Carbon Dioxide Emissions		
	Commentary	**Compliance**
Mayor's best practice Developers are encouraged to include innovative low and zero carbon technologies to minimise carbon dioxide emissions within developments and keep up to date with rapidly improving technologies.	Site analysis and calculations has shown that a combination PV and Solar Thermal are the most suitable renewable energy technologies for the site; reducing the Renewables Baseline to 60.2 tCO_2/year by a predicted 13.5 tCO_2/year from the Efficient Baseline of 73.7 tCO_2/year. For more information see the Energy Strategy produced by Metropolis Green	Yes

Energy Demand Assessments		
	Commentary	**Compliance**
Mayor's Priority Development applications are to be accompanied by an energy demand assessment.	An Energy Strategy for the proposed development has been prepared by Metropolis Green.	Yes

Use Less Energy		
	Commentary	**Compliance**
Mayor's Priority The design of developments should prioritise passive measures.	Efficiency measures are considered to be the most sustainable approach to take in energy use reduction, as the measures designed into the fabric of the building and the related carbon reductions will last the lifetime of the building and will outlast those of any renewables installed. Minimising heat loss from the building fabric to avoid wasted energy is essential. Heat loss through walls, windows and surface areas of the building must be significantly lower than Building Regulations recommended values, requiring specification of building fabric with very low u-values. Heat loss through thermal bridges, where the continuity of insulation and/or the building envelope is broken, can be minimised through excellent workmanship and careful design, removal of unnecessary structural elements or insulation of structural elements. Passive design measures such as building orientation, fabric performance, air tightness and natural ventilation will be optimised within the buildings on site to prevent overheating and avoid excessive requirements for heating and cooling. These measures are demonstrated in the Energy Strategy through the buildings u-values, airtightness and MVHR system, delivering performance significantly beyond Par L 2013.	Yes

Use Less Energy		
	Commentary	**Compliance**
	The thermal performance of the building fabric for this baseline is significantly better than the limiting parameters of Building Regulations Part L, improving overall fabric efficiency and reducing carbon emissions for the residential and commercial parts of the development for the lifetime of the building. Thermal bridging will be minimised in accordance with Accredited Construction Details and air permeability of 3 m3/hour/m2@50Pa for the residential units and 5 m3/hour/m2@50Pa for the student apartments and commercial space. For more information see the Energy Strategy produced by Metropolis Green.	
Mayor's best practice Developers should aim to achieve Part L 2013 Building Regulations requirements through design and energy efficiency alone, as far as is practical.	The proposed development will be designed to achieve Part L 2013 Building Regulations and exceed them in line with planning policy requirements.	Yes

Efficient Energy Supply		
	Commentary	**Compliance**
Mayor's Priorities Developers should assess the potential for their development to: • connect to an existing district heating or cooling network; • expand an existing district heating or cooling network, and connect to it; or • establish a site wide network, and enable the connection of existing buildings in the vicinity of the development.	Investigation into existing heat networks in the area using the London Heat Map have shown that there are not any functioning or proposed CHP installations or heat networks within a 1000m radius of the site. The nearest functioning and proposed CHP installation is located at Swiss Cottage DHS, in excess of 1000m from the proposed development site. It has been determined that a connection to these facilities is not feasible. For a connection to be made, the heat network sites would need to have the capacity to supply the proposed development. It is considered unlikely that either installation would have the capacity to supply enough heat for the development. Additionally, the cost involved in the infrastructure works in connecting the sites would be extremely high. Issues involved would not only include the costs of the digging of roads and laying pipes but would also be disruptive to the local area. For more information see the Energy Strategy produced by Metropolis Green.	Not feasible
Where opportunities arise, developers generating energy or waste heat should maximise long term carbon dioxide savings by feeding the decentralised energy network with low or zero carbon hot, and where required, cold water.	Due to the fact that no CHP unit will be included in the scheme, there will be no scope or opportunity for contribution to local district heating/cooling.	Not feasible

Renewable Energy		
	Commentary	**Compliance**
Mayor's Priority Major developments should incorporate renewable energy technologies to minimise overall carbon dioxide emissions, where feasible.	The provision of roof mounted PV panels and Solar Thermal Hot Water will reduce CO_2 emissions to 60.2 tCO_2/year by a predicted 13.5 tCO_2/year from the Efficient Baseline of 73.7 tCO_2/year.	Yes

Carbon Dioxide Off-Setting		
	Commentary	**Compliance**
Mayor's Priorities Boroughs should establish a carbon dioxide off-set fund and identify suitable projects to be funded.	As discussed above, the site achieves an overall carbon reduction of 23%, which is below the 35% London Plan target. Therefore, a carbon offsetting solution agreement can provide the appropriate balance between on-site obligation and off-site opportunities leading to community infrastructure improvements and innovation within the industry.	
Where developments do not achieve the Mayor's carbon dioxide reduction targets set out in the London Plan policy 5.2, the developer should make a contribution to the local borough's carbon dioxide off-setting fund.	The proposed payment is based on the GLA's guidance price of £60/tonne of carbon, offsetting the development residual regulated CO_2 emission for 30 years	Yes

Retrofitting		
	Commentary	**Compliance**
Mayor's Priority Where works to existing developments are proposed developers should retrofit carbon dioxide and water saving measures.	The proposed development is a new build, therefore this section of the SPG does not apply.	N/A

Monitoring Energy Use		
	Commentary	**Compliance**
Mayor's best practice Developers are encouraged to incorporate monitoring equipment, and systems where appropriate to enable occupiers to monitor and reduce their energy use.	The design team have made a commitment to provide Energy Display Devices to each dwelling that will inform the occupants of their heating and electrical energy consumption, enabling them to manage their dwelling in more energy efficient manner. As such, credits have been awarded for Code issue Ene 3 – Energy Display Devices. The Design will also feature Energy monitoring to the Multi-residential/commercial areas in the form of a BMS or sub-metring and therefore will be eligible for BREEAM Ene 02 – Energy monitoring credits.	Yes

Supporting a Resilient Energy Supply		
	Commentary	**Compliance**
Mayor's best practice Developers are encouraged to incorporate equipment that would enable their schemes to participate in demand side response opportunities.	The design team will investigate the use of demand side response technology and incorporate it into the scheme wherever it is deemed feasible.	Where feasible

4.5 Camden CS13: Tackling climate change through promoting higher environmental standards

4.6.1 London Borough of Camden Core Strategy Policy CS13 states:

	Commentary	Compliance
Reducing the effects of and adapting to climate change The Council will require all development to take measures to minimise the effects of, and adapt to, climate change and encourage all development to meet the highest feasible environmental standards that are financially viable during construction and occupation by: a) ensuring patterns of land use that minimise the need to travel by car and help support local energy networks; b) promoting the efficient use of land and buildings; c) minimising carbon emissions from the redevelopment, construction and occupation of buildings by implementing, in order, all of the elements of the following energy hierarchy: 1. ensuring developments use less energy, 2. making use of energy from efficient sources, such as the King's Cross, Gower Street, Bloomsbury and proposed Euston Road decentralized energy networks; 3. generating renewable energy on-site; and	The site takes advantage of the significant existing public transport capacity within walking distance from the site to serve the proposed density of development, including: numerous bus routes, Finchley Road underground station (Jubilee and Metropolitan lines) and Finchley Road & Frognal railway station (London Overground services). For further information regarding local public transport facilities, please refer to the Transport Assessment prepared by Tim Spencer & Co. The design also features dedicated cycle storage for the apartments and student accommodation with 18 and 60 secure cycle spaces respectively. The design is of an appropriate density and makes full use of the site as outlined in the Design and Access Statement produced by CZWG Architects. The design features a range of energy and CO_2 saving measures, for more information see the Energy Strategy produced by Metropolis Green The scheme delivers a significant reduction in Energy use and CO_2 emissions, in line with the London plan, and Camden CPG 3 guidance. Due to the site location, utilising the decentralised energy networks is not feasible.	Yes

	Commentary	Compliance
d) ensuring buildings and spaces are designed to cope with, and minimise the effects of, climate change. The Council will have regard to the cost of installing measures to tackle climate change as well as the cumulative future costs of delaying reductions in carbon dioxide emissions.	The scheme features Solar PV and Solar Thermal Hot Water arrays, for more information see the Energy Strategy produced by Metropolis Green The design includes features such as; a green roof, low water usage features, low NOx boilers and its location in flood zone 1 will incur a low risk of flooding. These measures will help ensure the development is resilient to climate change and the scheme will also be targeting BREAAM credits under Wst 05 Adaption to climate change	

	Commentary	Compliance
Water and surface water flooding The Council will make Camden a water efficient borough and minimise the potential for surface water flooding by: g) protecting our existing drinking water and foul water infrastructure, including Barrow Hill Reservoir, Hampstead Heath Reservoir, Highgate Reservoir and Kidderpore Reservoir; h) making sure development incorporates efficient water and foul water infrastructure; i) requiring development to avoid harm to the water environment, water quality or drainage systems and prevents or mitigates local surface water and down-stream flooding, especially in areas up-hill from, and in, areas known to be at risk from surface water flooding such as South and West Hampstead, Gospel Oak and King's Cross.	An outline drainage strategy for the proposed development has been prepared by Ramboll. The strategy notes that the proposal includes a separate foul and surface water drainage system up to the outfalls to the combined sewer. A flow control device restricts the surface water flow downstream of the network. Surface water is attenuated within the proposed green roof with the potential of further attenuation storage across the paved areas proposed within the site.	Yes

4.6 Water Efficiency

4.6.1 As highlighted in the London Plan, in dry years London's water consumption outstrips supply. With a rapidly growing population it is essential to use water efficiently to reduce consumption and the need for large infrastructure schemes to boost supply.

4.6.2 This section of the Sustainability Statement responds to SPG guidance on the following key areas:

- water saving measures, including through appropriate landscape design;
- residential and non-domestic water consumption targets;
- using alternative sources of water
- reusing water;
- metering; and
- retrofitting measures.

Water Efficiency		
	Commentary	**Compliance**
Mayor's Priorities Developers should maximise the opportunities for water saving measures and appliances in all developments, including the reuse and using alternative sources of water.	Water consumption across the development will be reduced through the use of efficient water fixtures and fittings, including taps, showers and dual flush toilets. The specification of low flow sanitary bathroom fittings/fixtures and white goods will help to achieve substantial savings in water consumption throughout the life cycle of the proposed development. This water strategy for the commercial and student accommodation areas ensures that a targeted 40% improvement in water consumption against a notional baseline performance can be achieved.	Yes
Developers should design residential schemes to meet a water consumption rate of 105 litres or less per person per day.	For the apartments the efficient water fittings will be selected to achieve the water consumption target of less than 105 litres/person/day.	Yes
Where a building is to be retained, water efficiency measures should be retrofitted.	N/A	N/A

Water Efficiency		
	Commentary	**Compliance**
New non-residential developments, including refurbishments, should aim to achieve the maximum number of water credits in a BREEAM assessment or the 'best practice' level of the AECB (Association of Environment Conscious Building) water standards.	As water consumption is potentially one of the highest impact areas of any building over its lifetime, the design team are targeting internal water consumption as a key area for improvement and this objective will satisfy the strict requirements of Code and BREEAM issues Wat 01. This will deliver 3 out of the 5 available credits under these sections in both BREEAM and Code. In order to deliver more credits for reduction in water use the design would necessitate the inclusion of grey or rain water harvesting systems The feasibility of including greywater recycling (GWR) in the development has been investigated and found not to be possible in this building. Due to the nature of the site, and therefore the size and shape of the proposed building, there is 1 suitable plant room, which is designed to be located at the eastern part of the building on the 4th floor level, where there is a larger footprint. This would mean the secondary waste pipes connecting all showers and basins at ground floor and above would need to be routed across the student corridor at high level. The drop in the pipeline to enable satisfactory flow by gravity will mean the pipe dropping below the line of the ceilings thus making it impractical to achieve grey water recycling.	Yes

Water Efficiency		
	Commentary	**Compliance**
All developments should be designed to incorporate rainwater harvesting.	The inclusion of the green roof, which also delivers other significant benefits in terms of biodiversity, reducing the urban heat island effect, better roof insulation and contributes to improving air quality, means that rainwater harvesting for internal non-potable water is not feasible due to the high levels of treatment required for the water (it is discoloured as it filtrates through the green roof and is a dark brown colour). This is an expensive solution that would require significant on-going management and maintenance and is not appropriate for this type of development.	Not practically feasible
Mayor's best practice All residential units, including individual flats / apartments and commercial units, and where practical, individual leases in large commercial properties should be metered.	Water metering of the proposed development will be specified in accordance with the requirements of BREEAM issue Wat 02 and in line with the Mayor's best Practice.	Yes

4.7 Camden Policy DP23: Water

4.7.1 The careful choice and use of building materials can save developers money as well as reduce the generation of waste and ensure a high quality external environment and a healthy internal environment.

	Commentary	Compliance
The Council will require developments to reduce their water consumption, the pressure on the combined sewer network and the risk of flooding by: a) incorporating water efficient features and equipment and capturing, retaining and re-using surface water and grey water on-site; b) limiting the amount and rate of run-off and waste water entering the combined storm water and sewer network through the methods outlined in part a) and other sustainable urban drainage methods to reduce the risk of flooding; c) reducing the pressure placed on the combined storm water and sewer network from foul water and surface water run-off and ensuring developments in the areas identified by the North London Strategic Flood Risk Assessment and shown on Map 2 as being at risk of surface water flooding are designed to cope with the potential flooding; d) ensuring that developments are assessed for upstream and downstream groundwater flood risks in areas where historic underground streams are known to have been present; and	The scheme will include water saving measures and equipment to deliver a 40% reduction on baseline consumption in the commercial and student accommodation areas. In the residential apartments water consumption will be reduced to 105 litres/person/day. Runoff will be attenuated by the inclusion of green roofs and other SUDs measures to achieve at least 50% attenuation of the undeveloped site's surface water run-off at peak times. The load on the sewer network will be reduced through a separate foul and surface water drainage system up to the outfalls to the combined sewer. A flow control device will also restrict the surface water flow downstream of the network. Although the site is in Flood Zone 1, a full Flood Risk Assessment will be conducted at the detailed design stage, any risks to groundwater flooding will be identified and mitigated at this stage.	Yes

	Commentary	Compliance
e) encouraging the provision of attractive and efficient water features.	The scheme will feature efficient water features and fittings, in line with the commitment to meet BREEAM Excellent and level 4 in the Code	

4.8 Materials and Waste

4.8.1 The careful choice and use of building materials can save developers money as well as reduce the generation of waste and ensure a high quality external environment and a healthy internal environment.

4.8.2 This section of the Sustainability Statement responds to SPG guidance on the following key areas:

- the design stage, including designing to use pre-fabrication elements, choosing materials that minimise the use of resources, are sustainably sourced, do not cause harm to health and are robust;
- the construction phase, including how to manage materials resulting from demolition through the waste hierarchy; and
- ensuring development contains sufficient and well-designed storage for recyclables, organic material and waste.

Design Stage		
	Commentary	**Compliance**
Mayor's Priority The design of development should prioritise materials that: • Have a low embodied energy, including those that can be re-used intact or recycled; • At least three of the key elements of the building envelope (external walls, windows, roof, upper floor slabs, internal walls, floor finishes/coverings) are to achieve rating of A+ to D in the BRE's *The Green Guide* of specification; • Can be sustainably sourced; • At least 50% of timber and timber products should be sourced from accredited Forest Stewardship Council (FSC) or Programme for the Endorsement of forestry Certification (PEFC) source; • Are durable to cater for their level of use and exposure; and will not release toxins into the internal and external environment, including those that deplete stratospheric ozone.	The design team will specify materials with recycled and reused content where feasible. The detailed characteristics of the materials to be specified will be determined at the detailed design stage. The specified materials will have high ratings in the BRE Green Guide in line with the requirements to achieve credits under Code issue Mat 1. The design team can commit to achieving the highest feasible level of credits under: • BREEAM issue Mat 01 where 4 credits have currently been allocated; and • Code issue Mat 1, where 10 credits have currently been allocated. It is anticipated that 100% of the timber used for the proposed development will be from FSC sources. Insulation will be specified in line with the requirements of Code issue Pol 1, with a global warming potential (GWP) of less than 5. This specification will satisfy the insulation requirements under Code issue Pol 1 and BREEAM issue Mat 04.	Yes
Mayor's best practice The design of the developments should maximise the potential to use pre-fabrication elements.	Where feasible, pre-fabricated elements will be used for the proposed development. This will be reviewed at the detailed design stage.	Where feasible

Construction Phase		
	Commentary	**Compliance**
Mayor's Priority Developers should maximise the use of existing resources and materials and minimise waste generated during the demolition and construction process through the implementation of the waste hierarchy.	The Waste categories of BREEAM and the Code have stringent assessment criteria for both construction and operational waste. An Outline Site Waste Management Plan (Outline SWMP) has been prepared by Ramboll. The plan provides high level guidance on the approach to waste management for the proposed development and key regulatory requirements. For further information regarding the waste strategy, please refer to the original report. In line with BREEAM issue Wst 01, targets will be set to reduce the amount of non-hazardous construction waste generated by the building's design and construction (≤ 7.5 $m^3/100m^2$ and ≤ 6.5 tonnes/$100m^2$) and two credits are currently allocated, thus meeting best practice levels. Additionally, targets to divert a significant amount of non-hazardous construction waste generated by the project from landfill will be set and there is potential to achieve a Wst 01 credit. Meeting these requirements will also achieve credits under Code issue Was 2. The site is largely vacant and demolition waste will be limited; however demolition waste will be reused and recycled to the extent feasible during construction works. A credit under BREEAM issue Wst 02 has currently been allocated for specifying at least 25% of aggregates as recycled.	Yes

Construction Phase		
	Commentary	**Compliance**
Occupation		
	Commentary	**Compliance**
Mayor's Priorities Developers should provide sufficient internal space for the storage of recyclable and compostable materials and waste in their schemes.	The proposed development will incorporate internal waste and recycling bins for the apartments and student accommodation units in line with the requirements of BREEAM issue Wst 03 and Code issue Was 1.	Yes
The design of development should meet borough requirements for the size and location of recycling, composting and refuse storage and its removal.	Also in line with the requirements of Code issue Was 1 and BREEAM issue Wst 03, communal bin storage areas have been provided in dedicated and accessible rooms at the lower ground floor levels to accommodate the anticipated waste streams from the residential, student accommodation and commercial uses. The required space has been determined based on the London Borough of Camden's guidance on the waste storage requirements for commercial and residential properties.	Yes

4.9 Nature Conservation and Biodiversity

4.9.1 This section of the Sustainability Statement responds to SPG guidance on the following key areas:

- protecting species;
- protecting habitats; and
- designing development proposals.

Nature Conservation and Biodiversity		
	Commentary	**Compliance**
Mayor's Priorities There is no net loss in the quality and quantity of biodiversity.	An Ecological Impact Assessment has been prepared by Capita Symonds. The report concludes that the site is dominated by existing dense scrub vegetation and hardstanding and as such offers a low ecological value due to its location and habitats present on site. It has been assessed that the proposed works are unlikely to result in a significant ecological impact/biodiversity loss to the wider environment. While the site has been deemed to have low ecological value, the Ecological Impact Assessment notes that there are, however, several tree corridors in neighbouring roads, including a small parcel of woodland to the north of the site, this is a designated Site of Interest for Nature Conservation (SINC).	Yes
Developers make a contribution to biodiversity on their development site.	The Ecological Impact Assessment prepared by Capita Symonds provides a series of recommendations to enhance the ecological value of the site including: a green roof, artificial habitats and native landscaping. Please refer to the original report for further details regarding the recommendations.	Yes

Nature Conservation and Biodiversity		
	Commentary	**Compliance**
	The report further notes that the removal of the scrub vegetation and construction of the proposed structure will remove all the vegetation currently on site, but with the provision of nesting boxes and a green roof, would sufficiently reduce the overall net loss of habitats within the local environment. It is anticipated that the ecologist's recommendations will be implemented in the proposed development and credits have currently been allocated under BREEAM issues LE 03, 04 and 05 and Code issues Eco 1-4.	

5.0 ADAPTING TO CLIMATE CHANGE AND GREENING THE CITY

5.0.1 This section of the SPG provides further guidance on how developers should incorporate climate change adaptation and greening priorities outlined in the London Plan. Successful delivery of measures to meet these priorities will help ensure that London is resilient to current and future climate and also that the capital remains an inviting environment in which to invest, work and live.

5.1 Tackling Increased Temperature and Drought

5.1.1 This section of the Sustainability Statement responds to SPG guidance on the following key areas:

- preventing developments from overheating in the future;
- promoting heat and draught resistant planting; and
- designing resilient foundations.

Overheating		
	Commentary	**Compliance**
Mayor's Priority Developers should include measures, in the design of their schemes, in line with the cooling hierarchy set out in London Plan policy 5.9 to prevent overheating over the scheme's lifetime.	Through the application of passive design and low energy measures the design team have worked to ensure that the risk of summer overheating and reliance on mechanical cooling is minimised in line with the 'cooling hierarchy', London Plan Policy 5.9 and London Borough of Camden DP22. The orientation of the buildings is constrained by the site location, neighbouring buildings and street orientation. Although, careful design along with low u-value and g-value glazing allows for a balance between beneficial solar gain and possible overheating. Good natural day lighting within the development at Midland Crescent will create significant benefits in terms of reduced electrical use for lighting, solar gains to reduce winter heating consumption and a healthier, more pleasant environment.	Yes

Overheating		
	Commentary	**Compliance**
	Unwanted internal heat generation due to solar gain has been minimised through shading and energy efficient design, reducing the building summer overheating risk. A combination of high levels of fabric performance and insulation has been implemented, resulting in low u-values. Due to the location of the site and the impact of noise and air pollution, (as set out in the Local Air Quality Assessment produced in support of the application by Ramboll), windows will not be openable and passive ventilation cannot be provided to either the commercial spaces or the accommodation units. Mechanical ventilation via MVHR with a summer bypass capability of at least 3 air changes/hour, will be specified for improved energy and thermal comfort. Air intakes will be taken from the roof of the development, away from the main road in order to avoid high concentration of pollutants. The commercial space is being developed as shell and core and as such comfort cooling will not be specified, however due to practical concerns associated with noise and air pollution combined with commercial viability factors, space will be available for future cooling plant on the roof should it be required by commercial tenants. Suitable areas of the roof are to be bio-diverse roofs which contribute to natural cooling by reducing the surface temperature of the building, and surrounding air temperature	

Overheating		
	Commentary	**Compliance**
	through evaporation and transpiration. Furthermore, PV arrays are compatible with bio-diverse roofs and there are a range of PV fixing/mounting systems that can selected at the detailed design stage. Initial analysis using SBEM software shows that the solar gain limits in summer have not been exceeded for the commercial spaces. SAP Appendix P, Assessment of Internal Temperature in Summer, for the residential spaces shows that the threshold of internal mean temperatures has not been exceeded on the hottest summer days. Therefore all dwellings on site satisfy Criterion 3 requirements of Building Regulations Part L.	

Heat and Drought Resistant Planting		
	Commentary	**Compliance**
Mayor's best practice The design of developments should prioritise landscape planting that is drought resistant and has a low water demand for supplementary watering.	Due to the constraints of the site and local air quality issues, there is no accessible soft landscaping featured on the site. The green roofs will be specified to be drought resistant common varieties are Sedum, Sempervivum and Saxifraga; all of which belong to the succulent species. The plants are able to store high amounts of water in the leaves, are stress resistant and recover easily from periods of drought, therefore will have a minimal requirement for watering.	Where feasible

Resilient Foundations		
	Commentary	**Compliance**
Mayor's best practice Developers should consider any long term potential for extreme weather events to affect a building's foundations and to ensure they are robust	The site is located within Flood Zone 1 and therefore is at very low risk of flooding. The structural design of the buildings will ensure foundations are robust and able to cope with current and future weather conditions allowing for climate change.	Yes

5.2 Increasing Green Cover and Trees

5.2.1 This section of the Sustainability Statement responds to SPG guidance on the following key areas:

- promoting urban greening; and
- promoting the protection and planting of trees.

Urban Greening		
	Commentary	**Compliance**
Mayor's Priorities Developers should integrate green infrastructure into development schemes, including by creating links with wider green infrastructure network.	Green infrastructure will be integrated into the proposed development in the form of biodiverse green roofs, this will create potential for integration with nearby flora and fauna. As there are, several tree corridors in neighbouring roads, including a small parcel of woodland to the north of the site, this is a designated Site of Interest for Nature Conservation (SINC).	Yes
Major developments in the Central London Activity Area (CAZ) should be designed to contribute to the Mayor's target to increase green cover by 5% in this zone by 2030.	The proposed development lies outside the Central London Activity Area. However, the design team are committed to improving the green cover of the site, as demonstrated by planned inclusion of green roofs to the scheme.	Yes

Trees		
	Commentary	**Compliance**
Mayor's Priorities Developments should contribute to the Mayor's target to increase tree cover across London by 5% by 2025.	Given the constraints of the location, size and shape of the site, it is not feasible or appropriate to provide additional trees. The Design and Access Statement prepared by CZWG Architects notes that there are a great many public open green spaces of various sizes offering a wide range of facilities and planting in and around the area of the site. For a detailed review of public open space, please refer to the original report.	Not feasible
Any loss of a tree/s resulting from development should be replaced with an appropriate tree or group of trees for the location, with the aim of providing the same canopy cover as that provided by the original tree/s.	The site is primarily composed of scrub vegetation with areas of rough grassland and hardstanding. Therefore the development will not result in the net loss of any mature trees. Equally the site is not currently accessible to the public; therefore the proposed development will not result in the loss of any public open space.	Yes

5.3 Flooding

5.3.1 This section of Sustainability Statement responds to SPG guidance on the following key areas:

- surface water flooding;
- sustainable drainage;
- flooding and resilience and resistance of buildings;
- safety;
- flooding and basement developments;
- flood defences;
- flood risk management from tidal and fluvial flooding; and
- other sources of flooding.

Surface Water Flooding and Sustainable Drainage		
	Commentary	**Compliance**
Mayor's Priorities Developers should maximise all opportunities to achieve greenfield runoff rates in their developments.	A full Flood Risk Assessment for the site will be required in order to demonstrate compliance with BREEAM issue Pol 03 and Code issue Sur 2.	No
When designing their schemes developers should follow the drainage hierarchy set out in London Plan policy 5.13.	An outline drainage strategy for the proposed development has been prepared by Ramboll. The strategy notes that the proposal includes a separate foul and surface water drainage system up to the outfalls to the combined sewer. A flow control device restricts the surface water flow downstream of the network.	Yes
Developers should design Sustainable Drainage Systems (SUDS) into their schemes that incorporate attenuation for surface water runoff as well as habitat, water quality and amenity benefits.	As noted above, the precise amount of surface water runoff attenuation will be determined at the detailed design stage of the drainage strategy for the site, and the design team is committed to incorporating SUDS as appropriate. The current proposal is to have a separate foul and surface water drainage system up to the outfall to the combined sewer. A hydro brake has been proposed at the site to restrict the surface water outflow rates to 50% of the existing surface water flow rates into the Thames Water public sewer. Surface Water is attenuated within the blue and green roofs with the potential of further attenuation storage across the paved areas proposed within the site. Blue Roofs store water within thin attenuation layers which are installed at roof level. Discharge rates from the attenuation voids are controlled by small holes (orifices) which restrict the flow rate from the roof and into the external buried drainage	Yes

Surface Water Flooding and Sustainable Drainage		
	Commentary	**Compliance**
	surrounding the building. The surface water runoff attenuation strategy will continue to be developed as the detailed design of the development progresses.	

Flood Resilience and Resistance of Building in Flood Risk Areas		
	Commentary	**Compliance**
Mayor's Priority Development in areas at risk from any form of flooding should include flood resistance and resilience measures in line with industry best practice.	The site is located within Flood Zone 1 and therefore is at very low risk of flooding.	N/A

Flood Risk Management		
	Commentary	**Compliance**
Mayor's Priority Developments are designed to be flexible and capable of being adapted to and mitigating the potential increase in flood risk as a result of climate change.	A full Flood Risk Assessment will be conducted for the site, at the detailed design stage. An assessment in terms of the increased risk as a result of climate change will then be made, and will be used to inform the design process.	Yes

6.0 POLLUTION MANAGEMENT

6.0.1 The density of activity across London can lead to various forms of disturbance to nearby occupiers and can result in legally recognised levels of pollution. These forms of pollution include air, noise and light. Activities can also create incidents of pollution further away, where it may not be noticed by the polluter. For example, polluting activities could affect water bodies through runoff and pollutants entering the sewer. Historic polluting land uses have resulted in land contamination. Potentially polluting uses need to incorporate mitigation measures to prevent further pollution.

6.1 Land Contamination

6.1.1 This section of the Sustainability Statement responds to SPG guidance on the following key areas:

- who is responsible for dealing with land contaminations; and
- bioremediation.

Land Contamination		
	Commentary	**Compliance**
Mayor's Priorities Developers should set out how existing land contamination will be addressed prior to the commencement of their development.	The phase 1- Geo-environmental report produced by Capita Symonds indicates that contamination risk attached to the site is assessed to be low to moderate based on a future mixed residential/commercial development scenario with no soft landscaping. The environmental sensitivity of the site is assessed to be low. It is considered that the underlying Clay is not a water bearing strata and will prevent the vertical migration of contaminants.	Yes

Land Contamination		
	Commentary	**Compliance**
Mayor's Priorities Potentially polluting uses are to incorporate suitable mitigation measures.	In the event of redevelopment of the site to the proposed end use scenario, and on the basis of no investigation data, it is suggested in the Geo-environmental report that consideration should be given to the provision of vapour and soil gas membranes in built structures. This is due to the high gas generation potential of the anticipated thickness of Made Ground underlying the site.	N/A

6.2 Air Pollution

6.2.1 This section of the Sustainability Statement responds to SPG guidance on the following key areas:

- assessment requirements;
- construction and demolition;
- design and occupation;
- air quality neutral policy for buildings and transport; and
- emissions standards for combustion plant.

Air Pollution		
	Commentary	**Compliance**
Mayor's Priorities Developers are to design their schemes so that they are at least 'air quality neutral'	A Local Air Quality Assessment for the proposed development has been prepared by Ramboll. The report notes that appropriate mitigation measures have been incorporated into the design of the development to ensure that exposure and emissions are reduced and the proposed development would therefore be in accordance with planning policy and guidance relating to air quality impacts. For further information regarding air quality, please refer to the original report.	Yes

Air Pollution		
	Commentary	**Compliance**
Developments should be designed to minimise the generation of air pollution.	The proposed heating plant for the scheme, includes emission free Solar Thermal, and high efficiency communal gas boilers; these will be specified with low NOx emissions. Emissions are anticipated to be ≤ 40 mg/kWh, which will achieve full credits under BREEAM and Code issue Pol 02.	Yes
Developments should be designed to minimise and mitigate against increased exposure to poor air quality.	Appropriate mitigation measures have been incorporated into the design of the development to ensure that exposure and emissions are reduced. In particular, all windows within the Proposed Development will be non-opening. This is primarily due to the proximity of railway lines, however it will also help to mitigate poor air quality close to Finchley Road. Ventilation air will be taken from the roof where air quality is considerably better than close to Finchley Road. In addition, ventilation air will be filtered using activated carbon filter which will further reduce NO_2 concentrations within the Proposed Development. Overall, the impact of road traffic generated by the proposed development is judged to be not significant. For further details please see the Local Air Quality Assessment produced by Ramboll.	N/A
Developers should select plant that meets the standards for emissions from combined heat and power and biomass plants set out in Appendix 7.	There is no CHP/biomass included in the scheme.	N/A

Air Pollution		
	Commentary	**Compliance**
Developers and contractors should follow the guidance set out in the emerging *The Control of Dust and Emissions during Construction and Demolition SPG* when constructing their development.	The applicant can commit to monitoring construction site impacts in accordance with the requirements of BREEAM and Code issue Man 3. This will include the implementation of best practices polices with regards to air (dust pollution) arising from site activities.	Yes

6.3 Noise

6.3.1 This section of the Sustainability Statement responds to SPG guidance on the following key areas:

- the sources of noise;
- ways to mitigate noise emitted by developments;
- ways to mitigate the impact of noise and developments; and
- some detailed design considerations.

Noise		
	Commentary	**Compliance**
Mayor's Priorities Areas identified as having positive sound features or as being tranquil should be protected from noise.	The proposed development is mixed residential, student accommodation and commercial space, therefore the site is not considered to have any positive sound features to protect.	N/A
Noise should be reduced at source, and then design out of a scheme to reduce the need for mitigation measures.	A Noise and Vibration Assessment for the site and proposed development has been prepared by AECOM. The report concludes that appropriate noise and vibration levels can be achieved with mitigation measures, as recommended. It is anticipated that the noise attenuation requirements under BREEAM issue Pol 05 can be achieved.	Yes

6.4 Light Pollution

6.4.1 This section of the Sustainability Statement responds to SPG guidance on the following key areas:

- the types of light pollution;
- the potential harmful effects of light pollution; and
- how to design lighting appropriately to minimise nuisance.

Light Pollution		
	Commentary	**Compliance**
Mayor's Priority Developments and lighting schemes should be designed to minimise light pollution.	A Lighting Report analysing obtrusive light has been produced by Ramboll. This report highlights measures which will minimise the amount of 'light lost to sky' and will reduce the impact, on the railway, of external lighting from the development. The most important measures have been listed below: - there will be no upward light output - a boundary fence will be erected - average light levels will be 12 lux For further information, please refer to the Lighting Report.	Yes

6.5 Water Pollution

6.5.1 This section of the Sustainability Statement responds to SPG guidance on the following key areas:

- how sustainable drainage can contribute to water quality;
- the connection of new development to the sewer network; and
- private sewage plants.

Surface Water Runoff		
	Commentary	**Compliance**
Mayor's Priority In their aim to achieve a greenfield runoff rate developers should incorporate sustainable urban drainage systems (SuDS) into their schemes which also provide benefits for water quality.	Table 2 of the Drainage Design Note produced by Ramboll indicates the Peak Surface Water runoff rates to the public sewer network for the Existing Brownfield site for the 1:100 year event to be 66.6 l/s excluding climate change (20% increase). The rate for the proposed development including climate change is modelled to be 22.4 l/s. This is a reduction of 66%.	Yes
Mayor's best practice Encourage good environmental practice to help reduce the risk from business activities on the London water environment.	None of the commercial or plant areas on the site will be undertaking any kind of activity that will have an adverse risk on the London Water Environment. During the construction, the main contractor will be bound by environmental law, industry best practice and both Code and Considerate Constructors requirements to ensure that air, land and water pollution is avoided and minimised.	Yes

Encourage those working on demolition and construction sites to prevent pollution by incorporating prevention measures and following best practice.	The applicant can commit to monitoring construction site impacts in accordance with the requirements of Code and BREEAM. This will include the implementation of best practices polices with regards to water (ground and surface) pollution arising from site activities The Main contractor will also be encouraged to have an ISO14001 Environmental Management System (EMS) in place.	Yes

Wastewater Treatment		
	Commentary	**Compliance**
Mayor's best practice Residential developments discharging domestic sewage should connect to the public foul sewer or combined sewer network where it is reasonable to do so.	The proposed development's domestic sewage will be connected to the public foul sewer at the most convenient point.	Yes
Commercial developments discharging trade effluent should connect to the public foul sewer or combined sewer network where it is reasonable to do so subject to a trade effluent consent from the relevant sewerage undertaker.	The proposed redevelopment's commercial sewage will be connected to the public foul sewer at the most convenient point. The use classes of the proposed commercial spaces are such that it is considered unlikely to be any activity that will produce trade effluent. Should uses generate trade effluent the relevant consents will be sought.	N/A
Developments should be properly connected and post-construction checks should be made by developers to ensure that mis-connections do not occur.	Public health drainage design will ensure proper connection and post construction checks will be made prior to practical completion and site handover.	Yes

7.0 CONCLUSION

7.1 This Sustainability Statement demonstrates that the proposed redevelopment of the Midland Crescent site has targeted very high standards of design and building quality. The proposed development maximises a site with a recognised opportunity for sustainable redevelopment and will provide high quality residential, student accommodation and commercial space.

7.2 The strategy focuses on the implementation of efficient use of land and resources, sustainable systems for energy, water, waste management, recycling, and the use, choice and disposal of materials. Much attention has been given to reducing the environmental impact throughout the whole lifetime of the building, and not just during occupation.

7.3 Following the energy hierarchy has enabled carbon reductions to be calculated for the proposed development at the Midland Crescent site. The overall carbon reduction is calculated to be 23% through high fabric and services efficiency and the inclusion of renewable energy technology in the form of a PV array and Solar Thermal Hot Water.

7.4 Water consumption will be substantially reduced through the incorporation of water efficient fixtures and fittings throughout the proposed residential units, student accommodation and commercial space.

7.5 Environmentally friendly and responsibly sourced materials will be specified, where possible, in line with the BRE Green Guide to Specification.

7.6 Recycling facilities will be provided for all uses on the site and the reuse and disposal of demolition and construction waste will be guided by a Site Waste Management Plan. In addition, the site will be registered with the Considerate Constructors Scheme which will ensure that the site's impacts on the environment, the workforce and the general public are minimised.

7.7 The site is deemed of low ecological value, however measures including, but not limited to an extensive green roof will deliver a net positive impact in terms of biodiversity

7.8 The scheme will be designed to resilient to the future effects of climate change. The proposed green roof will assist with cooling and surface water runoff management and drainage from the site. The site lies in an area at low risk from flooding and it is considered that there will be no increase in flood risk to person or property as a result of the proposed development.

7.9 The scheme will incorporate best practice design principles with regards to land contamination, light, noise and air pollution, and the recommendations of appointed professionals will be adopted.

7.10 The BREEAM 2014 New Construction pre-assessment for the student accommodation and commercial areas demonstrates that the proposed development can achieve a BREEAM rating of Excellent with a score of 70.8%. The Code for Sustainable Homes pre-assessment demonstrates that the residential apartments can achieve Code Level 4 certification with a score of 73.17%. It should be noted that these pre-assessments have been undertaken early in the design process and is therefore subject to change. It is also important to note that the threshold for BREEAM Excellent and Code level 4 could be achieved by attaining a combination of credits other than those allocated in the pre-assessments.

7.11 In conclusion, this report demonstrates that the proposed redevelopment has successfully met the majority of the Mayor's Priorities and Best Practice referred to in the Sustainable Design and Construction SPG, and the standards found in London Borough of Camden planning policy. Where a standard has not been met, justification has been provided. The design team has carefully considered the site's potential environmental impacts and this report details how those impacts will be managed and mitigated in line with the relevant planning policies.

8.0 REFERENCES

8.1 Daylight, Sunlight & Overshadowing Report, prepared by Point 2 Surveyors Ltd.

8.2 Design and Access Statement, prepared by CZWG Architects

8.3 Design Note: Supporting Drainage Design Information, prepared by Ramboll

8.4 Ecological Impact Assessment Update, prepared by Capita Symonds

8.5 Energy Strategy, prepared by Metropolis Green

8.6 Local Air Quality Assessment, prepared by Ramboll

8.7 Noise and Vibration Assessment, prepared by AECOM

8.8 Obtrusive Light Lighting Report, prepared by Ramboll

8.9 Outline Site Waste Management Plan, prepared by Ramboll

8.10 Phase I Geo-environmental Report, prepared by Capita Symonds

8.11 Transport Assessment, prepared by Tim Spencer & Co

8.12 Basement Impact Assessment – Screening Study, prepared by Ramboll

APPENDIX A: CODE FOR SUSTAINABLE HOMES PRE-ASSESSMENT

Results

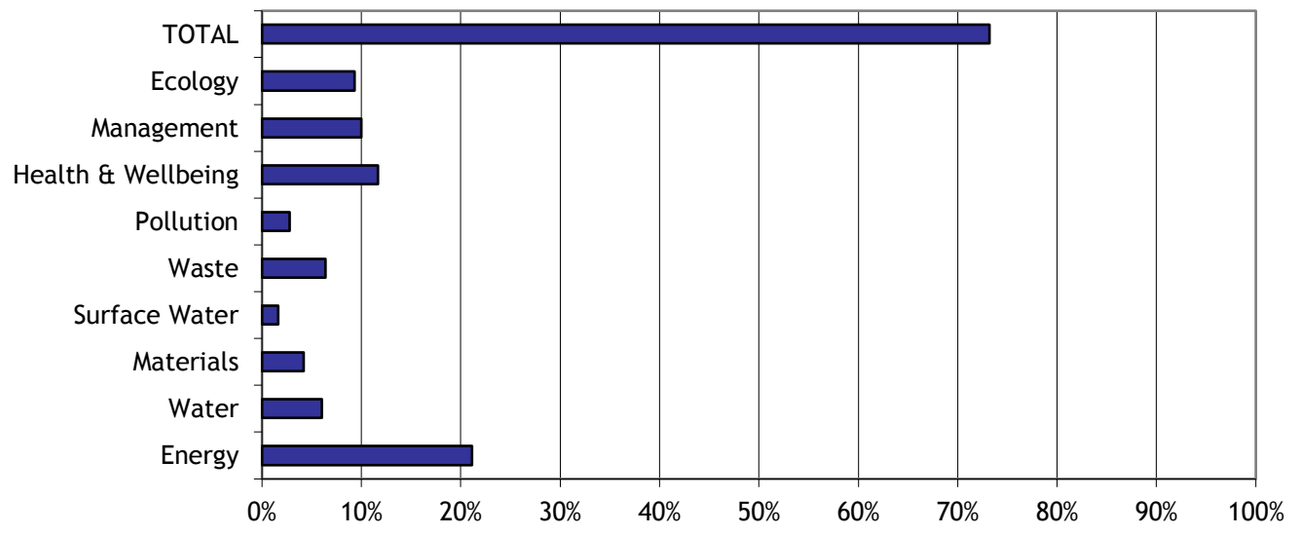
Development Name:	5171- Land at Midland Crescent
Dwelling Description:	9 flats (from first to fourth floor)
Name of Company:	Stadiam Capital Holdings
Code Assessor's Name:	Miranda Pennington
Company Address:	4 Underwood Row, London N1 7LQ
Notes/Comments:	

PREDICTED RATING - CODE LEVEL: 0 (However if Mandatory Requirements are met CODE LEVEL 4 will be achieved.)

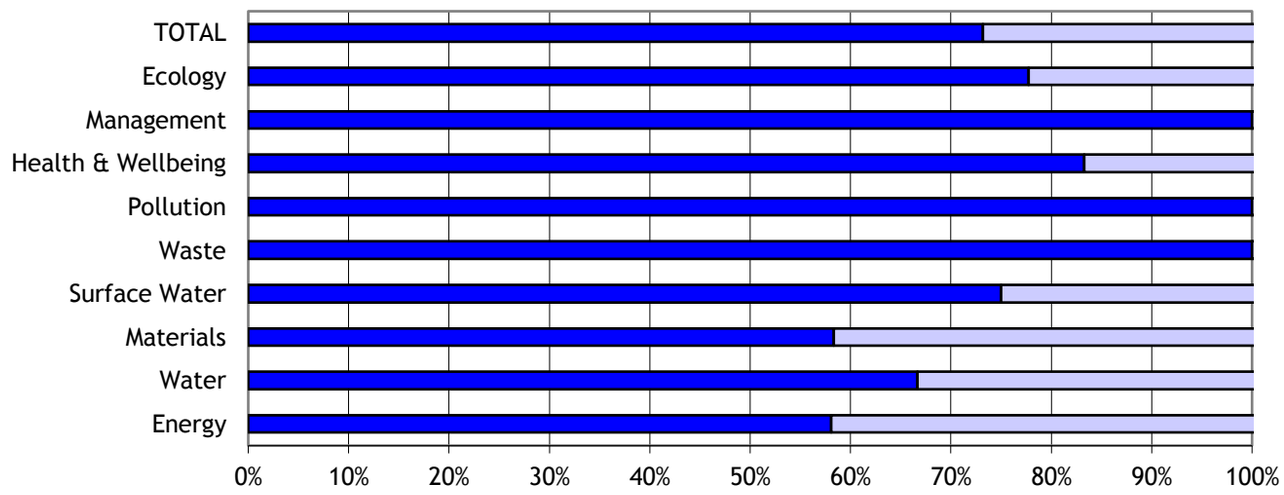
Mandatory Requirements: Not met

% Points:	73.17%	- Code Level: 4
Breakdown:	Energy	- Code Level: 4
	Water	- Code Level: 4

Graph 1: Predicted contribution of individual sections to the total score and percentage of total achievable score



Graph 2: Predicted percentage of credits achievable: Total and by Category



NOTE: The rating obtained by using this Pre Assessment Estimator is for guidance only. Predicted ratings may differ from those obtained through a formal assessment, which must be carried out by a licensed Code assessor.

CATEGORY 1 ENERGY		Overall Level: 4	Overall Score	73.17	
% of Section Credits Predicted:	58.06		Credits	Level	Assumptions Made
Contribution to Overall % Score:	21.13 points		18.0 of 31 Credits	Level 4	
Ene 1 Dwelling Emission Rate	Credits are awarded based on the percentage improvement of the Dwelling Emission Rate (DER) over the Target Emission Rate (TER) as calculated using SAP 2012. Minimum standards for each Code level apply. The Code energy calculator can be used to calculate a predicted score. Enter the predicted score What is the predicted number of credits? 4.0 OR Are zero net CO_2 emissions achieved? ☐		4.0 of 10 Credits	Level 4	
Ene 2 Fabric Energy Efficiency	Credits are awarded based on the Fabric Energy Efficiency (kWh/m^2/yr) of the dwelling. Minimum standards apply at Code levels 5 and 6. The Code energy calculator can be used to calculate a predicted score. Enter the predicted score Apartments, Mid-terrace ○ OR End terrace, Semi and Detached ○ OR Staggered Mid terrace ◉ What is the predicted number of credits? 3.0		3.0 of 9 Credits	-	
Ene 3 Energy Display Devices	Credits are awarded where a correctly specified Energy Display Device is installed monitoring electricity and/or primary heating fuel consumption. Select whether the EDD monitors electricity and/or fuel None Specified ○ Primary Heating only ○ OR Electricity only ○ OR Electricity and primary heating fuel ◉		2 of 2 Credits	-	

Issue		Credits	Level	Assumptions Made
Ene 4 Drying Space	One credit is awarded for the provision of either internal or external secure drying space with posts and footings or fixings capable of holding 4m+ of drying line for 1-2 bed dwellings and 6m+ for dwellings with 3 bedrooms or greater. Will drying space meeting the criteria be provided? Yes ◉ OR No ○	1 of 1 Credits	-	
Ene 5 Energy Labelled White Goods	Credits are awarded where each dwelling is provided with either information about the EU Energy Labelling Scheme, White Goods with ratings ranging from A+ to B or a combination of the previous according to the technical guide. Select the appropriate option below EU Energy labelling information **only** ☐ A+ rated appliances ☑ A rated washing machine and dishwasher ☑ B rated tumble dryer or washer dryer ☑ EU Energy labelling information provided ☐	2 of 2 Credits	-	
Ene 6 External Lighting	Credits are awarded based on the provision of space lighting* with energy efficient light bulbs/lamps and security lighting fittings with appropriate control systems. Space Lighting None provided ◉ OR Non Code compliant lighting ○ OR Code compliant lighting ○ Security Lighting None provided ○ OR Non Code compliant lighting ○ OR Code compliant lighting and controls ◉ Dual lamp luminaires Compliant with both above criteria ☑ * Statutory safety lighting is not covered by this requirement	2 of 2 Credits	-	

Issue		Credits	Level	Assumptions Made
Ene 7 Low or Zero Carbon Technologies	Credits are awarded where there is a 10% or 15% reduction in CO_2 emissions resulting from the use of low or zero carbon technologies. Select % contribution made by low or zero carbon technologies Less than 10% of demand ○ OR 10% of demand or greater ○ OR 15% of demand or greater ◉	**2 of 2 Credits**	-	The residential section of the development does not seem to have sufficient allocation of low or zero carbon technologies that allow awarding credits. The development seems to achieve the 20% as a whole only.
Ene 8 Cycle Storage	Credits are awarded where adequate, safe, secure and weather proof cycle storage is provided according to the Code requirements. Fill in the development details below Number of bedrooms: 17 Number of cycles stored per dwelling* 2.0 * if you have storage for 1 cycle per two dwellings insert 0.5 in number of cycles stored per dwelling	**1 of 2 Credits**	-	The penthouse has 3 bedrooms
Ene 9 Home Office	A credit is awarded for the provision of a home office. The location, space and services provided must meet the Code requirements. Will there be provision for a Home Office? Yes ◉ OR No ○	**1 of 1 Credits**	-	

CATEGORY 2 WATER	Overall Level: 4	Overall Score	73.17	Assumptions Made
% of Section Credits Predicted: 66.66		Credits	Level	
Contribution to Overall Score: 6.00 points		4 of 6 Credits	Level 4	
Wat 1 Indoor Water Use	Credits are awarded based on the predicted average household water consumption, calculated using the Code Water Calculator Tool. Minimum standards for each code level apply. Select the predicted water use / Mandatory Requirement greater than 120 litres/ person/ day ○ OR ≤ less than 120 litres/ person/ day ○ OR ≤ less than 110 litres/ person/ day ○ OR ≤ less than 105 litres/ person/ day ◉ OR ≤ less than 90 litres/ person/ day ○ OR ≤ less than 80 litres/ person/ day ○	3 of 5 Credits	Level 3 AND Level 4	
Wat 2 External Water Use	A credit is awarded where a compliant system is specified for collecting rainwater for external irrigation purposes. Where no outdoor space is provided the credit can be achieved by default. Select the scenario that applies No internal or communal outdoor space ◉ OR Outdoor space with collection system ○ OR Outdoor space without collection system ○	1 of 1 Credits	-	

CATEGORY 3 MATERIALS	Overall Level: 4	Overall Score	73.17	Assumptions Made
% of Section Credits Predicted: 58.33		Credits	Level	
Contribution to Overall Score: 4.20 points		14 of 24 Credits	No Level	
Mat 1 Environmental Impact of Materials	Mandatory Requirement: At least three of the five key building elements must achieve a Green Guide 2008 Rating of A+ to D. Tradable Credits: Points are awarded on a scale based on the Green Guide Rating of the specifications. The Code Materials Calculator can be used to predict a potential score. Mandatory Requirement Will the mandatory requirement be met? ☐ Enter the predicted score What is the predicted number of credits? 10	10 of 15 Credits	No Level	
Mat 2 Responsible Sourcing of Materials - Basic Building Elements	Credits are awarded where materials used in the basic building elements are responsibly sourced. The Code Materials Calculator can be used to predict a potential score. Enter the predicted Score What is the predicted number of credits? 3	3 of 6 Credits	-	
Mat 3 Responsible Sourcing of Materials - Finishing Elements	Credits are awarded where materials used in the finishing elements are responsibly sourced. The Code Materials Calculator can be used to predict a potential score. Enter the predicted Score What is the predicted number of credits? 1	1 of 3 Credits	-	

CATEGORY 4 SURFACE WATER RUN-OFF	Overall Level: 4	Overall Score	73.17	Assumptions Made
% of Section Credits Predicted:	75.00%	Credits	Level	
Contribution to Overall Score:	1.65 points	3 of 4 Credits	All Levels	
Sur 1 Management of Surface Water Run-off from developments	Mandatory Requirement: Peak rate of run-off into watercourses is no greater for the developed site than it was for the pre-development site and that the additional predicted volume of rainwater discharge caused by the new development is entirely reduced as far as possible in accordance with the assessment criteria. Desiging the drainage system to be able to cope with local drainage system failure. Tradable Credits: Where SUDS are used to improve water quality of the rainwater discharged or for protecting the quality of the receiving waters. Mandatory Requirement Will the mandatory requirement be met? ☑ Select the appropriate option No SUDS ☐ No runoff into watercourses for the first 5 mm of rainfall ☑ Runoff from hard surfaces will receive an appropriate level of treatment ☐	1 of 2 Credits	All Levels	According to the Drainage report, it seems that the Green Roofs will cater for the first 5mm of rainfall (section 3.2), therefore not allowing it to be sent off site.
Sur 2 Flood Risk	Credits are awarded where developments are located in areas of low flood risk or where in areas of medium or high flood risk appropriate measures are taken to prevent damage to the property and its contents in accordance with the Code criteria in the technical guide. Select the annual probability of flooding (from PPG*) Zone 1 - Low ◉ OR Zone 2 - Medium ○ OR Zone 3 - High ○ Select the apropriate option(s) Low risk of flooding from FRA** ☑ All measures of protection are demonstrated in FRA ☐ Ground floor level and access routes are 600 mm above design flood level ☐ * Planning Practice Guidance - Planning and Flood Risk ** FRA - Flood Risk Assessment	2 of 2 Credits	-	

CATEGORY 5 WASTE	Overall Level: 4	Overall Score	73.17	Assumptions Made
% of Section Credits Predicted: 100.00%		Credits	Level	
Contribution to Overall Score: 6.40 points		8 of 8 Credits	All Levels	

Was 1 — Storage of non-recyclable waste and recyclable household waste

Mandatory Requirement: The space provided for waste storage should be sized to hold the larger of either all external containers provided by the Local Authority or the min capacity calculated from BS 5906. Tradable Credits are awarded for adequate internal and/ or external recycling facilities.

Mandatory Requirement

- Will the minimum space be provided and be accessible to disabled people? ☑

Internal Recyclable household waste storage

- Where there is no external recyclable waste storage and no Local Authority collection scheme
- Internal storage (capacity 60 litres) ☐

0 of 2 Credits

Local Authority collection Scheme

- Post Collection sorting
- Internal storage (capacity 30 litres) ☐
- Pre-collection sorting
- Internal storage (3 separate bins, capacity 30 litres) ☑

4 of 4 Credits — **All Levels**

External Storage, no Local Authority collection scheme

- 3 separate internal storage bins (capacity 30 litres) ☐

AND

- Houses
- External Storage(capacity 180 litres) ☐
- Flats
- Private recycling operator ☐
- 3 or greater types of waste collected ☐

0 of 4 Credits

Camden collects at least 3 different waste types.

Issue		Credits	Level	Assumptions Made
Was 2 Construction Site Waste Management	A credit is awarded where a compliant SWMP is provided with targets and procedures to minimise construction waste. Credits are available where the SWMP include procedures and commitments for diverting either 50% or 85% of waste generated from landfill.	**3 of 3 Credits**		
Was 3 Composting	A credit is awarded where individual home composting facilities are provided, or where a community/ communal composting service, either run by the Local Authority or overseen by a management plan is in operation.	**1 of 1 Credit**	-	Camden has food waste collection service

SWMP details

Does the SWMP include:

- + No SWMP ○
- + SWMP with targets and procedures to minimise waste? ○
- + SWMP with procedures to divert 50% of waste ○
- + SWMP with procedures to divert 85% of waste ◉

Select the facilities available

- No composting facilities ○
- Individual composting facilities ○
- OR Communal/ community composting*? ◉
  - Local Authority ☑
  - OR Private with management plan ☐

* including if an automated waste collection system is in place

CATEGORY 6 POLLUTION	Overall Level: 4	Overall Score	73.17	Assumptions Made
% of Section Credits Predicted: 100.00%		Credits	Level	
Contribution to Overall Score: 2.80 points		4 of 4 Credits	All Levels	
Pol 1 Global Warming Potential (GWP) of Insulants	A credit is awarded where <u>all</u> insulating materials only use substances (in manufacture AND installation) that have a GWP of less than 5. Select the most appropriate option All insulants have a GWP less than 5 (●) OR Some insulants have a GWP of less than 5 (○) OR No insulants have a GWP of less than 5 (○)	1 of 1 Credits	-	
Pol 2 NOx Emissions	Credits are awarded on the basis of NOx emissions arising from the operation of the space and water heating system within the dwelling. Select the most appropriate option Greater than 100 mg/kWh (○) OR Less than 100 mg/kWh (○) OR Less than 70 mg/kWh (○) OR Less than 40 mg/kWh (●) OR Class 4 boiler (○) OR Class 5 boiler (○) OR All space and hot water energy requirements are met by systems who do not produce NOx emissions (○)	3 of 3 Credits	-	

CATEGORY 7 HEALTH & WELLBEING	Overall Level: 4	Overall Score	73.17	Assumptions Made
% of Section Credits Predicted: 83.00%		Credits	Level	
Contribution to Overall Score: 11.66 points		10 of 12 Credits	No level	

Issue		Credits	Level	Assumptions Made
Hea 1 Daylighting	Credits are awarded for ensuring key rooms in the dwelling have high daylight factors (DF) and a view of the sky. Select the compliant areas Room Kitchen: Avg DF of at least 2% ☑ Living Room*: Avg DF of at least 1.5% ☑ Dining Room*: Avg DF of at least 1.5% ☑ Study*: Avg DF of at least 1.5% ☑ 80% of working plane in all above rooms receive direct light from the sky? ☐ Any room used for Ene 9 Home Office must also achieve a min DF of 1.5%.	2 of 3 Credits	-	Detailed studies will be required.
Hea 2 Sound Insulation	Credits are awarded where performance standards exceed those required in Building Regulations Part E. This can be demonstrated by carrying out pre-completion testing or through the use of Robust Details Limited. Select a type of property Detached Property ○ Attached Properties: - Separating walls and floors only exist between non habitable spaces ○ - Separating walls and floors exist between habitable spaces ◉ Select a performance standard Performance standard not sought ○ Airborne: 3db higher; Impact: 3dB lower ○ OR Airborne: 5db higher; Impact: 5dB lower ◉ OR Airborne: 8db higher; Impact: 8dB lower ○	3 of 4 Credits	-	
Hea 3 Private Space	A credit is awarded for the provision of an outdoor space that is at least partially private. The space must allow easy access to all occupants. Will a private/ semi-private space be provided? Yes, private/semi-private space will be provided ◉ OR No private/semi-private space ○	1 of 1 Credits	-	
Hea 4 Lifetime Homes	Mandatory Requirement: Lifetime Homes is mandatory when a dwelling is to achieve Code Level 6. Tradable credits: Credits are awarded where the developer has implemented all of the principles of the Lifetime Homes scheme. Mandatory Requirement Dwelling to achieve Code Level 6? ☐ Lifetime Homes Compliance All Lifetime Homes criteria will be met ◉ OR Exemption from LTH criteria 2/3 applied ○ Credit not sought ○	4 of 4 Credits	No level	

CATEGORY 8 MANAGEMENT	Overall Level: 4	Overall Score	73.17	Assumptions Made
% of Section Credits Predicted: 100.00%		Credits	Level	
Contribution to Overall Score: 10.00 points		9 of 9 Credits	All Levels	
Man 1 Home User Guide	Credits are awarded where a simple guide is provided to each dwelling covering information relevant to the 'non-technical' home occupier, in accordance with the Code requirements. Tick the topics covered by the Home User Guide Operational Issues? ☑ Site and Surroundings? ☑ Is available in alternative formats? ☑	3 of 3 Credits	-	
Man 2 Considerate Constructors Scheme	Credits are awarded where there is a commitment to comply with best practice site management principles using either the Considerate Constructors Scheme or an alternative locally/ nationally recognised scheme. Select the appropriate scheme and score No scheme used ○ Considerate Constructors OR Best Practice ○ OR Significantly Beyond Best Practice ◉ Alternative Scheme* OR Mandatory + 50% optional requirements ○ OR Mandatory + 80% optional requirements ○ * In the first instance, contact a Code Service Provider if you are considering to use an alternative scheme.	2 of 2 Credits	-	
Man 3 Construction Site Impacts	Credits are awarded where there is a commitment and strategy to operate site management procedures on site as following: Tick the impacts that will be addressed Monitor, report and set targets, where applicable, for: - CO_2/ energy use from site activities ☑ - CO_2/ energy use from site related transport ☐ - water consumption from site activities ☑ Adopt best practice policies in respect of: - air (dust) pollution from site activities ☑ - water (ground and surface) pollution on site ☐ 80% of site timber is reclaimed, re-used or responsibly sourced ☑	2 of 2 Credits	-	

Issue		Credits	Level	Assumptions Made
Man 4 Security	Credits are awarded for complying with Section 2 - Physical Security from Secured by Design - New Homes. An Architectural Liaison Officer (ALO), or alternative, needs to be appointed early in the design process and their recommendations incorporated. Secured by Design Compliance Credit not sought ○ OR Secured by Design Section 2 Compliance ◉	2 of 2 Credits	-	

CATEGORY 9 ECOLOGY	Overall Level: 4	Overall Score	73.17	Assumptions Made
% of Section Credits Predicted: 77.00%		Credits	Level	
Contribution to Overall Score: 9.33 points		7 of 9 Credits	All Levels	

Issue		Credits	Level	Assumptions Made
Eco 1 Ecological Value of Site	One credit is awarded for developing land of inherently low value. Select the appropriate option Credit not sought ○ OR Land has ecological value ○ OR Land has low/ insignificant ecological value* ◉ * Low ecological value is determined either a) by using Checklist Eco 1 across the whole development site; or b) where an suitably qualified ecologist is appointed and can confirm or c) produces an independent ecological report of the site, that the construction zone is of low/ insignificant value; AND the rest of the development site will remain undisturbed by the works.	1 of 1 Credits	-	
Eco 2 Ecological Enhancement	A credit is awarded where there is a commitment to enhance the ecological value of the development site. Tick the appropriate boxes Will a *Suitably Qualified Ecologist* be appointed to recommend appropriate ecological features? ☑ AND Will all key recommendations be adopted? ☑ AND 30% of other recommendations be adopted? ☑	1 of 1 Credits	-	
Eco 3 Protection of Ecological Features	A credit is awarded where there is a commitment to maintain and adequately protect features of ecological value. Type and protection of existing features Site with features of ecological value? ○ OR Site of low ecological value (as Eco 1)? ◉ AND All* existing features potentially affected by site works are maintained and adequately protected? ☐ *If a suitably qualified ecologist has confirmed that a feature can be removed due to insignificant ecological value or poor health conditions, as long all the rest have been protected, then this box can be ticked.	1 of 1 Credits	-	
Eco 4 Change of Ecological Value of Site	Credits are awarded where the change in ecological value has been calculated in accordance with the Code requirements and is calculated to be: Change in Ecological Value Major negative change: fewer than -9 ○ Minor negative change: between -9 and -3 ○ OR Neutral: between -3 and +3 ○ Minor enhancement: between +3 and +9 ◉ Major enhancement: greater than 9 ○	3 of 4 Credits	-	
Eco 5 Building Footprint	Credits are awarded where the ratio of combined floor area of all dwellings on the site to their footprint is: Ratio of Net Internal Floor Area: Net Internal Ground Floor Area Credit Not Sought ○ OR Houses: 2.5:1 OR Flats: 3:1 ◉ OR Houses: 3:1 OR Flats: 4:1 ○ OR Houses & Flats Weighted (2.5:1 & 3:1) ○ OR Houses & Flats Weighted (3:1 & 4:1) ○	1 of 2 Credits		

APPENDIX B: BREEAM PRE-ASSESSMENT

BREEAM UK New Construction 2014 Pre-Assessment Estimator

General information

BRE Assessment reference no.	to be confirmed
Client name	Stadium Capital Holdings
Building end user/occupier	Stadium Capital Holdings
Assessor name	Fenja Scarisbrick Jones
Assessor organisation	Metropolis Green

Building details

Building name	5171-Midland Crescent (Student Accomodation)
Country	England
Building type (main description)	Multi-Residential Accommodation
Building type (sub-group)	Multi-Residential - Halls of residence
Building floor area (GIA) m^2	2640
Building floor area (NIFA) m^2	2640
BREEAM scheme	New Construction
BREEAM version	2014 (SD5076)
BREEAM UK 2014 technical manual issue number	SD5076 Issue 1.0
Project type	New Construction (Fully fitted)
Assessment stage	Pre-Assessment
Location type	London Borough
If applicable, does this industrial building have a heated or cooled operational area?	Option not applicable to building type
Commercial/industrial refrigeration and storage systems	No
Building user transportation systems (lifts and/or escalators)	Yes
Laboratory function/area and size category	No laboratory
Laboratory containment level	No laboratory
Fume cupboard(s) and/or other containment devices	No
Unregulated water uses present? (e.g. vehicle wash system, irrigation)	No
If applicable, will this healthcare building house inpatients?	Option not applicable to building type
If applicable, does this industrial building have an office area?	Option not applicable to building type
If applicable, does this building contain areas requiring SAP assessment?	No
If SAP used, what proportion of the building's total floor area (GIA) does it apply to?	

BREEAM UK New Construction 2014 Pre-Assessment Estimator: Assessment Issue Scoring

Building name	5171-Midland Crescent (Student Accomodation)
Building score (%)	70.85%
Building rating	Excellent
Minimum standards level achieved	Excellent level

MANAGEMENT

Man 01 Project brief and design

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will stakeholder consultation (project delivery) take place?	Yes	1	1
Will stakeholder consultation (third party) take place?	No	1	0
Will a sustainability champion (design) be assigned?	Yes	1	1
Will a sustainability champion (monitoring progress) be assigned?	Yes	1	1

Total BREEAM credits achieved	3
Total contribution to overall building score	1.71%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Man 02 Life cycle cost and service life planning

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an elemental life cycle cost (LCC)analyses be carried out?	No	2	0
Will a component level LCC plan be developed?	No	1	0
Will the predicted capital cost be reported?	No	1	0
Expected capital cost of the project (if available)		£/m^2	

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Man 03 Responsible construction practices

No. of BREEAM credits available	6	Available contribution to overall score	3.43%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Is all site timber used in the project 'legally harvested and traded timber'?	Yes		
Will/does the principal contractor operate a compliant Environmental Management System?	Yes	1	1
Will a construction stage sustainability champion be assigned?	Yes	1	1
Will a considerate construction scheme be used by the principal contractor? (One credit where 'compliance' has been achieved. Two credits where 'compliance' is significantly exceeded.)	2	2	2
Will construction site impacts be metered/monitored?	Yes		
Will site utility consumption be metered/monitored?	Yes	1	1
Will transport of construction materials and waste be metered/monitored?	No	1	0
Will exemplary level criteria be met?	No	1	0

Total BREEAM credits achieved	5
Total contribution to overall building score	2.86%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Man 04 Commisioning and handover

No. of BREEAM credits available	4	Available contribution to overall score	2.29%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will commissioning schedule and responsibilities be developed & accounted for?	Yes	1	1
Will a commissioning manager be appointed?	Yes	1	1
Will the building fabric be commissioned?	No	1	0
Will a training schedule for building occupiers/managers at Handover?	Yes	1	1
Will a building user guide be developed prior to handover?	Yes		

Total BREEAM credits achieved	3
Total contribution to overall building score	1.71%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Man 05 Aftercare

No. of BREEAM credits available	3	Available contribution to overall score	1.71%

No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will aftercare support be provided to building occupiers?	Yes	1	1
Will seasonal commissioning occur over 12months once substantially occupied?	Yes	1	1
Will a post occupancy evaluation be carried out 1 year after occupation?	Yes	1	1
Will exemplary level criteria be met?	No	1	0

Total BREEAM credits achieved	3
Total contribution to overall building score	1.71%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

HEALTH & WELLBEING

Hea 01 Visual Comfort

No. of BREEAM credits available	4	Available contribution to overall score	3.33%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the design provide adequate glare control for building users?	Yes	1	1
Will relevant building areas be designed to achieve appropriate daylight factor(s)?	1	1	1
Will the design provide adequate view out for building users?	Yes	1	1
Will internal/external lighting levels, zoning and controls be specified in accordance with the relevant CIBSE Guides/British Standards?	Yes	1	1
Will exemplary level criteria be met?	No	1	0

Total BREEAM credits achieved	4
Total contribution to overall building score	3.33%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Hea 02 Indoor Air Quality

No. of BREEAM credits available	5	Available contribution to overall score	4.17%
No. of BREEAM innovation credits available	2	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an air quality plan be produced and building designed to minimise air pollution?	Yes	1	1
Will building be designed to minimise the concentration and recirculation of pollutants in the building?	Yes	1	1
Will the relevant products be specified to meet the VOC testing and emission levels required?	No	1	0
Will formaldehyde and total VOC levels be measured post construction?	No	1	0
Will the building be designed to, or have the potential to provide, natural ventilation?	No	1	0
Will exemplary level VOCs (products)criteria be met?	0	2	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Hea 03 Safe containment in laboratories

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will an objective risk assessment of proposed laboratory facilities' design be completed?			
Will the manufacture & installation of fume cupboards and containment devices meet best practice standards?			
Will containment level 2 & 3 labs meet best practice safety & performance criteria?			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Hea 04 Thermal comfort

No. of BREEAM credits available	3	Available contribution to overall score	2.50%

No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will thermal modelling of the design be carried out?	Yes	1	1
Will the building design be adapted for a projected climate change scenario?	Yes	1	1
Will the modelling inform the development of a thermal zoning and control strategy?	No	1	0

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Hea 05 Acoustic Performance

No. of BREEAM credits available	4	Available contribution to overall score	3.33%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Credits	Credits available	Credits achieved
Will the building meet the appropriate acoustic performance standards and testing requirements for: a. Sound insulation b. Indoor ambient noise level c. Reverberation times?	0	4	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Hea 06 Safety and Security

No. of BREEAM credits available	2	Available contribution to overall score	1.67%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Where external site areas are present, will safe access be designed for pedestrians and cyclists?	Yes	1	1
Will a suitably qualified security consultant be appointed and security considerations accounted for?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.67%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

ENERGY

Ene 01 Reduction of energy use and carbon emissions

No. of BREEAM credits available	12	Available contribution to overall score	7.83%
No. of BREEAM innovation credits available	5	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits achieved for this issue?	Enter building performance data into the Ene01 calculator

Ene 01 Calculator

Country of the UK where the building is located	England	Confirm building regulation and version to be used:	England Part L2A 2013

New Construction (Fully fitted)

Building floor area	2640	m2
Notional building heating and cooling energy demand	157.36	MJ/m2yr
Actual building heating and cooling energy demand	160.23	MJ/m2yr
Notional building primary energy consumption	142.85	kWh/m2yr
Actual building primary energy consumption	121.07	kWh/m2yr
Target emission rate (TER)	24.80	kgCO2/m2yr
Building emission rate (BER)	19.7	kgCO2/m2yr
Building emission rate improvement over TER	20.6%	
Heating & cooling demand energy performance ratio (EPR_{ED})	0.000	
Primary consumption energy performance ratio (EPR_{PC})	0.253	
CO_2 Energy performance ratio (EPR_{CO2})	0.232	
Overall building energy performance ratio (EPR_{NC})	0.485	

Where specified, please confirm the energy production from onsite or near site energy generation technologies	12.95

Equivalent % of the building's 'regulated' energy consumption generated by carbon neutral sources and used to meet energy demand from 'unregulated' building systems or processes?	
Is the building designed to be 'carbon negative' ?	
If the building is defined as 'carbon negative' what is the total (modelled) renewable/carbon neutral energy generated and exported?	

Total BREEAM credits achieved	6
Total contribution to overall building score	3.91%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Excellent level

Comments/notes:

Ene 02 Energy monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.65%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment criteria	Compliant?	Credits available	Credits achieved
Will a BMS or sub-meters be specified to monitor energy use from major building services systems?	Yes	1	1
Will a BMS or sub-meters be specified to monitor energy use by tenant/building function areas?			

Total BREEAM credits achieved	1
Total contribution to overall building score	0.65%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Ene 03 External lighting

No. of BREEAM credits available	1	Available contribution to overall score	0.65%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria	Compliant?	Credits available	Credits achieved
Will external light fittings and controls be specified in accordance with the BREEAM criteria?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.65%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 04 Low carbon design

No. of BREEAM credits available	3	Available contribution to overall score	1.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria	Compliant?	Credits available	Credits achieved
Will passive design measures be used in line with an analysis be carried out during concept design stage (RIBA stage 2 or equivalent)?	No	1	0
Will free cooling measures be implemented in the whole building in line with the passive design analysis?	No	1	0
Will a LZC technology be specified in line with a feasibility study carried out by the completion of the Concept Design stage (RIBA Stage 2 or equivalent)?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.65%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 05 Energy efficient cold storage

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved
Will the refrigeration system be designed, installed & commissioned in accrodance with BREEAM criteria?		N/A	N/A
Will the refrigeration system demonstrate a saving in indirect greenhouse gas emissions?		N/A	N/A

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 06 Energy efficient transportation systems

No. of BREEAM credits available	3	Available contribution to overall score	1.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved
Will a transportation system analysis be carried out to determine and specify the optimum number, size and type of lifts that is most energy efficient?	Yes	1	1
Will the relevant energy-efficient features criteria be met?	Yes	2	2

Total BREEAM credits achieved	3
Total contribution to overall building score	1.96%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 07 Energy efficient laboratory systems

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment criteria	Compliant?	Credits available	Credits achieved

Pre-requisite: Criterion 1 of Hea 03 - risk assessment of laboratory facilities			
Have the occupants' laboratory requirements & performance criteria been confirmed during the preparation of the initial project brief to minimise energy demand?			

Best Practice Energy Practices in Laboratories (table 27)			
Will the laboratory meet criteria item b) Fan power?			
Will the laboratory criteria item c) Fume cupboard volume flow rates?			
Will the lab meet item d) Grouping / isolation of high filtration/ventilation activities?			
Will the laboratory meet criteria item e) Energy recovery - heat?			
Will the laboratory meet criteria item f) Energy recovery - cooling?			
Will the laboratory meet criteria item g) Grouping of cooling loads?			
Will the laboratory meet criteria item h) Free cooling?			
Will the laboratory meet criteria item i) Load responsiveness?			
Will the laboratory meet criteria item j) Cleanrooms?			
Will the laboratory meet criteria item k) Diversity?			
Will the laboratory meet criteria item l) Room air-change rates?			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 08 Energy efficient equipment

No. of BREEAM credits available	2	Available contribution to overall score	1.30%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria

Which of the following will be present and likely to be a/the major contributor to 'unregulated' energy use?	Present	Major impact	
Ref A Small power and plug in equipment?	Yes	No	
Ref B Swimming pool?	No		
Ref C Communal laundry?	No		
Ref D Data centre?	No		
Ref E IT-intensive operation areas?	No		Select
Ref F Residential areas?	Yes	Yes	Req. F1 & F2
Ref G Healthcare?	No		
Ref H Kitchen and catering facilities?	No		

	Compliant	Credits available	Credits achieved
Will the significant majority contributor(s) to 'unregulated' energy use above meet the BREEAM criteria?	Yes	2	2

Total BREEAM credits achieved	2
Total contribution to overall building score	1.30%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Ene 09 Drying space

No. of BREEAM credits available	1	Available contribution to overall score	0.65%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment criteria	Compliant?	Credits available	Credits achieved
Will internal/external drying space and fixings be provided?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.65%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

TRANSPORT

Tra 01 Public Transport Accessibility

No. of BREEAM credits available	3	Available contribution to overall score	3.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra01 issue assessment)	Multi-Residential Accommodation

Assessment Criteria	Compliant	Credits available	Credits achieved
Indicative public transport accessibility index (AI):	18.00	3	3
Will the building have a dedicated bus service?			N/A

AI	Indicative Accessibility Index for pre-assessment
0	Poor or no public transport provision
1	A single BREEAM compliant public transport node available
2	Some BREEAM compliant public transport nodes/services available
4	A selection of BREEAM compliant public transport nodes/services available
8	Good provision of public transport i.e. small urban centre / suburban area
10	Very Good provision of public transport i.e. small/medium urban centre
12	Excellent provision of public transport, i.e. medium urban centre
18	Excellent provision of public transport, i.e. large urban/metropolitan city centre

Total BREEAM credits achieved	3
Total contribution to overall building score	3.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Tra 02 Proximity to Amenities

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the building be in close proximity of and accessible to applicable amenities?	Yes	2	2

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Tra 03 Cyclist facilities

No. of BREEAM credits available	1	Available contribution to overall score	1.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra03 issue assessment)	Student residences and key worker accommodation
How many compliant cycle storage spaces will be provided?	60

Assessment Criteria	Compliant?	Credits available	Credits achieved
Cycle storage spaces	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Tra 04 Maximum Car Parking Capacity

No. of BREEAM credits available	2	Available contribution to overall score	2.00%

No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Building type category (for purpose of Tra04 issue)	Student residences and key worker accommodation
Building's indicative Accessibility Index (sourced from issue Tra01)	18

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will BREEAM's maximum parking capacity criteria for the building type/Accessibility Index be met?	Yes	2	2

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Tra 05 Travel Plan

No. of BREEAM credits available	1	Available contribution to overall score	1.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a transport plan based on site specific travel survey/assessment be developed?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	1.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

WATER

Wat 01 Water Consumption

No. of BREEAM credits available	5	Available contribution to overall score	4.38%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define a target % improvement over baseline sanitary fittings

What is the target for % reduction in potable water consumption for sanitary use in the building?	40% - three credits

Please select the calculation procedure used	

Standard approach data

Water Consumption from building micro-components		L/person/day
Water demand met via greywater/rainwater sources		L/person/day
Total net water consumption		L/person/day
Improvement on baseline performance		%

Key Performance Indicator - use of freshwater resource

Total net Water Consumption		m3/person/yr
Default building occupancy		

Alternative approach data

Overall microcomponent performance level achieved	

Total BREEAM credits achieved	3
Total contribution to overall building score	2.63%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Wat 02 Water Monitoring

No. of BREEAM credits available	1	Available contribution to overall score	0.88%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will there be a water meter on the mains water supply to the building(s)?	Yes	1	1
Will metering/monitoring equipment be specified on the water supply to any relevant	Yes		
Will all specified water meters have a pulsed output?	Yes		
If the site/building has an existing BMS connection, will all pulsed meters be connected to the BMS?	N/A		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.88%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Wat 03 Water Leak Detection and Prevention

No. of BREEAM credits available	2	Available contribution to overall score	1.75%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a mains water leak detection system be installed on the building's mains water supply?	Yes	1	1
Will flow control devices be installed in each sanitary area/facility?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	1.75%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Wat 04 Water Efficient Equipment

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Has a meaningful reduction in unregulated water demand been achieved?			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

MATERIALS

Mat 01 Life Cycle Impacts

No. of BREEAM credits available	6	Available contribution to overall score	5.79%
No. of BREEAM innovation credits available	3	Minimum standards applicable	No

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define the number of Mat 01 credits achieved

Assessment Criteria

Predicted total Mat01 credits achieved	4
Predicted total Mat01 points achieved	
Number of building elements assessed	
Green Guide exemplary level compliant?	No
Has IMPACT compliant software been used?	No

Total BREEAM credits achieved	4
Total contribution to overall building score	3.86%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Mat 02 Hard Landscaping and Boundary Protection

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will ≥80% of all external hard landscaping and boundary protection achieve a Green Guide A or A+ rating?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.96%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Mat 03 Responsible Sourcing

No. of BREEAM credits available	4	Available contribution to overall score	3.86%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

Assessment Criteria	Compliant	Credits available	Credits achieved
All timber and timber based products are 'Legally harvested and trader timber'	Yes		

Is there a documented sustainable procurement plan?	Yes	1	1
Percentage of available responsible sourcing of materials points achieved	18.00%	3	1

Please confirm the route used to assess Mat03	Please select

Total BREEAM credits achieved	2
Total contribution to overall building score	1.93%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Mat 04 Insulation

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria		Credits available	Credits achieved	
What is the building's targeted insulating index?	2.50	1	1	Note: An insulatio

Total BREEAM credits achieved	1
Total contribution to overall building score	0.96%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Mat 05 Designing for durability and resilience

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will suitable durability/protection measures be specified and installed to vulnerable areas of the building?	Yes	1	1

Will suitable durability/protection measures be specified and installed to exposed parts of the building?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.96%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Mat 06 Material efficiency

No. of BREEAM credits available	1	Available contribution to overall score	0.96%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will material efficiency measures be identified & implemented during all RIBA stages?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.96%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

WASTE

Wst 01 Construction Waste Management

No. of BREEAM credits available	4	Available contribution to overall score	4.25%
No. of BREEAM innovation credits available	1	Minimum standards applicable	Yes

How do you wish to assess the number of BREEAM credits to be achieved for this issue?	Define a target number of BREEAM credits		
Select the number of BREEAM credits being targeted for issue Wst 01:	3	BREEAM Wst01 Innovation credits:	0

Assessment Criteria	Compliant?
Construction resource management plan	
Compliant Pre-demolition audit	
Does the excavation waste meet the exemplary level requirements?	

Key Performance Indicators - Construction Waste

Measure/units for the data being reported		
Non-hazardous construction waste (excluding demolition/excavation)		
Total non-hazardous construction waste generated		Note: At the pre-assessment stage this
Non-hazardous non-demolition const. waste diverted from landfill		Note: At this stage this will be a target b
Total non-hazardous non-demolition const. waste diverted from landfill		Note: At the pre-assessment stage this
Total non-hazardous demolition waste generated		Note: At this stage this will be a target b
Non-hazardous demolition waste diverted from landfill		Note: At this stage this will be a target b
Total non-hazardous demolition waste to disposal		Note: At the pre-assessment stage this
Material for reuse		Note: At this stage this will be a target b
Material for recycling		Note: At this stage this will be a target b
Material for energy recovery		Note: At this stage this will be a target b
Hazardous waste to disposal		Note: At this stage this will be a target b

Total BREEAM credits achieved	3
Total contribution to overall building score	3.19%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	Outstanding level

Comments/notes:

Wst 02 Recycled Aggregates

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	1	Minimum standards applicable	No

Assessment Criteria	Total
What is the target total % of high-grade aggregate that will be recycled/secondary aggregate?	25%

% of high-grade aggregate that is recycled/secondary aggregate - by application

Structural frame	N/A
Bitumen/hydraulically bound base, binder and surface courses	N/A
Building foundations	N/A
Concrete road surfaces	N/A
Pipe bedding	N/A
Granular fill and capping	N/A

Total BREEAM credits achieved	1
Total contribution to overall building score	1.06%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Wst 03 Operational Waste

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will operational recyclable waste volumes be segregated and stored?	Yes	1	1
Will static waste compactor(s) or baler(s) be specified where appropriate?	N/A		
Will vessel(s) for composting suitable organic waste where appropriate?	Yes		
Will Internal and, if applicable, communal storage & home compost facilities be provided?	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.06%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

Wst 04 Speculative Floor and Ceiling Finishes

Assessment issue not applicable

No. of BREEAM credits available	N/A	Available contribution to overall score	N/A
No. of BREEAM innovation credits available	N/A	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
[illegible]			

Total BREEAM credits achieved	N/A
Total contribution to overall building score	N/A
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Wst 05 Adaption to climate change

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	1	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a climate change adaptation strategy appraisal for structural and fabric resilience be conducted by the end of Concept Design (RIBA Stage 2 or equivalent)?	Yes	1	1

Will emexplary level criteria – Responding to adaptation to climate change be met?	No	1	0

Total BREEAM credits achieved	1
Total contribution to overall building score	1.06%
Total BREEAM innovation credits achieved	0
Minimum standard(s) level	N/A

Comments/notes:

Wst 06 Functional adaptability

No. of BREEAM credits available	1	Available contribution to overall score	1.06%
No. of BREEAM innovation credits available	0	Minimum standards applicable	N/A

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a building specific functional adaptation strategy appraisal be conducted by Concept Design (RIBA Stage 2 or equivalent) and will functional adaptation measures be implemented?	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	1.06%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

LAND USE & ECOLOGY

LE 01 Site Selection

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will at least 75% of the proposed development's footprint be located on previously occupied land?	No	1	0
Is the site deemed to be significantly contaminated?	No	1	0

Total BREEAM credits achieved	0
Total contribution to overall building score	0.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

LE 02 Ecological Value of Site and Protection of Ecological Features

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Can the land within the construction zone be defined as 'land of low ecological value'?	Yes	1	1
Will all features of ecological value surrounding the construction zone/site boundary be protected?	Yes	1	1

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

LE 03 Mitigating Ecological Impact

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	Yes

Assessment Criteria

What is the likely change in ecological value as a result of the sites development?	≥0 species (i.e. no negative change)	Plant species richn

Total BREEAM credits achieved	2
Total contribution to overall building score	2.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	Outstanding level

Comments/notes:

LE 04 Enhancing Site Ecology

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved	
Will a suitably qualified ecologist be appointed to report on enhancing and protecting site ecology?	Yes	2	1	
Will the suitably qualified ecologist's general recommendations be implemented?	Yes			
What is the targeted/intended improvement in ecological value as a result of enhancement actions?	<6 species (small positive change)			Plant species richr

Total BREEAM credits achieved	1
Total contribution to overall building score	1.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

LE 05 Long Term Impact on Biodiversity

No. of BREEAM credits available	2	Available contribution to overall score	2.00%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will a Suitably Qualified Ecologist be appointed to monitor/minimise impacts of site activities on biodiversity?	Yes	2	1
Will a landscape and habitat management plan be produced covering at least the first five years after project completion in accordance with British Standards?	Yes		
Number of applicable measures to improve biodiversity confirmed by SQE:	4		
Number of applicable measures implemented:	3		

Total BREEAM credits achieved	1
Total contribution to overall building score	1.00%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

POLLUTION

Pol 01 Impact of Refrigerants

No. of BREEAM credits available	3	Available contribution to overall score	2.31%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria		Credits available	Credits achieved
Refrigerant containing systems installed in the assessed building?	No	3	3
Do all systems (with electric compressors) comply with the requirements of BS EN 378:2008 (parts 2 & 3) & where refrigeration systems containing ammonia are installed, the IoR Ammonia Refrigeration Systems Code of Practice?			
Global Warming Potential of the specified refrigerant(s) 10 or less?			
What is the target range Direct Effect Life Cycle CO2eq. emissions for the system?		kgCO2eq/kW coolth capacity	
Cooling/Heating capacity of the system		kW	
Will a refrigerant leak detection and containment system be specified/installed?		0	0

Total BREEAM credits achieved	3
Total contribution to overall building score	2.31%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Pol 02 NO_x Emissions

No. of BREEAM credits available	3	Available contribution to overall score	2.31%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria

NO_x emission level - space heating	39.00	mg/kWh
NOx emission level - water heating	0.00	mg/kWh
Does this building meet BREEAM's definition of a highly insulated building?	N/A	
Energy consumption: heating and hot water	40.00	kWh/m2/yr

Total BREEAM credits achieved	3
Total contribution to overall building score	2.31%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Pol 03 Surface Water Run off

No. of BREEAM credits available	5	Available contribution to overall score	3.85%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
What is the actual/likely annual probability of flooding for the assessed site?	Low	2	2
Will a Flood Risk Assessment be undertaken?	Yes		
Will the site meet the BREEAM criteria for peak rate surface water run off?	No	1	0
Will the site meet the criteria for surface water run off volume, attenuation and/or limiting discharge?	No	1	0
Will the site be designed to minimise watercourse pollution in accordance with the BREEAM criteria?	Yes	1	1

Total BREEAM credits achieved	3
Total contribution to overall building score	2.31%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Pol 04 Reduction of Night Time Light Pollution

No. of BREEAM credits available	1	Available contribution to overall score	0.77%

No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Will the external lighting specification be designed to reduce light pollution?	Yes	1	1

Total BREEAM credits achieved	1
Total contribution to overall building score	0.77%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

Pol 05 Noise Attenuation

No. of BREEAM credits available	1	Available contribution to overall score	0.77%
No. of BREEAM innovation credits available	0	Minimum standards applicable	No

Assessment Criteria	Compliant	Credits available	Credits achieved
Will there be noise-sensitive areas/buildings within 800m radius of the development?	Yes	1	1
Will a noise impact assessment be carried out and, if applicable, noise attenuation measures specified?	Yes		

Total BREEAM credits achieved	1
Total contribution to overall building score	0.77%
Total BREEAM innovation credits achieved	N/A
Minimum standard(s) level	N/A

Comments/notes:

INNOVATION

Inn 01 Innovation

No. of BREEAM innovation credits available	10	Available contribution to overall score	10.00%
		Minimum standards applicable	No

Assessment Criteria	Compliant?	Credits available	Credits achieved
Man 03 Responsible construction practices	No	1	0
Man 05 Aftercare	No	1	0
Hea 01 Visual Comfort	No	1	0
Hea 02 Indoor Air Quality	No	2	0
Ene 01 Reduction of energy use and carbon emissions	Yes	5	0
Wat 01 Water Consumption	No	1	0
Mat01 Life Cycle Impacts	No	3	0
Mat03 Responsible Sourcing of Materials	No	1	0
Wst01 Construction Waste Management	No	1	0
Wst02 Recycled Aggregates	No	1	0
Wst 05 Adaption to climate change	No	1	0

Number of 'approved' innovation credits achieved?	
Total BREEAM innovation credits achieved	0
Total contribution to overall building score	0.00%
Minimum standard(s) level	N/A

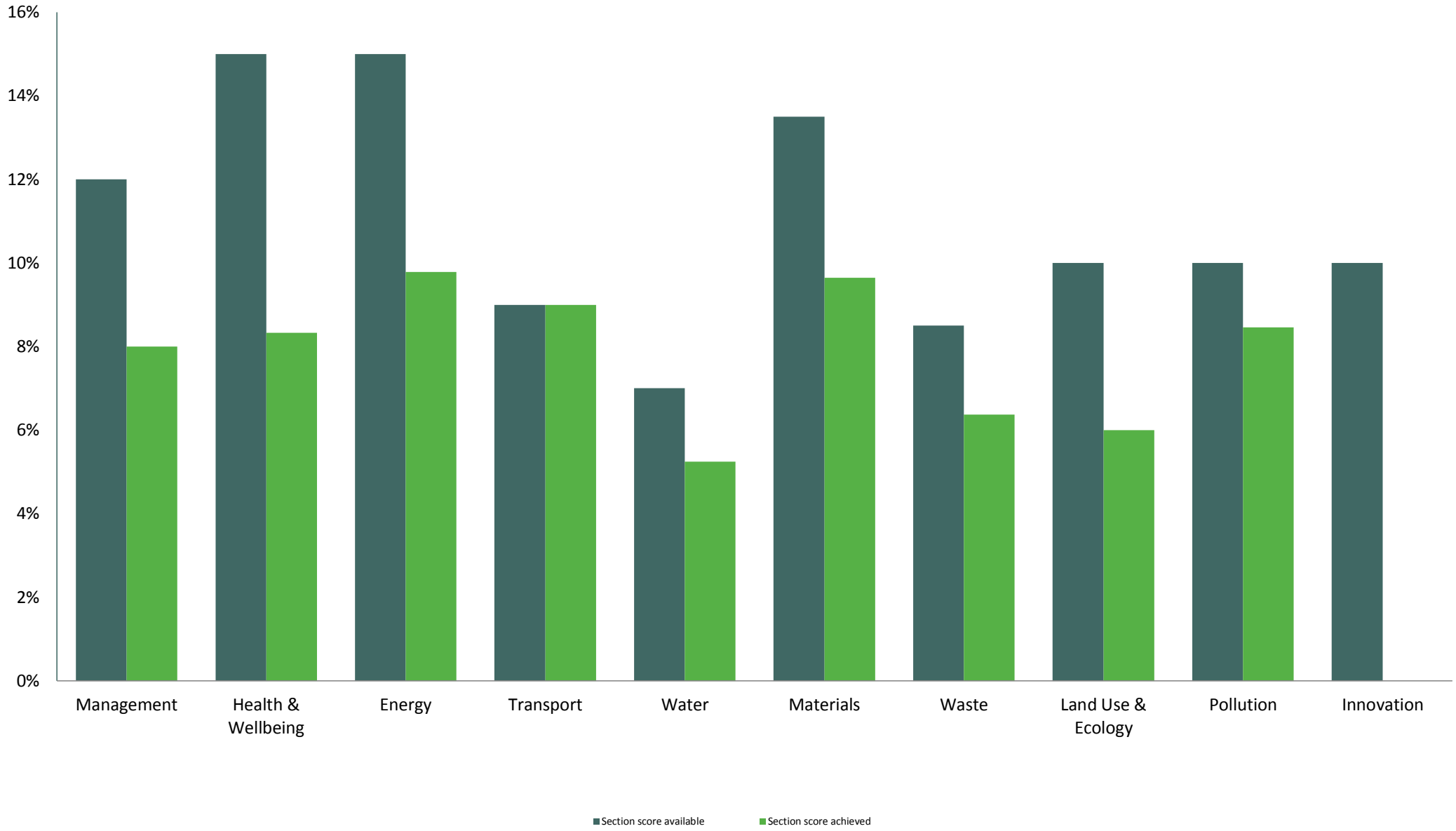
Comments/notes:

BREEAM UK New Construction 2014 Pre-Assessment Estimator: Indicative Rating & Building Performance

Overall Building Performance

Building name	5171-Midland Crescent (Student Accomodation)
Indicative BREEAM rating	Excellent
Indicative Total Score	70.8%
Min. standards level achieved	Excellent level

Building Performance by Environment Section



Environmental Section	No. credits available	Indicative no. credits Achieved	% credits achieved	Section Weighting	Indicative Section Score
Management	21	14	66.7%	12.0%	8.0%
Health & Wellbeing	18	10	55.6%	15.0%	8.3%
Energy	23	15	65.2%	15.0%	9.8%
Transport	9	9	100.0%	9.0%	9.0%
Water	8	6	75.0%	7.0%	5.3%
Materials	14	10	71.4%	13.5%	9.6%
Waste	8	6	75.0%	8.5%	6.4%
Land Use & Ecology	10	6	60.0%	10.0%	6.0%
Pollution	13	11	84.6%	10.0%	8.5%
Innovation	10	0	0.0%	10.0%	0.0%

BREEAM UK New Construction 2014 Pre-Assessment Estimator: Ver

Version	Release Date	Description of changes/additions made to the BREEA
Current Version		
1.00	06/08/2014	First version uploaded to Extranet

rsion Control

BREEAM® UK

AM UK NC 2014 Pre-Assessment Estimator Tool