SUSTAINABILITY STATEMENT

NEW OXFORD STREET
LONDON

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APPENDICES

1.0 EXECUTIVE SUMMARY

In May 2015, Triangle acquired the site which is bounded by New Oxford Street, Museum Street and West Central Street, with the view of redeveloping and refurbishing the site for a mixed use consisting of residential, retail, leisure and offices. A number of existing façades and architectural details within the development will be restored.

The proposals are a sensitive and well-crafted response to this and would deliver 21 new homes and many new jobs, through improved retail, leisure and office space. Importantly, a number of existing façades and architectural details within the development will be restored.

The refurbishment will result in the provision of;

- 21 new dwellings
- 815 m^2 retail (A1-A5) space
- 402 m^2 office (B1a) space
- 383 m^2 leisure space

The development will also include 44 cycle storage spaces and no new car parking facilities.

The design for the scheme has been developed with sustainable design principles at its core. An integrated and holistic approach to design has been adopted and this document contextualises the process by which sustainability has been addressed as part of the project.

The Sustainability Strategy aims to:

- Match or exceed today's requirements
- Anticipate tomorrow's needs
- Adapt and remain relevant into the future

In supporting this strategy a number of legislative policies have been used to inform design decisions.

This document identifies how the Proposed Development will meet the objectives of the London Plan Policy 5.3 Sustainable Design and Construction, and the principles outlined in the Mayor of London's Supplementary Planning Guidance. This document requires Local Authorities to ensure future developments meet the highest standards of sustainable design and construction and reflect this principle in UDP policies.

Pre-assessments have been carried out to assess the Proposed Development possible score under BREEAM 2012 Domestic Refurbishment for residential areas and BREEAM non domestic refurbishment 2014 for non-domestic assets. The pre-assessments corroborate the Proposed Development sustainability credentials, showing the design is on target to meet BREEAM 'Very Good' for the commercial element and BREEAM 'Excellent' for the residential element.

2.0 INTRODUCTION

This document has been produced to address how the sustainability vision will be met in terms of demolition, refurbishment and long-term management of 34-41 New Oxford Street, 10-12 Museum Street and 16A – 18 West Central Street. It is structured following the objectives of the London Plan Policy 5.3 Sustainable Design and Construction, and the principles outlined in the Mayor of London's Supplementary Planning Guidance.

The proposal is to be submitted to The London Borough of Camden as part of a full planning application.

The design for the scheme has been developed with sustainable design principles at its core. An integrated and holistic approach to design has been adopted and this document contextualises the process by which sustainability has been addressed as part of the project.

The Sustainability Strategy aims to:

- Match or exceed today's requirements
- Anticipate tomorrow's needs
- Adapt and remain relevant into the future

3.0 POLICY BACKGROUND

This section outlines the policies which have been used to inform design decisions for the Proposed Development.

- The UK Government Sustainable Development Strategy
- National Planning Policy Framework and Relevant Planning Policy Guidance documents (PPS 10)
- The London Plan July 2011 (including 2013 REMA & 2015 FALP)
- The London Plan Supplementary Planning Guidance, April 2014
- City of Westminster Planning Policy

3.1 Government Policy

UK Government Strategy for Sustainable Development

In 1999, the UK Government published its initial strategy for sustainable development, '*A Better Quality of Life: A Strategy for Sustainable Development in the UK*.' This has four main objectives:

- Social progress which recognises the needs of everyone;
- Effective protection of the environment;
- Prudent use of natural resources; and
- Maintenance of high and stable levels of economic growth and employment.

The Sustainable Development Task Force reviewed this Strategy and a revised UK Government Sustainable Development Strategy "*Securing the Future*" was put into place on 7 March 2005.

A range of environmental and planning legislation and fiscal instruments for specific issues supports the UK Government Sustainable Development Strategy. For example, the Climate Change Levy, the Landfill Tax and the Environmental Protection Act. The UK Government's Sustainable Development Strategy is disseminated throughout its own estates through a variety of strategies.

This is also being delivered at a local level through Local Authorities' Unitary Development Plans and Local Development Plans.

3.2 National Planning Policy Framework and Planning Policy Statements

National Planning Policy Framework (March 2012)

The National Planning Policy Framework sets out the Government's planning policies on the delivery of sustainable development through the planning system. It replaces the following documents: *Planning Policy Statement 1: Delivering Sustainable Development (January 2005), Planning Policy Statement 9: Biodiversity and Geological Conservation (August 2005), Planning Policy Guidance 13: Transport (January 2011), Planning Policy Statement 22: Renewable Energy (August 2004), Planning Policy Statement 23: Planning and Pollution Control (November 2004), Planning Policy Guidance 24: Planning and Noise (October 1994), Planning Policy Statement 25: Development and Flood Risk (March 2010)*

3.3 Greater London Authority (GLA) Planning Guidance Documents

The London Plan 2015 (March 2015)

The London Plan is the strategic plan setting out an integrated social, economic and environmental framework for the future development of London, looking forward 15–20 years.

It integrates the physical and geographic dimensions of the Mayor's other strategies, including broad locations for change and providing a framework for land use management and development, which is strongly linked to improvements in infrastructure, especially transport.

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

The Supplementary Planning Guidance provides detail on the policies in the London Plan, which promote sustainable design and construction. It provides details and guidance to support developers to achieve sustainable development in line with London Plan Policy 5.3.

3.4 Local Authority Planning Guidance Documents

Camden Core Strategy 2010 – 2025

The core strategy of the London Borough of Camden sets out to manage the council's growth to encourage sustainability, meet the needs of homes, jobs and services and; protect and enhance the quality of life. This section focuses on the delivery of core strategies concerned with sustainable practices including:

CS13 – Tackling climate change through promoting higher environmental standards
CS15 – Protecting and improving our parks and open spaces and encouraging biodiversity

Camden Development Strategy 2010 -2015

Camden Development Policies forms part of the Council's Local Development Framework (LDF), the group of documents setting out our planning strategy and policies. The Development strategy includes more detailed policies designed to realise the Core Strategy. There are a number of sustainability related policies the most pertinent of which is DP22 and covering sustainable design and construction;

DP22. Promoting sustainable design and construction

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

a) Demonstrate how sustainable development principles, including the relevant measures have been incorporated into the design and proposed implementation; and

b) Incorporate green or brown roofs and green walls wherever suitable. The Council will promote and measure sustainable design and construction by:

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

d) Expecting developments (except new build) of 500 sq m of residential floorspace or above or 5 or more dwellings to achieve “very good” in EcoHomes assessments prior to 2013 and encouraging “excellent” from 2013;

e) Expecting non-domestic developments of 500sqm of floorspace or above to achieve “very good” in BREEAM assessments and “excellent” from 2016 and encouraging zero carbon from 2019.

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

f) Summer shading and planting;

g) Limiting run-off;

h) Reducing water consumption;

i) Reducing air pollution; and

j) Not locating vulnerable uses in basements in flood-prone areas.

Camden Planning Guidance Sustainability (July 2015)

The latest version of the Supplementary Planning policy requires; BREEAM ‘Excellent’ for Domestic Refurbishment from 2013 onwards and, all other BREEAM Non domestic to achieve a ‘Very Good’ rating between 2010-2015 and an ‘Excellent’ rating from 2016. The guidance also includes minimum standards for energy water and materials.

Local Plan (Draft) 2015 (of minor material consideration)

Green Action for Change: Camden’s environmental sustainability plan (2011- 2020) commits Camden to a 27% borough wide carbon dioxide (CO2) reduction by 2017 and a 40% borough wide CO2 reduction by 2020 (London carbon reduction target). Over 90% of Camden’s CO2 emissions are produced by the operation of buildings. Annual CO2 emission data provided by Government (Department for Energy and Climate Change, 2014) consistently show that approximately 65% of Camden’s CO2 emissions stem from non-domestic buildings, with a further 25% generated by housing. The remaining 10% of Camden’s emissions are caused by transport.

The policies relating to energy and sustainability are summarised below:

Policy CC1 Climate change mitigation

a. Require all development proposals of five or more dwellings and/or 500m sq of any floor space to show in an energy statement how the energy hierarchy has been applied;

b. Ensure that the location of development and mix of land uses minimises the need to travel by car and help support local energy networks;

c. Support and encourage sensitive energy efficiency improvements to existing buildings; and

d. Ensure that developments maximise resource efficiency. We will promote local energy generation 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); and

g. Requiring all major developments to assess the feasibility of establishing a decentralised energy network or connecting to an existing network. We 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.

Policy CC2 Adapting to climate change

The Council will require development to be resilient to climate change. We will ensure that schemes include appropriate climate change adaptation measures, such as:

a. Protecting existing green spaces and promoting new appropriate green infrastructure;

b. Not increasing and wherever possible reducing surface water run-off;

c. Incorporate green roofs, combination green and blue roofs and green walls where appropriate; and

d. Measures to reduce the impact of urban and dwelling overheating. Sustainable design and construction We will promote and measure sustainable design and construction by:

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

f. Expecting new build housing to meet Code for Sustainable Homes Level 4 and Code Level 6 (zero carbon) by 2016 or future replacement standards;

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

h. Expecting non-domestic developments of 500sqm of floor space or above to achieve “excellent” in BREEAM assessments from 2016 and encouraging zero carbon in new development from 2019

Policy CC3 Water and flooding

a. Considers the impact of development on Local Flood Risk Zones (including drainage);

b. Does not locate vulnerable development (such as basements dwellings) in flood-prone areas;

c. Achieves a greenfield run-off rate or, where this is not possible, achieve runoff rates that do not exceed those predevelopment;

d. Incorporates water efficiency measures; and

e. Avoids harm to the water environment and water quality. Development should not increase flood risk and should reduce the risk of flooding where possible. Where an assessment of flood risk is required, developments should consider surface water flooding in detail and groundwater flooding where applicable.

Policy CC4 Air quality

a. Protecting existing green spaces and promoting new appropriate green infrastructure;

b. Not increasing and wherever possible reducing surface water run-off;

c. Incorporate green roofs, combination green and blue roofs and green walls where appropriate; and

d. Measures to reduce the impact of urban and dwelling overheating. Sustainable design and construction We will promote and measure sustainable design and construction by:

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

g. Expecting new build housing to meet Code for Sustainable Homes Level 4 and Code Level 6 (zero carbon) by 2016 or future replacement standards;

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

i. Expecting non-domestic developments of 500sqm of floorspace or above to achieve “excellent” in BREEAM assessments from 2016 and encouraging zero carbon in new development from 2019.

Policy CC5 Waste

a. Aim to reduce the amount of waste produced in the borough and increase recycling and the re-use of materials to meet the London Plan targets of 50% of household waste recycled/composted by 2020 and aspiring to achieve 60% by 2031;

b. Deal with North London’s waste by working with our partner boroughs in North London to produce a Waste Plan, which will ensure that sufficient land is allocated to manage the amount of waste apportioned to the area in the London Plan;

c. Safeguard Camden’s existing waste site at Regis Road unless a suitable compensatory waste site is provided that replaces the maximum throughput achievable at the existing site; and

d. Make sure that developments include facilities for the storage and collection of waste and recycling.

4.0 ADDITIONAL POLICY REFERENCES

British Research Establishment Environmental Assessment Method BREEAM New Construction 2014

BREEAM is being used as a benchmarking tool in the design of non-commercial areas. The aim of BREEAM is to estimate the environmental impact of buildings.

BREEAM New Construction 2014 awards credits in relation to the following construction, design and procurement options:

- Management – commissioning, education and training of building users
- Health and Wellbeing – ventilation, daylighting, occupant controls
- Energy – carbon emissions, heating and lighting control, energy monitoring, use of daylight, provision of shading
- Transport – car parking provision, cyclist facilities, public transport nodes, distance to local amenities, green transport plan
- Water – leak detection, water meters, low flush toilets and grey water use
- Materials – specification of building materials and prohibition of hazardous substances
- Land-use and Ecology – use of contaminated land and change in ecological value, protection of ecological features and protection of natural habitats
- Pollution – pollution monitoring, ozone depleting substances, NOx emission rates, noisepollution

A pre-assessment against **Non-Domestic** BREEAM Refurbishment 2014 has been carried out for the **commercial** element of the Proposed Development showing a score of **61.95%** and suggests that the required BREEAM rating of **'Very Good'** can be achieved with **70.5%** of available energy credits achieved and **46%** of available material credits achieved. As the commercial element is built as a shell water credits are not included within the scope of the BREEAM assessment.

In addition a pre-assessment against **Domestic** BREEAM Refurbishment 2014 has been carried out for the **residential** element of the Proposed Development a score of **77.72%** and suggests that the required BREEAM rating of **'Excellent'** can be achieved with **81%** of available energy credits achieved, **80%** of available water credits achieved and **56%** of available material credits achieved.

The pre-assessments can be found in Appendix A of this document.

5.0 SUSTAINABLE DESIGN

This section formally outlines how the development will meet the objectives of the London Policy Plan 5.3 Sustainable Design and Construction, outlined in the Mayor of London's Supplementary Planning Guidance.

5.1 Policy 5.3 Sustainable design and construction

The Mayor will, and boroughs should, ensure future developments meet the highest standards of sustainable design and construction and reflect this principle in UDP or LDF policies.

These will include measures to:

- Minimise carbon dioxide emissions across the site, including the building and services (such as heating and cooling systems)
- Avoiding internal overheating and contributing to the urban heat island effect
- Efficient use of natural resources (including water), including making the most natural systems both within and around buildings
- Minimising pollution (including noise, air and urban run-off)
- Minimising the generation of waste and maximising reuse or recycling
- Avoiding impacts from natural hazards (including flooding)
- Ensuring developments are comfortable and secure for users, including avoiding the creation of adverse local climatic conditions
- Securing sustainable procurement of materials, using local supplies where feasible
- Promoting and protecting biodiversity and green infrastructure

5.2 Sustainable Design and Construction SPG (April 2014):

The guidance establishes that major developments should meet the Mayor's Priorities outlined in the Supplementary Planning Guidance. The document also set out best practice ambitions for several topic areas.

This report addresses each of these topic areas, identifying how the development meets the Mayor's Priorities and where feasible the Mayor's Best Practice. Where any Mayor's Priorities have not been achievable, these reasons have been identified.

5.3 Land (SPG section 2.2)

Optimising the use of land	Development Response
Mayor's Priorities 1. Through both their Local Plans and planning decisions, boroughs should ensure development patterns reflect the strategic spatial vision for London's growth as set out in Chapter 2 of the London Plan. 2. Through both their Local Plans and planning decisions, boroughs should aim for 100% of development to be delivered on previously developed land. 3. Developers should optimise the scale and density of their development, considering the local context, to make efficient use of London's limited land.	The Proposed Development is refurbishment wholly on previously developed land. The site is 100% brown-field and no green-field development is proposed. It will provide 21 residential dwellings (Class C3), 815m^2 retail (A1-A5) space, 402m^2 office (B1a) space and 383m^2 leisure spaces. The development will also include 44 cycle storage spaces and no new car parking facilities. The building design will ensure that the use of floor space is optimised, balancing the need to create a building with sufficient floor area, whilst ensuring that the building design/massing is in keeping with the surrounding buildings. The development is located in an area with excellent public transport connections and ties into existing pedestrian and cycle routes, and is able to support an increase in density on the site. Therefore, in line with the Mayor's principle: *'Make best use of all developable land by increasing density'*, the Proposed Development density has been maximised.
Basements and lightwells	**Development Response**
Mayor's Priorities 4. 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. 5. When planning and constructing a basement development, developers should consider the amenity of neighbours. **Mayor's Best Practice** 6. Where there is pressure for basement developments, boroughs should consider whether there are any particular local geological or hydrological issues that could particularly effect their construction, and adopt appropriate policies to address any local conditions.	The basement will be wholly retained with retained foundations with minimal additional underpinning and some levelling and a new stair case. [Please see Mason Navarro pledge Structural Methodology Statement for further details]

5.4 Site layout and building design (SPG section 2.3)

Site layout and design	Development Response
Mayor's Priorities 1. 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 retention of existing green infrastructure, including trees and potential for its improvement and extension; • access routes to public transport and other facilities that minimise the use of public transport; New design of development • the existing landform; • the potential to take advantage of natural systems such as wind, sun and shading; • the principles sets out London Plan policies 7.1 and 7.6; • the potential for adaption and reuse in the future; • potential for incorporating green infrastructure; • potential for incorporating open space, recreation space, child play space; • energy demands and the ability to take advantage of natural systems and low and zero carbon energy sources; • site wide infrastructure; • access to low carbon transport modes; • potential to address any local air quality, noise disturbance, flooding and land contamination issues; and • The potential effect on the micro-climate. **Mayor's Best Practice** 1. Any existing buildings that can be practically refurbished, retrofitted, altered, or extended should be retained and reused. 2. A mix of uses, where suitable should be included to provide a range of services commensurate to the public transport accessibility	The Proposed Development is a refurbishment with elements of extension and infill. Mason Navarro Pledge has undertaken a study to maximise the amount of retained structure whilst maximising the efficiency and flexibility of the floor area. As a result the existing facade and floors are to be retained on 10-12 Museum Street. The basement will be wholly retained with retained foundations with minimal additional underpinning and some levelling and a new stair case. [Please see Mason Navarro pledge Structural Methodology Statement for further details] The Institute of Civil Engineers (ICE) Demolition Protocol will be followed to ensure that the potential for reusing and recycling the materials currently on site will be maximised where practical. A full survey will be undertaken to review where materials can be reused on site e.g. aggregates and where they can be recycled as locally as possible. More information on this is provided in Section 2.7: Materials and waste. Due to the sensitive nature of the site, there are a number of issues which have been taken into account by the design team when determining the height and massing of the proposed building. These include privacy, light pollution and overshadowing issues to the neighbouring buildings, micro-climatic effects due to wind flow. The development is located in an area with excellent public transport connections and ties into existing pedestrian and cycle routes, and is able to support an increase in density on the site and the mix of services proposed for the redevelopment. A travel plan will be produced for the site, which advises on public transport links, cycle routes and facilities and opportunity for walking in the area, in order to encourage alternative forms of transport to and from the development. The following bicycle facilities will be provided: • A total of 44 bicycle spaces will be provided within the development. • The site is located close to several docking stations for the London Cycle Hire scheme. The aspiration of the design is to create a simple, efficient and flexible building that will make maximum use of the natural resources available and reduce reliance on mechanical systems where possible, considering orientation, massing, thermal mass, shading, etc. The development experiences a range of wind conditions, which are generally in keeping with the intended use of the site from sitting to leisure walking. Any areas which have been identified as having conditions outside of recommendations for outdoor use will be addressed as part of the design of the site. Where new facades are being introduced they have been chosen to be sensitive to the conservation area however also to optimise the benefits of natural daylight into the building, whilst controlling solar gains and heat losses The internal layouts have been developed following the principles of good design. The building will be designed to be thermally highly efficient via energy efficient building fabric whilst balancing overheating risks with facade design and adaptation. The London Borough of Camden is characterised by contrasting areas of tranquillity and congestion. By reinvigorating the existing site, and creating a new residential, leisure and retail destination, it is hoped that the Proposed Development site can integrate itself back into the locality. The development will result in no net loss of publicly accessible open space. The Proposed Development recognises that for new buildings to be considered useable for at least the next 60 years, a considerable level of future flexibility will need to be incorporated into the design. The building services strategy has been based on the need to accommodate possible future scenarios including: • Advances in technology, including energy supply and conservation such as the gradual roll out of district networks, fuel cells, or possible bio-fuel infrastructure; • Climate change, including the predicted increases in both external temperature and intensity of rainfall over the coming decades; • Increase in transient nature of business practise;

	• Market sector demand; • Requirement of different types of tenant and usage flexibility within the dwelling/use type

5.5 Energy and carbon dioxide emissions (SPG section 2.4)

Energy and carbon dioxide emissions	Development Response

Mayor's Priorities

1. 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.
2. Developments should be designed to meet the following Regulated carbon dioxide standards, in line with London Plan policy 5.2.

Residential buildings

Year	Improvements beyond 2010 Building Regulations
1st October 2013 - 2016	40 per cent (or 35% below 2013 Building Regulations)
2016 - 2031	Zero carbon

Non-domestic buildings

Year	Improvements beyond 2010 Building Regulations
1st October 2013 - 2016	40 per cent (or 35% below 2013 Building Regulations)
2016 - 2019	As per the Building Regulation requirements
2019 - 2031	Zero carbon

Mayor's Best Practice

3. Developments should contribute to ensuring resilient energy infrastructure and a reliable energy supply, including from local low and zero carbon sources.
4. 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.

An energy statement has been prepared to detail the energy strategy for the Proposed Development and was submitted with this Planning Application.

The London Plan also requires that development follow an energy hierarchy when considering reducing CO_2 emissions. The energy hierarchy must consider incorporation of energy efficiency measures including passive design, supplying energy efficiently (with particular emphasis on decentralised energy generation including CHP) and using renewable energy technologies. The responses to the subsequent topic areas include specific measures incorporated in the design.

Table 1 and 2 below show the breakdown in savings for each stage of the energy hierarchy.

The total predicted regulated CO_2 savings anticipated by the energy strategy is **99.5 tonnes CO_2** when compared against the **Part L 2013** base-line scenario. The predicted savings equate to a **65.4% reduction** in regulated CO_2 emissions over the equivalent baseline **Part L 2013** compliant scheme.

Table 1: Predicted carbon dioxide emissions for each stage of the Energy Hierarchy

	Predicted Carbon Dioxide Emissions (tCO_2/yr)	
	Part L 2013	
	Regulated	Unregulated
Building Regulations Part L Compliant Development	**152**	**51**
After energy demand reduction	**62**	**51**
After CHP	**56**	**51**
After renewable energy	**53**	**51**

Table 2: Predicted regulated carbon dioxide emissions savings from each stage of the Energy Hierarchy

	Predicted Regulated Carbon Dioxide Savings	
	Part L 2013	
	(Tonnes CO_2 / year)	(%)
Savings from Energy Demand Reduction	**90.6**	**59.5**
Savings from CHP	**5.7**	**3.7**
Savings from Renewable energy	**3.2**	**2.1**
Total cumulative savings	**99.5**	**65.4**

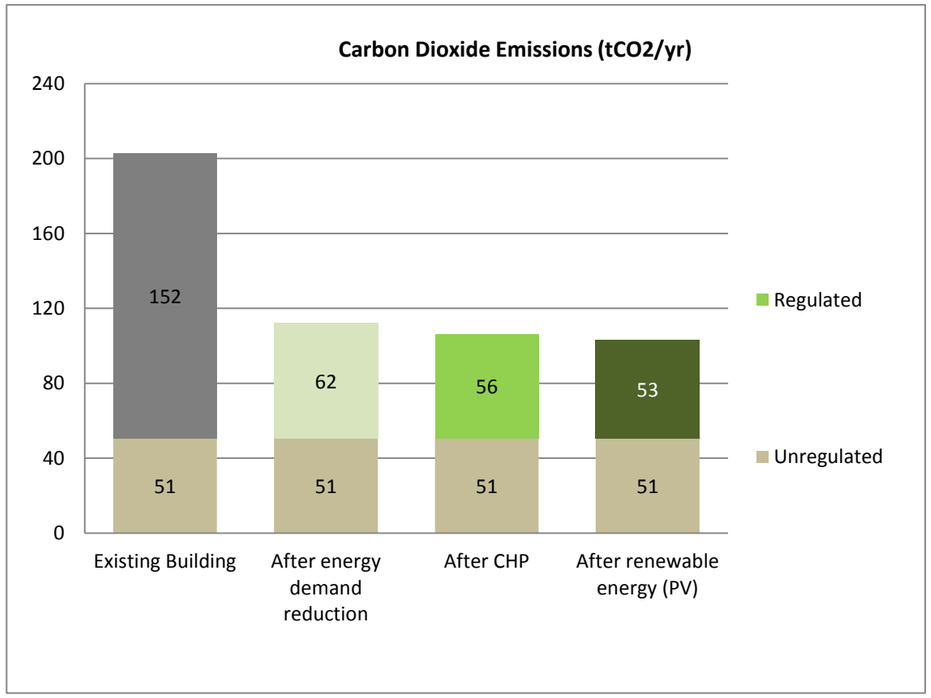

Figure 1: Summary of predicted total Carbon Dioxide emissions for each stage of the hierarchy against existing building (normalised) baseline

Energy demand assessment	Development Response
Mayor's Priorities 1. Development applications are to be accompanied by an energy demand assessment.	An energy statement has been prepared to detail the energy strategy for the Proposed Development and was submitted with this Planning Application. This document includes an energy demand assessment following the approach to energy statements as detailed in the 'Energy Planning - GLA Guidance on preparing energy assessments' (April 2015) document.

Use less energy	Development Response
Mayor's Priorities 1. The design of developments should prioritise passive measures. **Mayor's Best Practice** 2. Developers should aim to achieve Part L 2013 Building Regulations requirements through design and energy efficiency alone, as far as is practical.	In line with the energy hierarchy set in the London Plan, the demand reducing measures below were incorporated in the design, with priority given to passive measures. The preliminary calculations included in the Energy Statement indicate that the development is in line to surpass Part L 2013 Regulations carbon emission reduction requirements through design and energy efficiency alone. Building Fabric and Passive Design A key objective for New Oxford Street development was to maximise retention of existing building elements so as to minimise carbon emissions associated with demolition and new construction, but also reduce the embodied carbon of the development.

	Detailed analysis has been undertaken to assess the impact of various building fabric and passive design solutions. The resulting design includes the following key features: • The building fabric (glazing, walls, roof etc.) has been improved to achieve the highest thermal performance possible for the construction element type versus other sustainable design and buildability constraints. • Glazing areas have been balanced in order to maximise the benefits from natural daylighting without incurring overheating, reducing the need for electric lighting whilst minimising heat loss from the buildings. • The glazing g-value specification has been balanced to control solar gain whilst still providing a reasonably high degree of light transmission. • The building will be improved to achieve best practice air tightness levels, with an air permeability of $5m^3/m^2/hr$ at 50 Pa for dwellings and $10m^3/m^2/hr$ at 50 Pa for other areas currently targeted.
Energy efficient supply	**Development Response**
Mayor's Priorities 1. Where borough heat maps have identified district heating opportunities, boroughs should prepare more detailed Energy Master Plans (EMPs) to establish the extent of market competitive district heating networks. 2. 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. 3. 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 water, and where required, cold water.	Existing and planned heat networks and anchor heat loads in the vicinity of the site have been investigated, but no opportunities for connection have been identified.

5.6 Renewable energy (SPG section 2.5)

Renewable energy	Development Response
Mayor's Priorities 1. Boroughs and neighbourhoods should identify opportunities for the installation of renewable energy technologies in their boroughs and neighbourhoods. 2. Major developments should incorporate renewable energy technologies to minimise overall carbon dioxide emissions, where feasible.	A feasibility study has been undertaken to determine the most appropriate renewable energy source for the development (for more details please refer to the Energy Statement included with the Planning Application submission). Roof mounted Photovoltaic panels (PV) will provide renewable electricity to the development. The PV layout has been optimised making use of the available roof area limited due to the form and massing of the building.
Carbon dioxide off-setting	**Development Response**
Mayor's Priorities 1. Boroughs should establish a carbon dioxide off-set fund and identify suitable projects to be funded. 2. Where developments do not achieve the Mayor's carbon dioxide reduction targets set out in London Plan policy 5.2, the developer should make a contribution to the local borough's carbon dioxide off-setting fund	The development achieves the targets set out in the London Plan, thus no offsetting is necessary.
Retrofitting	**Development Response**
Mayor's Priorities 1. Boroughs should set out policies to encourage the retrofitting of carbon dioxide and water saving measures in their borough. 2. Where works to existing developments are proposed developers should retrofit carbon dioxide and water saving measures.	As a new development, the proposed design will incorporate CO_2 and water savings measures as detailed elsewhere in this document.
Monitoring energy use	**Development Response**
Mayor's Priorities 1. Developers are encouraged to incorporate monitoring equipment and systems where appropriate to enable occupiers to monitor and reduce their energy use.	Extensive submetering will be present to allow monitoring as well as separate billing of individual tenants. Energy display devices will be provided in the dwellings.

Supporting a resilient energy supply	Development Response
Mayor's Priorities 1. Developers are encouraged to incorporate equipment that would enable their schemes to participate in demand side response opportunities.	The proposed development overall energy demand has been minimised through the implementation of the sustainable design measures outlined in this statement; this will reduce overall impact on the wider energy network. The use of CHP means that electricity generated locally will further reduce the demand on the power network. Furthermore, heat storage vessels are proposed and can be used for demand side response. The development will also be provided with comprehensive sub-metering and smart meters to allow better management of the energy demand and better response to wider network energy availability through the central EMS system. Consideration is also being given to use of cold storage (ice storage or phase change materials) to allow electric chillers to be switched off at network peak demand times.

5.7 Water efficiency (SPG section 2.6)

Water efficiency	Development Response
Mayor's Priorities 1. Developers should maximise the opportunities for water saving measures and appliances in all developments, including the reuse and using alternative sources of water. 2. Developers should design residential schemes to meet a water consumption rate of 105 litres or less per person per day. 3. Where a building is to be retained, water efficiency measures should be retrofitted. 4. 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. 5. All developments should be designed to incorporate rainwater harvesting. **Mayor's Best Practice** 6. All residential units, including individual flats / apartments and commercial units, and where practical, individual leases in large commercial properties should be metered.	The design recognises that the threat of future water shortage is a serious issue for London; whilst demand is growing due to increasing population and higher temperatures, climate change will increase the seasonality of water supply. Sustainable water sourcing and usage will be of utmost importance for adapting to the changing climatic conditions, and water efficiency and recycling has been made a key priority in the design. The approach to water efficiency for the development has three stages: • Reduce mains water consumption on site • Reuse water on site where possible thus reducing water to sewerage • Specify water efficient internal sanitary ware and appliances **Methods to Reduce Consumption and Wastage** – incorporate water-sensitive design and conserve water resources. All non-domestic and domestic units will have individual pulsed water meters. **Water Saving Devices** – The domestic element of the Proposed Development will include water efficient sanitary ware. The BREEAM pre-assessment appended shows that 80% of the credits under the water section are targeted for the domestic areas of the development.

5.8 Materials and waste (SPG section 2.7)

Design phase	Development Response
Mayor's Priorities 1. The design of development should prioritise materials that: • have a low embodied energy, including those that can be reused 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 a 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. **Mayor's Best Practice** 2. The design of developments should maximise the potential to use pre-fabrication elements.	Materials will be chosen that have a minimal environmental impact, are from sustainable or recycled sources and, where feasible, are locally sourced to reduce transportation impacts, prioritising the following factors: • *Life cycle costing (£ and CO_2)* • *Use renewable materials* • *Source materials locally* • *Recycled content* • *Minimise waste to landfill* • *Specification of materials with zero exotoxins* • *Synthetic or non-sustainably-sourced materials to be minimised* • *Off-site manufacturing* • *Ethical sourcing* • *Minimise embodied energy* • *Design for deconstruction* • *Recyclability of materials* • *Design mechanical fixings to facilitate deconstruction* • *Specify materials and plant that can be re-used* • *Lowest available embodied carbon option MEP Materials Specification* • *Minimise gluing and composite materials* The project team will target the use of materials selected in accordance with The Green Guide to Specification, a measure of environmental impact of the material over its lifetime. The selection of A+ and A-rated materials will be prioritised for all building elements, where feasible. A number of structural options have been reviewed by the design team in terms of environmental impact and embodied carbon over the building's lifecycle, speed of assembly, value and durability, health and safety and impact to neighbours etc. All timber will be FSC compliant. Insulation materials for building elements and building services will be specified with low embodied environmental impact (minimal global warming potential and zero ozone depleting properties). The opportunity to source construction materials from a factory/plant, quarry, railhead or recycling centre close of the site will be investigated, with priority given to use of pre-fabricated elements, where feasible. The development will aim to maximise the proportion of materials and components that can be re-used at the end of the building's life. 'Designing for robustness' will ensure that damage to the building due to wear and tear, for example in areas of heavy usage, is minimised and can be repaired with minimal environmental or cost impact.
Construction phase	**Development Response**
Mayor's Priorities 1. Developers should maximise the use of existing resources and materials and minimise waste generated during the demolition and construction process through the implementation the waste hierarchy.	The development aims to be a sustainable building with high standards of environmental performance. As such, due consideration has been given to the waste generated by the buildings during all phases of the development from site enabling works, during its operation and through to its eventual decommissioning. As a result, the waste strategy has the following aims: • To contribute towards achieving current and long term government GLA and London Borough of Camden targets for waste minimisation, recycling and reuse. • To ensure that all legal requirements for the handling and management of operational waste are complied with • To provide tenants with a convenient, clean and efficient waste management systems that enhance the operation of the building and promote high levels of recycling.

	The following points are key to the design and construction of the project: During Construction: • Site wide waste management plan • Opportunities for prefabrication • Recycling target • Site travel efficiency During Operation: • Sufficiently sized and centralised space for recycling collection • Compactors • Minimise volume of waste to landfill The principle contractor will have responsibility for writing, implementing and updating the Site Waste Management Plan (SWMP) throughout the development process. The SWMP will identify all waste streams and will discuss the potential to reduce, re-use, and recycle all materials wherever possible. This commitment to minimisation will be achieved in a number of ways, including but not limited to, the following: • Agreements with material suppliers to reduce the amount of packaging or to participate in a packaging take back scheme • Implementation of a 'Just in Time' material delivery system to avoid materials being stockpiled on site for long periods of time, which increases risk of damage and disposal as waste • Attention to material quantity requirements to avoid over ordering and generation of waste materials • Re-use of materials wherever feasible • Segregation of waste at source where practical • Re-use and recycling of materials off-site where re-use on-site is not practical Modular construction / off site prefabrication will be considered, which will result in less time on site and reduced impact on the site's neighbours. Due to the nature of the existing site there are limited opportunities for the reuse of existing buildings, however the Institute of Civil Engineers (ICE) Demolition Protocol will be followed to ensure that the potential for reusing and recycling the materials currently on site will be maximised. A full survey will be undertaken to review where materials can be reused on site e.g. aggregates, and if they can't be used, where they can be recycled as locally as possible.
Occupation phase	**Development Response**
Mayor's Priorities 1. Developers should provide sufficient internal space for the storage of recyclable and compostable materials and waste in their schemes. 2. The design of development should meet borough requirements for the size and location of recycling, composting and refuse storage and its removal.	Recycling collection facilities will be implemented in the building. Space will be allowed for the collection of separate recyclable waste streams on the site with separate centralised recycling and refuse areas for the commercial and residential areas. Recycling facilities are located at Basement Level, easily accessible via stairs and goods lift.

5.9 Nature conservation and biodiversity (SPG section 2.8)

Nature conservation and biodiversity	Development Response
Mayor's Priorities 1. There is no net loss in the quality and quantity of biodiversity. 2. Developers make a contribution to biodiversity on their development site.	The Proposed Development includes 135m^2 of green roof which would result in a net increase in the ecological value of the site. A qualified ecologist will develop a biodiversity action plan to enhance the ecological value of the site. The action plan will be developed through consultation with local wildlife interest groups, in order to improve the connectivity of wildlife corridors in the areas.

5.10 Tackling increase temperature and drought (SPG section 3.2)

Overheating	Development Response
Mayor's Priorities 1. 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.	Advanced dynamic thermal simulation has been carried out from the inception of the project to assess the risk of overheating in residential dwellings and ensure occupant thermal comfort is predicted. This analysis has influenced the facade treatment and specification, implementing passive design principles and reducing the need for mechanical ventilation, heating and cooling systems, where possible.
Heat and drought resistant planting	**Development Response**
Mayor's Best Practice 1. The design of developments should prioritise landscape planting that is drought resistant and has a low water demand for supplementary watering.	Vegetation to be planted on the green roof will have a low water requirement (low maintenance native species and drought resistant species will be specified), and will be selected to improve the habitat for local wildlife and birds.
Resilient foundations	**Development Response**
Mayor's Best Practice 1. 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 does not have any trees in the existing condition and the foundations proposed are sufficiently deep to not be affected by temperature or rainfall patterns, as the basement is embedded into the clay layers.

5.11 Increasing green cover and trees (SPG section 3.3)

Urban greening	Development Response
Mayor's Priorities 1. Developers should integrate green infrastructure into development schemes, including by creating links with wider green infrastructure network. 2. 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.	Opportunities for incorporation of green areas have been maximised despite the development being in a dense urban location. Additional green coverage will be provided with 135m^2 of green roof.

Trees	Development Response
Mayor's Priorities 1. Developments should contribute to the Mayor's target to increase tree cover across London by 5% by 2025. 2. 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.	There is no loss of tree anticipated in the development. Additional landscaped areas will be provided and may include increased tree coverage where possible.

5.12 Flooding (SPG section 3.4)

Surface water flooding and sustainable drainage	Development Response
Mayor's Priorities 1. Through their Local Flood Risk Management Strategies boroughs should identify areas where there are particular surface water management issues and develop policies and actions to address these risks. 2. Developers should maximise all opportunities to achieve greenfield runoff rates in their developments. 3. When designing their schemes developers should follow the drainage hierarchy set out in London Plan policy 5.13 4. 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.	The Site is located within Flood Zone 1 and is therefore considered by the Environment Agency to have a low probability of tidal and fluvial flooding. The Proposed Development is considered to be at a low risk of flooding and would not increase surface water runoff through an increase in impermeable area.

Flood resilience and resistance of buildings in floor risk areas	Development Response
Mayor's Priorities 1. 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 is therefore considered by the Environment Agency to have a low probability of tidal and fluvial flooding. The Proposed Development is considered to be at a low risk of flooding and would not increase surface water runoff through an increase in impermeable area.
Flood risk management	**Development Response**
Mayor's Priorities 1. 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. 2. Developments incorporate the recommendation of the TE2100 plan for the future tidal flood risk management in the Thames estuary 3. Where development is permitted in a flood risk zone, appropriate residual risk management measures are to be incorporated into the design to ensure resilience and the safety of occupiers.	The Site is located within Flood Zone 1 and is therefore considered by the Environment Agency to have a low probability of tidal and fluvial flooding. The Proposed Development is considered to be at a low risk of flooding and would not increase surface water runoff through an increase in impermeable area.
Flood defences	**Development Response**
Mayor's Priorities 1. Development should maximise all opportunities to achieve an 8m setback on fluvial watercourses between built development and watercourses, flood defenses and culverts. 2. Development should maximise all opportunities to achieve a 16m setback on tidal watercourses between built development and watercourses and flood defenses.	The Proposed Development is approximately 1.2 miles from the River Thames and no other watercourse, flood defence or culvert has been identified closer to the development.
Other sources of flooding	**Development Response**
Mayor's Priorities 1. All sources of flooding need to be considered when designing and constructing developments.	Using the EA flood maps no threat from flooding (Rivers and Sea, Reservoirs and Surface Water) has been identified.

5.13 Land contamination (SPG section 4.2)

Land contamination	Development Response
Mayor's Priorities 1. Developers should set out how existing land contamination will be addressed prior to the commencement of their development. 2. Potentially polluting uses are to incorporate suitable mitigation measures.	No land contamination is expected on site. Proposed uses do not represent high polluting risk.

5.14 Air pollution (SPG section 4.3)

Air pollution	Development Response
Mayor's Priorities 1. Developers are to design their schemes so that they are at least 'air quality neutral'. 2. Developments should be designed to minimise the generation of air pollution. 3. Developments should be designed to minimise and mitigate against increased exposure to poor air quality. 4. Developers should select plant that meets the standards for emissions from combined heat and power and biomass plants set out in Appendix 7. 5. Developers and contractors should follow the guidance set out in the emerging minimising dust and emissions from construction and demolition SPG when constructing their development.	The Proposed Development is deemed to be air quality neutral. An Air Quality Neutral assessment has been undertaken (please refer to Air Quality Assessment submitted with the Planning Application submission). The following factors have been taken into account within the design: • Urban pollution of existing site • Minimise NOx emissions • Reduction of traffic to site by providing cycling facilities and charging points for electric vehicles • Refrigerant usage and specification The project team is installing a combination of CHP and high efficiency condensing boilers that will supply heat to the site. Boilers with low NO_x emissions (<40mg/kWh) will be selected. Plant and machinery will be designed to incorporate a maintenance strategy. This will ensure plant is easily accessible and recommendations for a regular service agreement will be put in place. Regular maintenance and inspection of plant can avoid adverse health impacts, by maintaining operational efficiency and minimizing harmful emissions. A sustainable travel plan will be provided to the building users advising on the most sustainable means of transport to and from the development. This will be tailored to include commuters and business travel, visitors and deliveries, and include recommendations for reducing vehicular traffic to the site. This could, for example, include selecting courier services which travel by bicycle to nearby locations, instead of cars, vans or motorbikes. Cyclist facilities will be provided to promote sustainable modes of transport and a limited number of parking spaces will reduce on-site traffic. KPIs will be set to monitor and reduce impacts of construction works, including air pollution, energy and water use, and construction vehicle traffic.

5.15 Noise (SPG section 4.4)

Noise	Development Response
Mayor's Priorities 1. Areas identified as having positive sound features or as being 'quiet areas' should be protected from noise enhanced, where possible. 2. Noise should be reduced at source and then designed out of a scheme to reduce the need for mitigation measures.	The following factors have been prioritised within the design in order to reduce the impact of noise produced within the development, and minimise the negative effect of noise sources arising outside the building: • Optimise deliveries and timings • Attenuation of noise to and from the site • Location in relation to noise sensitive environments • Reduction of traffic to site by providing cycling facilities and charging points for electric vehicles The local acceleration and breaking of traffic on surrounding roads creates noise and airborne pollution. Noise surveys have been undertaken on the site and concluded that suitable noise levels can be achieved using appropriate façade treatment through insulation, glazing and ventilation arrangements. An initial facade sound insulation assessment has been carried out to determine the required acoustic performance of the facade in order to achieve indoor ambient noise levels as set out by the relevant guidance, and provide guidance on the ventilation strategy. This has informed the design of the facade and associated Building Services. An assessment of potential tactile vibration and re-radiated noise from train movements along the London Underground rail lines through Green Park station, beneath the proposed site was undertaken. The results of this assessment suggest that tactile vibration levels inside the proposed development will be within acceptable ranges as set out by the relevant guidance. AAD have been appointed to provide acoustic advice. Airborne sound insulation values will be 3dB higher than Part E of the building regulations and impact sound insulation values 3dB lower than Part E of the building regulations. Furthermore, people will be encouraged to take public transport or cycle to the development, which will contribute towards reducing the local sound and air pollution levels by reducing traffic to the site. Deliveries to site will be co-coordinated and optimised to limit the noise and traffic impact on local residents. For more details please refer to the 'Environmental Noise and Vibration Survey and Assessment Report' submitted with this planning application.

5.16 Light pollution (SPG section 4.5)

Light pollution	Development Response
Mayor's Priorities 1. Developments and lighting schemes should be designed to minimise light pollution.	Light pollution will be minimised by considerate selection of external light fittings to avoid light spillage as well as time clock and dusk-to-dawn controls.

6.0 Water pollution (SPG section 4.6)

Surface water runoff	Development Response
Mayor's Priorities 1. 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. **Mayor's Best Practice** 2. Encourage good environmental practice to help reduce the risk from business activities on the London water environment. 3. Encourage those working on demolition and construction sites to prevent pollution by incorporating prevention measures and following best practice.	The Proposed Development will not increase the area of impermeable hard standing therefore will not result in an increase in surface water runoff.
Water treatment	**Development Response**
Mayor's Best Practice 1. Residential developments discharging domestic sewage should connect to the public foul sewer or combined sewer network where it is reasonable to do so. 2. 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. 3. Developments should be properly connected and post-construction checks should be made by developers to ensure that misconnections do not occur.	The development will be connected to the public foul sewer.

APPENDIX A

BREEAM DOMESTIC AND BREEAM NON DOMESTIC PRE-ASSESSMENT

BREEAM UK Domestic Refurbishment 2014 Pre-Assessment Estimator v0.1

This assessment and indicative BREEAM rating is not a formal certified BREEAM assessment or rating and must not be communicated as such. The score presented is indicative of a dwelling's potential performance and is based on a simplified pre-formal BREEAM assessment and unverified commitments given at an early stage in the design process.

Building name	35 - 37 New Oxford Street
Indicative building score (%)	77.72%
Indicative BREEAM rating	BREEAM Excellent

Management | Health & Wellbeing | Energy | Water | Materials | Waste | Pollution

Minimum Standards	Pass	Good	Very Good	Excellent	Outstanding
Ene 02	✓	✓	✓	✓	✓
Wat 01	✓	✓	✓	✓	✗
Hea 05	✓	✓	✓	✓	✓
Hea 06	✓	✓	✓	✓	✓
Pol 03	✓	✓	✓	✓	✓
Mat 02	✓	✓	✓	✓	✓

INNOVATION

Section Weighting: 10% | Indicative Section Score: 2.00%

Comments

MANAGEMENT

Section Weighting: 12% | Indicative Section Score: 10.91%

Man 01 Home Users Guide

No. of BREEAM credits available	3	Available contribution to overall score	3.27%
No. of BREEAM innovation credits	0	Minimum Standards applicable:	No

Assessment Criteria

Where a Home Users Guide be provided to all dwellings, covering all issues set out in the 'Users Guide Contents list', three credits may be awarded

Indicative Credits
3

Comments

The Main Contractor with the assistance of other parties will coordinate the production of a home users guide.

Man 02 Responsible Construction Practices

No. of BREEAM credits available	2	Available contribution to overall score:	2.18%
No. of BREEAM innovation credits	1	Minimum Standards	No

Assessment Criteria

Where a compliant considerate construction scheme will be used, credits are awarded depending the score achieved as outlined below:

Indicative Credits
2

Large Scale - project with more than 5 units

	One Credit	Two Credits
Considerate Constructors Scheme	Score of 25-34 with a score of 5 in each section	Score of 35-39 with a score of 7 in each section
Alternative Compliant Scheme	Compliance	Beyond Compliance

Small Scale - project with 5 units or fewer

	One Credit	Two Credits
Considerate Constructors Scheme	Score of 25-34 with a score of 5 in each section	Score of 35-39 with a score of 7 in each section
Alternative Compliant Scheme	Compliance	Beyond Compliance
Checklist A-3	50% of the optional items	80% of the optional items

Exemplary Credit

Considerate Constructors Scheme	Score of 40 or more with a score of 7 in each section
Alternative Compliant Scheme	Exemplary Level Compliance
Checklist A-3*	All Items (Optional & Mandatory)

* Small Scale Project Only

Indicative Innovation Credits Achieved
0

Comments

The Main Contractor will be required register with the Considerate Constructors scheme and achieve a score of 35 or greater with a score of 7 in each section.

Man 03 Construction Site Impacts

No. of BREEAM credits available	1	Available contribution to overall score	1.09%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where evidence demonstrate that site impacts will be monitored, as detailed below:

Indicative Credits
1

	One Credit
Large Scale	Where there is evidence to demonstrate that **2 or more** of the sections in **Checklist A-4** are completed
Small Scale	Where there is evidence to demonstrate that **2 or more** of the sections in **Checklist A-5** are completed

Sections of Checklist	
Large Scale - Checklist A-4	**Small Scale - Checklist A-5**
Monitor, report and set targets for CO2 production of energy use arising from site activities	Set objectives for reducing CO2 production from energy use arising from site activities
Monitor, report and set targets for water consumption arising from site activities	Set objectives for reducing water use arising from site activities
A main contractor with an environmental materials policy	Main contractor environmental materials statement
A main contractor that operates an Environmental Management System	80% of site timber is reclaimed, re-used or responsibly sourced
80% of site timber is reclaimed, re-used or responsibly sourced	

Same definition of small and large scale as in Man 02

Comments

The Main Contractor will be required to monitor CO2 and water production arising from site activities. The main contractor will be required to have an environmental materials policy and Environmental Management Policy (BES8555 or ISO 14001). All timber will be responsibly sourced.

Man 04 Security

No. of BREEAM credits available	**2**	**Available contribution to overall score:**	**2.18%**
No. of BREEAM innovation credits	**0**	**Minimum Standards applicable:**	**No**

Assessment Criteria
Where the following requirements will be met:

Indicative Credits 1

One Credit Secure windows and doors	External doors and accessible windows meet minimum standards and appropriately certified
Two Credits Secured by design	Principles and guidance of Secured by Design Section 2 are complied with
	A suitably qualified security consultant is consulted at the design stage and their recommendations are incorporated into the refurbishment

Comments

TP Bennet confirmed that they would undertake consultation with an architectural liaison / Crime prevention officer (i.e. PC Connie McDonnell, DOCOMailbox.NW@met.police.uk) and incorporate recommendations in to the design / specification.

Man 05 Protection and Enhancement of Ecological Features

No. of BREEAM credits available	**1**	**Available contribution to overall score:**	**1.09%**
No. of BREEAM innovation credits	**1**	**Minimum Standards applicable:**	**No**

Assessment Criteria
Where the following requirements will be met:

Indicative Credits 1

One Credit Protecting Ecological Features	Site survey carried out to determine presence of ecological features
	Statutory Nature Conservation Organisation notified of protected species
	Features of ecological value protected during refurbishment works

Indicative Innovation Credits Achieved 1

Exemplary Credit **Ecological enhancement**	A suitably qualified ecologist recommends features to enhance ecology of the site
	adopts all general ecological recommendations
	adopts 30% of additional recommendations

Comments

An ecologist will be appointed to undertake a site survey and provide recommendations for enhancing the site ecology. It is assumed that the site is of low ecological value and has no features requiring protection. All ecological recommendations will be incorporated into the design.

Man 06 Project Management

No. of BREEAM credits available	**2**	**Available contribution to overall score**	**2.18%**
No. of BREEAM innovation credits	**2**	**Minimum Standards applicable**	**No**

Assessment Criteria
Where the following requirements will be met:

Indicative Credits 2

One Credit Project Roles and Responsibilities	Where all of the project team are involved in the project decision making
	Small Scale - the project manager assigns individual and shared responsibilities amongst the project team including all trades on site
	Large Scale - the project manager assigns individual and shared responsibilities across the following key design and refurbishment stages: i. Planning and Building control notification ii. Design iii. Refurbishment iv. Commissioning and handover v. Occupation

Small Scale projects: five units or fewer and less than £100k	**Large Scale projects: more than five units and more than £100k**
Handover meeting arranged	
2 or more of the following committed to: - A site inspection within 3 months of occupation - Conduct post occupancy interviews with building occupants or a survey via phone or posted information within 3 months of occupation - Longer term after care e.g. a helpline, nominated individual or other appropriate system to support building users for at least the first 12 months of occupation	

One Credit
Handover and Aftercare

Indicative Innovation Credits Achieved 1

Exemplary Credits

One Exemplary Credit Early Design Input	Where A BREEAM Accredited Professional has been appointed to oversee key stages within the project. OR Where a BREEAM Domestic Refurbishment Assessor has been appointed at an early stage of the project, prior to the production of a refurbishment specification
One Exemplary Credit Thermographic Surveying and Airtightness Testing	Where Thermographic surveying and Airtightness testing have been carried out at both pre and post refurbishment stages Where an improved air tightness target has been set at design stage and testing demonstrates that this has been achieved post refurbishment

Comments

Individual roles and responsibilities within the project design team have been assigned and reordered. The Main Contractor will organise a Handover meeting, a site inspection within 3 months of occupation and a year's access to a helpline. It is assumed a BREEAM AP will be appointed throughout the process.

HEALTH & WELLBEING	Section Weighting: 17%	Indicative Section Score 9.92%

Hea 01 Daylighting

No. of BREEAM credits available	2	Available contribution to overall score	2.83%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Indicative Credits: 0

Where the refurbishment results in a neutral impact on daylighting or where minimum daylighting standards are met, up to two credits may be awarded as follows:

For Existing Dwellings and Change of Use Projects

First Credit Maintaining Good Daylighting	The refurbishment results in a neutral impact on the dwellings daylighting levels in the kitchen, living room, dining room and study

Where the property is being extended

First Credit Maintaining Good Daylighting	New spaces achieve minimum daylighting levels
	The extension does not significantly reduce daylighting levels in the kitchen, living room, dining room or study of neighbouring properties

For All Properties

Second Credit Minimum Daylighting	The dwelling achieves minimum daylighting levels in the kitchen, living room, dining room and study

Comments

Delva Patman Reler LLP have undertaken internal daylighting tests and not all rooms meet the daylighting requirements, therefore the credits have not been taken.

Hea 02 Sound Insulation

No. of BREEAM credits available	4	Available contribution to overall score	5.67%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Indicative Credits: 3

To ensure the provision of acceptable sound insulation standards and so minimise the likelihood of noise complaints.

Properties where sound testing has been carried out:

Up to Four Credits	Four credits awarded according to the improvement over building regulations. See table in additional information in Technical Manual

Properties where sound testing is not feasible and not required by the appointed Building Control body

Two Credits	Where existing separating walls and floors are designed to meet the requirements of Building Regulations with compliant construction details
Up to Four Credits	Where a Suitably Qualified Acoustician (SQA) provides recommendations for the specification of all existing separating walls and floors
	SQA confirms in their professional opinion that they have the potential to meet or exceed the sound insulation credit requirements
	Where these recommendations are implemented
	See table in additional information in Technical Manual

Historic Buildings

Up to Four Credits	Where the dwelling is a Historic Building and sound testing results demonstrate existing separating walls and floor meet the Historic Building credit requirements
	See table in additional information in Technical Manual
	Where sound testing is not feasible and not required by the appointed Building Control body meeting criteria 2 and 3 using Table 12
	Properties where sound testing has been carried out, credits awarded according to the improvement over building regulations. See table in additional information in Technical Manual
	Where the dwelling is a detached property
	Where the dwelling is a propertywith separating walls or floors only between non habitable rooms OR Testing not required by building control body

Detached Properties

Four Credits	By Default

Properties with separating walls or floors only between non habitable rooms OR Testing not required by building control body

Four Credits	By Default

Comments

AAD have been appointed to provide acoustic advice. It is assumed that airborne sound insulation values will be 3dB higher than Part E of the building regulations and impact sound insulation values 3dB lower than Part E of the building regulations.

Hea 03 Volatile Organic Compounds

No. of BREEAM credits available	1	Available contribution to overall score	1.42%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Indicative Credits: 1

Where the refurbishment avoids the use of VOCs with new products meeting the following requirements:

One Credit Avoiding the use of VOCs	Where all decorative paints and varnishes used in the refurbishment have met the requirement listed in table 5.4 in the Technical Manual
	Where at least five of the eight remaining product categories listed in table 5.4 have met the testing requirements and emission levels for Volatile Organic Compound (VOC) emissions against the relevant standards identified within table 5.4 in the Technical Manual
	Where five or less products are specified within the refurbishment, all must meet the requirements in order to achieve this credit.

Comments

Low VOC paints, varnishes and other finishing materials will be used.

BREEAM®

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

New Oxford Street

Pre-assessment

04 December 2015 Assessment Report

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

bre

Assessment details

Assessment references

Registration number:	Pre-Assessment	**Date created:**	6/11/2015
Assessor name: First:		**Surname:**	
Assessor licence number:			
Assessor organisation:			
Architect name:	TP Bennett		
Developer name:	Triangle		
Property owner	Triangle		

Site details

Site name:

Address:

Town:

County:

Post code:

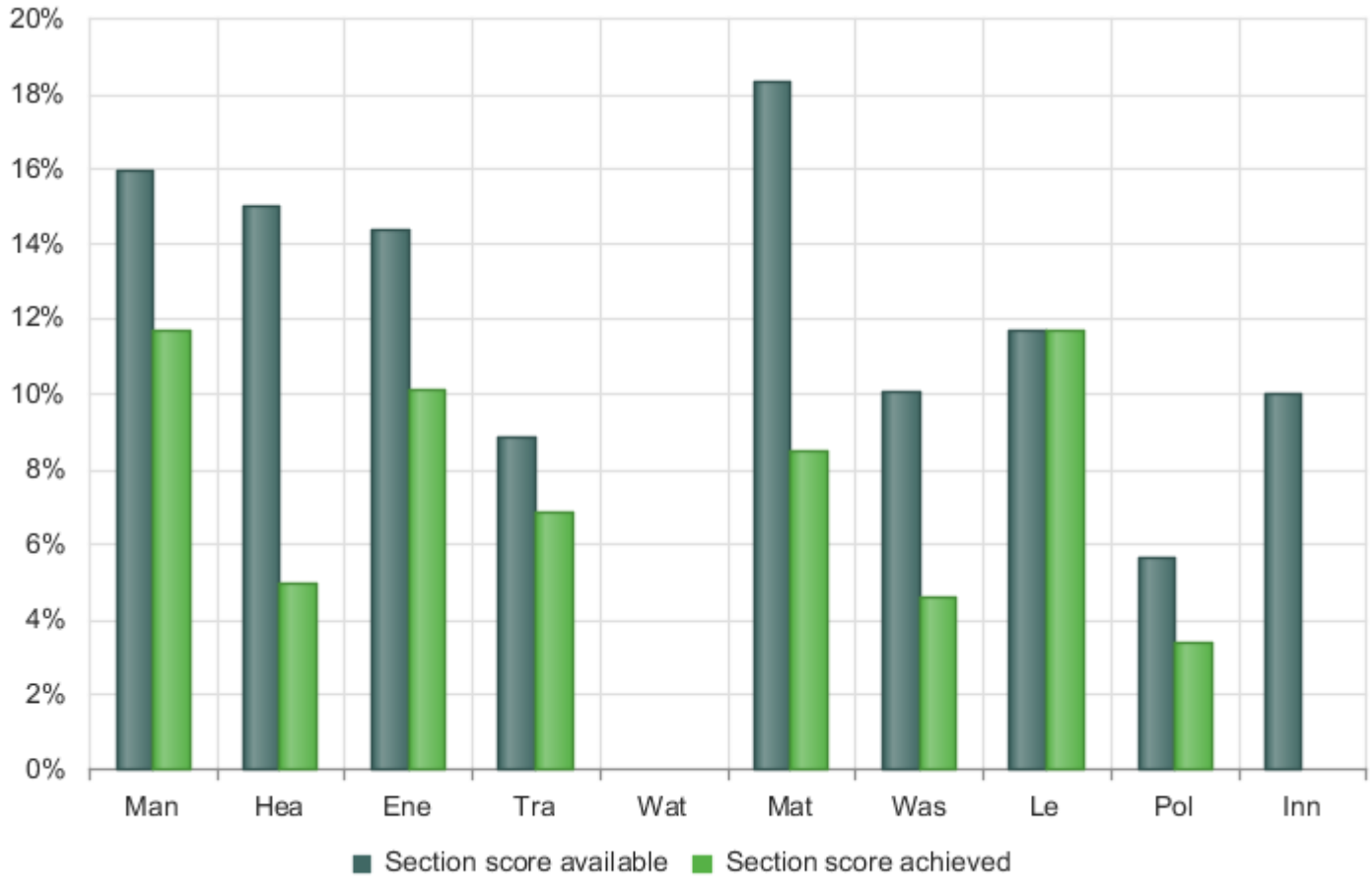
Country:

BREEAM rating

BREEAM Rating

	Credits available	Credits achieved	% Credits achieved	Weighting	Category score
Man	19.0	14.0	73.68%	15.94%	11.74%
Hea	15.0	5.0	33.33%	15.01%	5.00%
Ene	17.0	12.0	70.58%	14.37%	10.14%
Tra	9.0	7.0	77.77%	8.81%	6.85%
Wat	0.0	0.0	0.00%	0.00%	0.00%
Mat	13.0	6.0	46.15%	18.35%	8.47%
Was	11.0	5.0	45.45%	10.09%	4.58%
Le	4.0	4.0	100.00%	11.74%	11.74%
Pol	5.0	3.0	60.00%	5.64%	3.38%
Inn	10.0	0.0	0.00%	10.00%	0.00%
Total	103.0	56.0	54.36%	-	61.95%
Rating	-	-	-	-	Very Good

Performance by environmental category



Issue scores

Please Note: X means the exemplary credit for the relevant issue

Management

Man Management	ManX
14 / 19	0 / 2

Health & Wellbeing

Hea Health & Wellbeing	HeaX
5 / 15	0 / 1

Energy

Ene Energy	EneX
12 / 17	0 / 5

Transport

Tra Transport
7 / 9

Water

Wat Water
N/A

Materials

Mat Materials	MatX
6 / 13	0 / 2

Waste

Was Waste	WasX
5 / 11	0 / 3

Land use and ecology

Le Land use and ecology
4 / 4

Pollution

Pol Pollution	PolX
3 / 5	0 / 1

Innovation

Inn Innovation	InnX
N/A	0 / 10

Initial details

Stage 1 filtering: Scope of the assessment

Part 1 : Fabric and structure : Yes

Part 2 : Core services : No

Part 3 : Local services : No

Part 4 : Interior design : No

Stage 2 filtering: Project specific filtering

Is the project a change of use? (e.g. change from office to a hotel) : No

Are transportation systems specified or present within the refurbishment or fit-out zone? (lifts, escalators, moving walks) : Yes, newly specified transportation systems

Are there laboratories present and if so what % of total building area do they represent : No laboratories present

Laboratory containment area : No laboratories present

Is cold storage specified or present within the refurbishment or fit-out zone? : No

Are soft landscaped areas within the scope of refurbishment or fit-out zone? : Yes

If the asset undergoing refurbishment or fit-out is part of a larger building, is the cooling generation plant centralised or localised? : N/A

If the asset undergoing refurbishment or fit-out is part of a larger building, is the heating generation plant centralised or localised? : N/A

Is Wat01 within the scope of the assessment in accordance with Table 42? : No

What is the building type? : Retail

If Industrial, does the building have office areas? : N/A

Does the building have any unregulated water demands? e.g. irrigation, car washing, or other process related water use : No

Does the building have unregulated energy demands from significantly contributing systems? : No

Is the project a simple building? : No

Does the building have external lighting within the scope of works? : Yes

Does the building have any existing or newly specified externally mounted plant? : No

If undertaking a Part 4 assessment, is there any equipment specified that requires commissioning (see Man04 CN13) : N/A

Historic building (listed building or building in a conservation area) : Yes, building in a conservation area

Category assessment

Management | Man

Man Management

MAN 01 PROJECT BRIEF AND DESIGN

Stakeholder consultation (project delivery) :	1
Stakeholder consultation (third party) :	1
Sustainability champion (design) :	1
Sustainability champion (monitoring progress) :	1

MAN 02 LIFECYCLE COST AND SERVICE LIFE PLANNING

Elemental lifecycle cost :	0
Componnent level LCC plan :	0
Capital cost reporting :	0

MAN 03 RESPONSIBLE CONSTRUCTION PRACTICES

Environmental management :	1
Has criterion 2 been met? :	Yes
Sustainability champion (construction) :	0
Considerate construction :	2
Exemplary level criteria :	
Monitoring of refurbishment or fit-out site impacts :	2

MAN 04 COMMISSIONING AND HANDOVER

Commissioning and testing schedule and responsibilities :	1
Testing and inspecting building fabric :	1
Handover :	1
Has criterion 9 been met? :	Yes

MAN 05 AFTERCARE

Aftercare support :	1
Exemplary level criteria :	
Post occupancy evaluation :	1

Credits awarded : 14.0

Health & Wellbeing | Hea

Hea Health & Wellbeing

HEA 01 VISUAL COMFORT

Glare control :	0
Daylighting :	0
Exemplary level criteria :	
View out :	0

HEA 02 INDOOR AIR QUALITY

Indoor air quality plan :	1
Ventilation :	0
Potential for natural ventilation :	0

HEA 03 SAFE CONTAINMENT IN LABORATORIES - NA

HEA 04 THERMAL COMFORT

Thermal modelling :	1
Adaptation - for a projected climate change scenario :	0

HEA 05 ACOUSTIC PERFORMANCE

Acoustic performance :	2

HEA 06 SAFETY AND SECURITY

Security of site and building :	1

Credits awarded : 5.0

Energy | Ene

Ene Energy

ENE 01 ASSESSMENT OPTION

Which option is being followed :	Option 1a simple estimate (whole building)

ENE 01 - OPTION 1A

Credits :	11
Exemplary credits :	0

ENE 03 EXTERNAL LIGHTING

ENE 04 LOW CARBON DESIGN

Passive design analysis :	1
Free cooling :	0

ENE 05 ENERGY EFFICIENT COLD STORAGE - NA

ENE 06 ENERGY EFFICIENT TRANSPORTATION SYSTEMS - NA

ENE 07 ENERGY EFFICIENT LABORATORY SYSTEMS - NOTAPPLICABLE

ENE 09 DRYING SPACE

ENE 08 ENERGY EFFICIENT EQUIPMENT - NA

Credits awarded : 12.0

Transport | Tra

Tra Transport

TRA 01 SUSTAINABLE TRANSPORT SOLUTIONS

Sustainable transport options :	5

TRA 02 PROXIMITY TO AMENITIES

Proximity to amenities :	1

TRA 03 CYCLIST FACILITIES

Cycle storage :	0
Cylist facilities :	0

TRA 04 MAXIMUM CAR PARKING CAPACITY - NA

TRA 05 TRAVEL PLAN

Travel plan :	1

Credits awarded : 7.0

Water | Wat

Wat Water

WAT 01 WATER CONSUMPTION - NA

WAT 02 WATER MONITORING - NA

WAT 04 WATER EFFICIENT EQUIPMENT - NA

Credits awarded : 0.0

Materials | Mat

Mat Materials

MAT 01 ENVIRONMENTAL IMPACT OF MATERIALS

Environmental impact of materials :	3
Exemplary level criteria :	

MAT 03 RESPONSIBLE SOURCING OF MATERIALS

Sustainable procurement plan :	1
Has criterion 1 been met? :	Yes
Responsible sourcing of materials :	1
Exemplary level criteria :	

MAT 04 INSULATION

Insulation :	1

MAT 05 DESIGNING FOR DURABILITY AND RESILIENCE

Designing for durability and resilience :	0

MAT 06 MATERIAL EFFICIENCY

Material efficiency :	0

Credits awarded : 6.0

Waste | Was

Was Waste

WAS 01 CONSTRUCTION WASTE MANAGEMENT

Pre-refurbishment audit :	1
Re-use and direct recycling of materials :	0
Resource efficiency :	1
Exemplary level criteria :	
Diversion of waste from landfill :	1
Exemplary level criteria :	

WAS 02 RECYCLED AGGREGATES

Recycled aggregates :	1
Exemplary level criteria :	

WAS 03 OPERATIONAL WASTE

Operational waste :	1

WAS 04 SPECULATIVE FINISHES

WAS 05 ADAPTATION TO CLIMATE CHANGE

Adaptation to climate change - structural and fabric resilience :	0

WAS 06 FUNCTIONAL ADAPTABILITY

Functional adaptabiliy :	0

Credits awarded : 5.0

Land use and ecology | Le

Le Land use and ecology

LE 02 PROTECTION OF ECOLOGICAL FEATURES

Protecting ecological value :	1

LE 04 ECOLOGICAL ENHANCEMENT

Ecological enhancement :	1

LE 05 LONG TERM IMPACT ON BIODIVERSITY

Long term impact on biodiversity :	2

Credits awarded : 4.0

Pollution | Pol

Pol Pollution

POL 01 IMPACT OF REFRIGERANTS - NA

POL 02 NOX EMISSIONS - NA

POL 03 FLOOD RISK AND REDUCING SURFACE WATER RUN-OFF

Flood risk management :	2
Exemplary level criteria :	
Surface water run-off :	1
Minimising watercourse pollution :	0

POL 04 REDUCTION OF NIGHT TIME LIGHT POLLUTION - NA

POL 05 NOISE ATTENUATION

Credits awarded : 3.0

Innovation | Inn

Inn Innovation

INN 01 APPROVED INNOVATIONS

Approved innovations :	0

Credits awarded : 0.0

Hea 04 Inclusive Design

No. of BREEAM credits available	**2**	**Available contribution to overall score**	**2.83%**
No. of BREEAM innovation credits	**1**	**Minimum Standards applicable**	**No**

Assessment Criteria

Where an access statement has been carried out using Checklist A-8 of the Technical Manual to optimise the accessibility of the home as follows:

Indicative Credits 0

	Checklist A-8 of the Technical Manual	
	Section 1	**Section 2**
One Credit Minimum Accessibility	Completed with Evidence	
Two Credits Advanced Accessibility	Completed with Evidence	Completed with Evidence

Exemplary Performance

One Credit	Where an access expert suitably qualified member of the design team has completed sections 1, 2 and 3 of Checklist A-8, access statement template with evidence provided of the measures implemented in the refurbishment

Indicative Innovation Credits Achieved 0

Comments

TP Bennett to review access criteria to assess if the credit is achievable, (includes elements of 'Life Time Homes').

Hea 05 Ventilation

No. of BREEAM credits available	**2**	**Available contribution to overall score**	**2.83%**
No. of BREEAM innovation credits	**0**	**Minimum Standards applicable**	**Yes**

Assessment Criteria

Where the dwelling meets the following ventilation requirements:

Indicative Credits 2

One Credit Minimum Ventilation Requirements	A minimum level of background ventilation is provided (with trickle ventilators or other means of ventilation) for all habitable rooms, kitchens, utility rooms and bathrooms compliant with section 7, Building Regulations Approved Document Part F, 2010
	A minimum level of extract ventilation is provided in all wet rooms (e.g. kitchen, utility and bath-rooms), compliant with section 5, Building Regulations Approved Document Part F 2010.
	A minimum level of purge ventilation is provided in all habitable rooms and wet rooms, compliant with section 7, Building Regulations Approved Document Part F, 2010.
	It is an historic building and meets historic building requirements in CN4 of the technical manual
Two Credits Advanced Requirements	Ventilation is provided for the dwelling that meets the requirements of Section 5 of Building Regulations Part F in full
	Where the building is a historic building and meets the requirements for Historic Buildings in compliance note 4 of the technical manual

Comments

The dwelling will meet the requirements of section 5 of |Building Regulations Part F in full.

Hea 06 Safety

No. of BREEAM credits available	**1**	**Available contribution to overall score**	**1.42%**
No. of BREEAM innovation credits	**0**	**Minimum Standards applicable**	**Yes**

Assessment Criteria

Where a fire and carbon monoxide (CO) detection and alarm system is specified as follows:

Indicative Credits 1

One Credit Fire and Carbon Monoxide (CO) Detection and Alarm Systems	Where a compliant fire detection and fire alarm system is provided
	Carbon Monoxide detector installed if dwelling is supplied with mains gas or other fossil fuel
	Mains supplied fire detection and alarm system if project involves re-wiring*
	Battery operated fire detection and alarm system if no re-wiring* is to take place

*** see CN9 in Hea 06 for the definition of re-wiring**

Comments

Carbon Monoxide detectors and mains supplied fire detection alarm system will be specified.

ENERGY **Section Weighting: 43%** **Indicative Section Score 34.84%**

Ene 01 Improvement in Energy Efficiency Rating

No. of BREEAM credits available	**6**	**Available contribution to overall score**	**8.90%**
No. of BREEAM innovation credits	**0**	**Minimum Standards applicable**	**No**

Assessment Criteria

Where the following targets are met for the improvement in Energy Efficiency Rating achieved as a result of refurbishment:

Indicative Credits 5

Improvement in EER	Credits
≥ 5	0.5
≥ 9	1
≥ 13	1.5
≥ 17	2
≥ 21	2.5
≥ 26	3
≥ 31	3.5
≥ 36	4
≥ 42	4.5
≥ 48	5
≥ 54	5.5
≥ 60	6

Comments

The dwellings will be an improvement on the existing energy efficiency rating of the dwellings.

Ene 02 Energy Efficiency Rating Post Refurbishment

No. of BREEAM credits available	4	Available contribution to overall score	5.93%
No. of BREEAM innovation credits	2	Minimum Standards applicable	Yes

Assessment Criteria

Where the following Energy Efficiency Rating benchmarks will be met as a result of refurbishment:

Indicative Credits
3.5

EER post refurbishment	Credits	Minimum requirements
≥50	0.5	'Pass' level EER of 50
≥55	1	'Good' level EER of 58
≥60	1.5	
≥65	2	'Very Good level' EER of 65
≥70	2.5	'Excellent' level EER of 70
≥75	3	
≥80	3.5	'Outstanding' level EER of 81
≥85	4	

Exemplary	Credits
≥90	1
≥100	2

Indicative Innovation Credits Achieved
0

Comments

The dwellings will be an improvement on the existing energy rating post refurbishment.

Ene 03 Primary energy demand

No. of BREEAM credits available	7	Available contribution to overall score	10.38%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where the following Primary Energy Demand benchmarks will be met as a result of refurbishment:

Indicative Credits
6

Primary Energy Demand Post Refurbishment	Credits
≤ 400	0.5
≤ 370	1
≤ 340	1.5
≤ 320	2
≤ 300	2.5
≤ 280	3
≤ 260	3.5
≤ 240	4
≤ 220	4.5
≤ 200	5
≤ 180	5.5
≤ 160	6
≤ 140	6.5
≤ 120	7

Comments

The Primary energy demand will be reduced via passive design and energy efficient specification.

Ene 04 Renewable Technologies

No. of BREEAM credits available	2	Available contribution to overall score	2.97%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where the dwelling will meet the following % contribution from renewables and primary energy demand targets as a result of refurbishment

Indicative Credits
2

Dwelling Type	Primary Energy Demand	Percentage from Renewables	
		1 Credit	2 Credits
Detached	≤ 250 kWh/m^2/year	≥10%	≥20%
Semi-Detached		≥10%	≥20%
Bungalow		≥10%	≥20%
End of Terrace		≥10%	≥20%
Mid Terrace	≤ 220 kWh/m^2/year	≥10%	≥20%
Low Rise Flat		≥10%	≥20%
Mid Rise Flat		≥10%	≥15%
High Rise Flat		≥10%	≥15%

Comments

The Development is to incorporate a CHP and Solar PV as a result it is assumed a minimum of a 10% reduction through Low and zero carbon technologies

Ene 05 Energy Labelled White Goods

No. of BREEAM credits available	2	Available contribution to overall score	2.97%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where Energy Efficiency White goods are to be provided as follows:

Indicative Credits
2

First Credit

Appliance	Appliance provided	Appliance not to be provided
Fridges, Freezers and Fridge-Freezers	A+ Rating under EU Energy Efficiency Labelling Scheme	EU Energy Efficiency Labelling Scheme Information Leaflet provided to all dwellings

Second Credit

Appliance	Appliance provided	Appliance not to be provided
Washing Machines and Dishwashers	Washing Machine A++ under EU Energy Efficiency Labelling Scheme AND Dishwasher A+ uner EU Energy Efficiency Labelling Scheme	Second credit not achieved
Washer-Dryers and Tumble Dryers	Appliances specified with A Rating under EU Energy Efficiency Labelling Scheme	EU Energy Efficiency Labelling Scheme Information Leaflet provided to all dwellings

Comments

Energy Efficient White Goods are to be specified.

Ene 06 Drying Space

No. of BREEAM credits available	1	Available contribution to overall score	1.48%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where adequate, secure internal or external space with posts and footings or fixings is provided with the following:

Indicative Credits
0

1 Credit

Number of bedrooms	Drying line required
1-2	4m+
3+	6m+

Comments

Credit not targeted

Ene 07 Lighting

No. of BREEAM credits available	2	Available contribution to overall score	2.97%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where energy efficient internal and external lighting is provided as follows:

Indicative Credits
1

External Lighting - 1

Energy Efficient Space Lighting of more than 45 lumens per circuit watt and Energy Efficient Security Lighting OR

Where Energy Efficient Space Lighting is provided ONLY

Internal Lighting - 1

Maximum average wattage across the total floor area of the dwelling of 9 watts/m2

Comments

Energy efficient external lighting is to be provided. Internal lighting credit currently not targeted to allow for greater flexibility in internal lighting design.

Ene 08 Display Energy Devices

No. of BREEAM credits available	2	Available contribution to overall score	2.97%
No. of BREEAM innovation credits	1	Minimum Standards applicable	No

Assessment Criteria

Where consumption data is displayed to occupants by a compliant energy display device

Indicative Credits
2

Electricity usage data displayed	Primary Heating Fuel	
	Electricity	Other
Electricity usage data displayed	2 credits awarded	1 credit awarded
Primary Heating Fuel usage data displayed	N/A	1 credit awarded
Electricity & Primary Heating Fuel usage displayed	N/A	2 credits awarded

Exemplary Credits

One credit Recording consumption data	Where the first two credits are achieved Where any compliant Energy Display Device is capable of recording consumption data

Indicative Innovation Credits Achieved
0

Comments

Electricity and primary heating fuel usage display devices are to be specified.

Ene 09 Cycle Storage

No. of BREEAM credits available	2	Available contribution to overall score	2.97%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where individual or communal compliant cycle storage is provided as follows:

Indicative Credits
1

Dwelling Size	One Credit	Two Credits
Studios/ 1 bedroom	1 per two dwellings	1 per dwelling
2-3 bedrooms	1 per dwelling	2 per dwelling
4 bedrooms	2 per dwelling	4 per dwelling

Comments

Based on current cycle provision one credit can be assumed for the residential units

Ene 10 Home Office

No. of BREEAM credits available	1	Available contribution to overall score	1.48%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where sufficient space and services will be provided to allow occupants to set up a home office in a suitable room with adequate ventilation

Indicative Credits
1

Comments

Each dwelling will have a suitable place for a home office

WATER	Section Weighting: 11%	Indicative Section Score 8.80%

Wat 01 Internal Water Use

No. of BREEAM credits available	3	Available contribution to overall score	6.60%
No. of BREEAM innovation credits	1	Minimum Standards applicable	Yes

Assessment Criteria

Where the dwellings water consumption meets the following consumption benchmarks, or where terminal fittings meet the following water consumption standards:

Indicative Credits
2

Calculated Water Consumption (litres/person/day)	Equivalent terminal fitting standards	Minimum Standard	Credits
>150	Typical baseline performance	N/A	0
from 140 to ≤ 150	All showers specified to 'Good' **OR** All taps and WC's to 'Good' **OR** Kitchen fittings specified to 'Excellent'	N/A	0.5
from 129 to < 140	All showers specified to 'Excellent' **OR** All showers and bathroom taps to 'Good'	BREEAM Very Good	1
from 118 to < 129	All bathroom and WC room fittings specified to 'Good' **OR** All bathroom fittings specified to 'Excellent'	N/A	1.5
from 107 to < 118	All Bathroom and WC room fittings specified to 'Excellent' **OR** All Bathroom fittings Specified to 'Excellent' and WC room fitting specified to 'Good' **OR** All Bathroom fittings, kitchen and utility sittings specified to 'Good'	BREEAM Excellent	2
from 96 to < 107	All kitchen, bathroom, utility room and WC room fittings specified to 'Good' **OR** All bathrooms, kitchens and utility rooms specified to 'Excellent'	N/A	2.5
< 96	All bathroom fittings specified to 'Excellent' and WC room, kitchen and utility room fittings specified to 'Good'	BREEAM Outstanding	3

NOTE: 'Good' fittings are equivalent to good practice fittings with "Excellent" fittings equivalent to best practice fittings (see the technical manual for full details.

Exemplary Credit	If the water consumption is less than 80l/person/day

Indicative Innovation Credits Achieved
0

Comments

The sanitary ware will have the following minimum water efficiencies; Shower - 8 litres per minute or less, Baths - 140 litre capacity to overflow or less WCs - 4 litres effective flushing volume or less, Bathroom and WC room taps - 5 litres per minute or less, Kitchen and utility room taps - 5 litres per minute or less, Dishwashers - 13 litres per cycle, Washing machines - 60 litres per use

Wat 02 External Water Use

No. of BREEAM credits available	1	Available contribution to overall score	2.20%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where the following requirements will be met:

Indicative Credits
1

Requirements:

One Credit	Where a compliant rainwater collection system for external/internal irrigation use has been provided to dwellings. **OR** Where dwellings have no individual or communal garden space.

Comments

Dwellings do not have any individual or communal garden space

Wat 03 Water Meter

No. of BREEAM credits available	1	Available contribution to overall score	2.20%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where an appropriate water meter for measuring usage of mains potable water meter has been provided to dwelling(s), one credit may be awarded

Indicative Credits
1

Comments

Pulsed water meters are to be installed for each dwelling

MATERIALS	Section Weighting: 8%	Indicative Section Score 4.50%

Mat 01 Environmental Impact of Materials

No. of BREEAM credits available	25	Available contribution to overall score	4.16%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Up to 25 credits can be awarded, with credits calculated using the Mat 01 calculator tool. The table below shows the maximum number of credits available for each element:

Indicative Credits
13

Elements	Green Guide Rating credits available	Thermal performance credits available*
Roof	5	3
External walls	5	3.8
Internal walls (including separating walls)	5	-
Upper and Ground Floor	5	1.2
Windows	5	2

The full 25 credits represents all of the elements containing refurbished or existing materials that meet the Green Guide Rating of A+(6)

GG Rating	Points for existing / refurbished elements	Points for new elements
A+ (6)	5	
A+ (5)	4.6	
A+ (4)	4.2	
A+ (3)	3.8	
A+ (2)	3.4	
A+	3	3
A	2	2
B	1	1
C	0.5	0.5
D	0.25	0.25
E	0	0

Where the full 25 credits cannot be achieved the score can be 'topped up' with thermal performance credits. The full number of thermal performance credits for each element can be achieved when achieving the minimum U-values shown below.

Elements	Minimum U-Value
Roof	0.11
External walls	0.15
Internal walls (including separating walls)	-
Upper and Ground Floor	0.15
Windows	1.4

Comments

It is assumed approximately half the available material credits will be achieved.

Mat 02 Responsible Sourcing of Materials

No. of BREEAM credits available	15	Available contribution to overall score	2.50%
No. of BREEAM innovation credits	0	Minimum Standards applicable	Yes

Assessment Criteria

Where new materials are responsibly sourced, up to 12 credits may be awarded where 80% of new materials for an element are responsibly sourced. The credits achieved are dependent on % of point achieved which is based upon the responsible sourcing tier level of each material sourced as detailed below:

Indicative Credits: 6

Sustainable Procument Plan (3 BREEAM credits)
The principal contractor sources materials for the project in accordance with a documented sustainable procurement plan
OR Where the principal contractor is a Small Company (up to 3 BREEAM credits)
Checklist A-9 is filled in with supporting evidence

Will all new timber used in the project be sourced in accordance with the UK Government's Timber Procurement: Yes

Table 1

BREEAM credits	% of available points achieved
12	≥54%
10	≥45%
8	≥36%
6	≥ 27%
4	≥ 18%
2	≥ 9%

Comments

It is assumed approximately half the available responsible sourcing credits will be achieved.

Mat 03 Insulation

No. of BREEAM credits available	8	Available contribution to overall score	1.33%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where any new insulation specified for use within external walls, ground floor, roof and buildings services meet the following requirements:

Indicative Credits: 8

Requirements

4 Credits	Where the Insulation Index for new insulation used in the buildings is ≥2
	Where Green Guide ratings are determined using the Green Guide to specification tool

Requirements

4 Credits	Where ≥ 80% of the new thermal insulation used in the building elements is responsibly sourced.

Comments

All insulation will be responsibly sourced and have and insulation index of greater than 2.

WASTE — Section Weighting: 3% — Indicative Section Score 3.00%

Was 01 Household Waste

No. of BREEAM credits available	2	Available contribution to overall score	1.20%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Where compliant recycling and composting facilities are provided, up to two credits may be awarded as follows

Indicative Credits: 2

First Credit - Recycling Facilities	
Scenario	**Internal recycling storage requirements**
Compliant collection scheme in place	3 internal recycling containers provided where recycling is not sorted post collection
	1 internal recycling container provided where recycling is sorted post collection
	Minimum 30 litre total capacity, no single container less than 7 litre capacity
	Dedicated position in accordance with compliance note 1
No compliant collection scheme in place No adequate external storage	3 internal recycling containers provided
	Minimum 60 litre total capacity
	Dedicated position in accordance with compliance note 1
No compliant collection scheme in place Adequate external storage provided	3 internal recycling containers provided
	Minimum 30 litre total capacity, no single container smaller than 7 litre
	Dedicated position in accordance with compliance note 1

Second credit - Composting facilities	
With external space	**Without external space**
Where a composting service or facility is provided for green/garden waste	Where a composting service or facility is provided for kitchen waste
Where a composting service or facility is provided for kitchen waste	Where an interior container is provided for kitchen composting waste of at least 7 litres
Where an interior container is provided for kitchen composting waste of at least 7 litres	

Comments

Suitable internal recycling storage will be in specified (min 30 Litres). A suitable internal bin will also be provided for food waste (7 Litres).

Was 02 Refurbishment Site Waste Management

No. of BREEAM credits available	3	Available contribution to overall score	1.80%
No. of BREEAM innovation credits	1	Minimum Standards applicable	No

Assessment Criteria

Up to three credits are available depending on the site waste management plan to be implemented as follows

Indicative Credits: 3

Projects up to £100k

Three Credits	Where waste generated through the refurbishment process is managed in accordance with Checklist A-9
Exemplary Credit	Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place

Indicative Innovation Credits Achieved: 0

Projects up to £300k

Three Credits	Where a compliant Level 1; Site Waste Management Plan (SWMP) is in place
	Where a compliant Level 2; Site Waste Management Plan (SWMP) is in place
	Non-hazardous construction waste generated by the dwellings refurbishment

Exemplary Credit	meets or exceeds the resource efficiency benchmark
	The percentage of non-hazardous construction waste and demolition waste generated by the project has been diverted from landfill and meets or exceeds the refurbishment & demolition waste diversion benchmarks

Projects over £300k

First Credit Management Plan	Where a compliant Level 2; Site Waste Management Plan (SWMP) is in place
Second Credit Good Practice Waste Benchmarks	First credit achieved
	Non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the resource efficiency benchmark
	Amount of waste generated against £100,000 of project value is recorded in the SWMP
	Pre-refurbishment audit of the existing building is completed
	If demolition is included as part of the refurbishment programme, then the audit should also cover demolition materials
Third Credit Best Practice Waste Benchmarks	Where the first two credits have been achieved achieved
	Where Non-hazardous demolition waste generated by the dwellings refurbishment meets or exceeds the refurbishment & demolition waste diversion benchmarks
Exemplary Credit	Where non-hazardous construction waste generated by the dwellings refurbishment meets or exceeds the *exemplary level resource efficiency benchmark*
	Where Non-hazardous demolition waste generated by the dwellings refurbishment meets or exceeds the exemplary level diversion benchmarks

Comments

The project is going to cost over 300K; consequently a compliant level 2 site waste management plan is required. Waste diversion targets are required to meet the following:
'Amount of non-hazardous construction waste generated per £100,000 of project value less than 26.52m3' and
'70% of non-hazardous construction waste and 80% of non-hazardous demolition waste are required to be diverted from landfill.'

POLLUTION	Section Weighting: 6%	Indicative Section Score 3.75%

Pol 01 NOx Emissions

No. of BREEAM credits available	3	Available contribution to overall score	2.25%
No. of BREEAM innovation credits	0	Minimum Standards applicable	No

Assessment Criteria

Credits are awarded on the basis of NOx emissions arising from the operation of space heating and hot water systems for each refurbished dwelling as follows:

Indicative Credits
3

	Dry NOx Emissions
One Credit	≤100 mg/kWh (NOx class 4 boiler)
Two Credits	≤70 mg/kWh (NOx class 5 boiler)
Three Credits	≤40 mg/kWh

Comments

The domestic refurbishment will utilise Low NOx emission gas fired boilers and a gas fired CHP unit.

Pol 02 Surface Water Runoff

No. of BREEAM credits available	3	Available contribution to overall score	2.25%
No. of BREEAM innovation credits	1	Minimum Standards applicable	No

Assessment Criteria

Where impacts of the refurbishment on surface water runoff are neutralised or where runoff is reduced as a result of refurbishment, up to three credits can be awarded as follows:

Indicative Credits
0

	Requirements
One Credit Neutral Impact on Surface Water	New hard standing areas must be permeable
	If building on to previously permeable area additional run-off must be managed on site
	Calculations should be carried out by an appropriately qualified professional

	Requirements
OR Second Credits Reducing Run-Off From Site: Basic	Where the criteria needed for One Credit has been achieved
	Where all run-off from the roof for rainfall depths up to 5 mm, have been managed on site using source control methods
	Include runoff from all existing and new parts of the roof.
	An appropriately qualified professional should be used to design an appropriate drainage strategy for the site

	Requirements
OR Three Credits Reducing Run-Off From Site: Advanced	Where run-off as a result of the refurbishment is managed on site using source control
	An appropriately qualified professional should be used to design an appropriate drainage strategy for the site.
	The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event has been reduced by 75% from the existing site.
	The total volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration has been reduced by 75%.
	An allowance for climate change must be included for all of the above calculations, in accordance with current best practice (PPS25, 2010).

	Requirements
Exemplary Credit	Where all run-off from the developed site is managed on site using source control
	The peak rate of run-off as a result of the refurbishment for the 1 in 1 year event is reduced to zero.
	The peak rate of run-off as a result of the refurbishment for the 1 in 100 year event is reduced to zero.
	There is no volume of run-off discharged into the watercourses and sewers as a result of the refurbishment, for a 1 in 100 year event of 6 hour duration.
	An allowance for climate change must be included for all of the above calculations, in accordance with current best practice (PPS25, 2010).

Indicative Innovation Credits Achieved
Please Select

Comments

Pol 03 Flooding

No. of BREEAM credits available	2	Available contribution to overall score	1.50%
No. of BREEAM innovation credits	0	Minimum Standards applicable	Yes

Assessment Criteria

Where the dwelling is located in a low flood risk zone, or where in a medium to high flood risk zone and a flood resilience/resistance strategy has been implemented, up to two credits can be awarded as follows:

Indicative Credits
2

Minimum Standards	A minimum of two credits must be achieved for this issue at the Excellent and Outstanding levels

Option 1 - Low Flood Risk

Two Credits	Where a Flood Risk Assessment (FRA) has been carried out and the assessed dwellings are defined as having a low annual probability of flooding.

Option 2 - Medium / High Flood Risk

Two Credits	Where a Flood Risk Assessment (FRA) has been carried out and the assessed dwellings are defined as having a medium or high annual probability of flooding.
	Two credits are awarded where as a result of the dwellings floor level or measures to keep water away the dwelling is defined as achieving avoidance from flooding by following Checklist A-10; Decision Strategy Flow Chart.
	Where avoidance is not possible, two credits are achieved where a full flood resilience/resistance strategy is implemented for the dwellings in accordance with recommendations made by a Suitably Qualified Building Professional

Comments