120 Holborn Investment Limited Partnership

120 Holborn

Leisure Centre Sustainability Statement

Job No:	1005811
Doc No:	1005811-RPT-00039
Latest Revision:	E
Date:	21/05/2015

Cundall Johnston and Partners LLP Saffron House 6-10 Kirby Street London EC1N 8TS Tel +44 (0)20 7438 1600 www.cundall.com

Project name	120 Holborn	**Job Number**
Report Name	Leisure Centre Sustainability Statement	1005811

Document Revision History

Revision Ref	Issue Date	Purpose of issue / description of revision
-	31/03/2014	Draft issue for comment
A	03/04/2014	Updated to include energy strategy
B	04/04/2014	Updated to reflect comments
C	13/05/2015	Updated to reflect new energy strategy
D	14/05/2015	Updated to reflect comments

Document Validation (latest issue)

Revision	Issue Date	Purpose of issue / description of revision / version			
E	21/05/2015	Issued for Planning			
			Prepared by	Checked by	Approved by
		Name	Chris Turner	Simon Wyatt	
		Signature			

Contents

1. Executive Summary

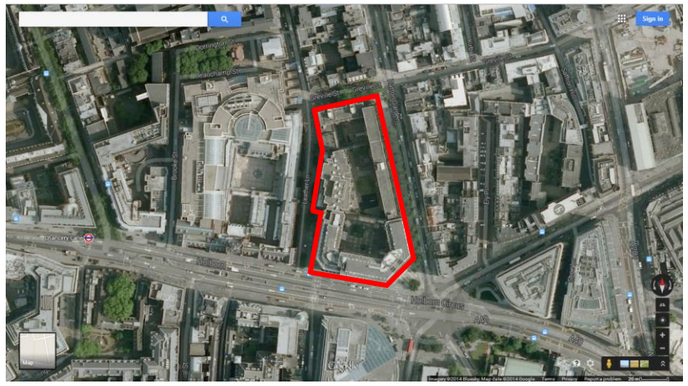
Low environmental impact will be at the heart of the design of the proposed 120 Holborn basement Leisure Centre redevelopment. This Sustainability Statement outlines the development's approach to sustainability, energy efficiency and renewable energy strategies in order to meet the targets set out in the guidance from the London Borough of Camden.

To benchmark this process, the Building Research Establishment's BREEAM methodology has been used. This considers the broad environmental concerns of climate change, pollution, impact on occupants and the wider community. It balances this with the need for a high quality, safe and healthy internal environment. These standards go beyond the requirements of the Building Regulations.

The preliminary assessment indicates that the leisure centre redevelopment is likely to achieve a 'Very Good' BREEAM Refurbishment 2008 rating.

A number of sustainable and energy efficient measures included in the proposed design are listed below:

- Thermal insulation levels for all the existing building elements will be increased beyond the new build standards, thereby substantially reducing the building's heat losses;
- The leisure centre will be mechanically ventilated with heat recovery, reducing the heating demand
- High efficiency gas boilers will provide the development's DHW demand and all showers will be equipped with high efficiency waste water heat recovery units;
- Space heating will be provided by Variable Refrigerant Flow (VRF) heat pumps with high seasonal coefficients of performance;
- The same VRF heat pumps will provide cooling during summer months;
- The development will use low energy lighting with timers, dimmers and zoning controls to reduce energy consumption;
- All energy supplies will be metered using smart meters to enable the leisure centre tenants to be responsible for their own consumption and hence CO_2 emissions;
- The London heat map indicates that the Citigen district heating network is proposed to run within 100m of the development and as such during the detailed design development negotiations will be opened with Citigen regarding potential connection. Whilst there is no time scale on this district network expansion as a minimum provision for plate heat exchangers will be provided in the plant rooms. We recommend further investigation into the technical and financial feasibility of connection is undertaken at the detailed design stage;
- As part of the leisure centre plant room the feasibility of incorporating a Combined Heat & Power (CHP) has been investigated. CHP was disregarded on basis of limited electrical demand within the development;
- An extensive range of low and zero carbon technologies have been considered in terms of providing a proportion of the development's energy demand;
- Using VRF heat pumps results in a 15% reduction in the development's CO_2 emissions when the heat pumps supply all of the development's heating and cooling;
- Biomass boilers are not compatible with the development's underground location due to refuelling and local air quality issues;
- The development has limited roof space meaning that solar thermal collectors and photovoltaic panels are not viable for this site;
- Wind turbines and ground source heat pumps are not viable due to the constraints associated with being a basement development;
- The combination of the aforementioned passive design measures and the air source heat pumps results in the development achieving a 42% improvements over the 2010 Building Regulation standards, exceeding the 40% target as set out in Policy 5.2 of the London Plan 2015;
- Building materials, where possible, will be sourced locally to reduce transportation pollution and support the local economy;
- Reuse of the existing superstructure in the basement will reduce the embodied carbon emissions associated with new building materials;
- All timber will be purchased from responsible forest sources;
- Recycling facilities will be provided on site for construction and operational waste;
- Water use will be minimised by the specification of water efficient taps, shower heads, dual flush toilets and low water use appliances;
- Water metering and leak detection alarms will be installed to monitor and minimise wastage;
- The construction site will be managed in an environmentally sound manner in terms of resource use, storage, waste management, pollution. A Site Waste Management Plan (SWMP) will be produced for the works.



Proposed Site Location

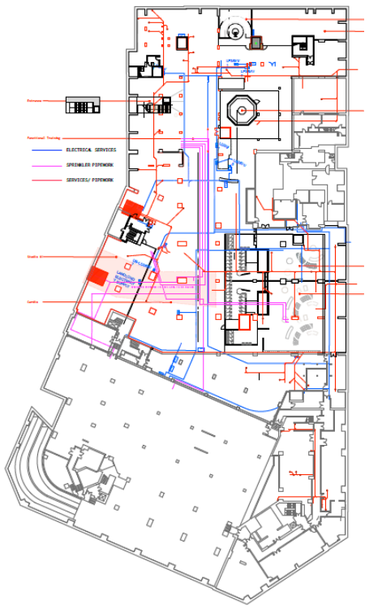


Illustration of Proposed Floor plan

2. Introduction

This Sustainability Statement has been prepared in support the application to amend the permission secured for the change of use to a gym within the basement of 120 Holborn.. It aims to meet the energy and climate change requirements of the Borough of Camden and the Greater London Authority.

The format of the statement is intended to reflect and respond to the issues raised in the GLA's 'Spatial Development Strategy for Greater London' - the 'London Plan 2015'.

The principal objectives are to reduce the site's contribution to the causes of climate change by minimising the emissions of CO_2, by reducing the site's needs for energy and providing some of the requirement by renewable/sustainable means. Issues such as water, waste, biodiversity, etc. have also been addressed in the study.

The GLA London Plan 2015 and GLA Energy Strategy are considered to be the benchmark for local planning regulation. Together they provide a useful tool against which to undertake energy and sustainability assessments.

To guide and benchmark this process, the Building Research Establishment's BREEAM Bespoke Refurbishment 2008 methodology has also been used to assess the development. A preliminary assessment indicates that a "Very Good" rating will be achieved (see Appendix A).

BREEAM considers the broad environmental concerns of climate change, pollution, impact on residents and the wider community. It balances these with the need for high-quality, safe and healthy internal living and working environment. These standards go beyond the requirements of the Building Regulations.

2.1 Outline Description of Development

The proposals for the redevelopment of 120 Holborn will constitute a Material Change of Use from B1 office accommodation to D2 leisure centre.

The basement development will be accessible from a street level entrance located on Leather Lane.

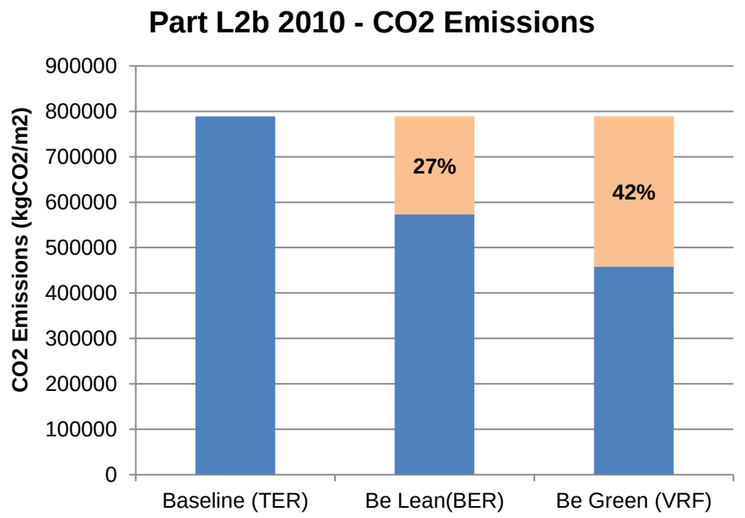
The site is located in central London just off the High Holborn Road within close proximity to the local shops, tube and rail stations.

The total floor size of the development is 3,962m^2.

3. Energy Strategy

In accordance with the London Borough of Camden's Planning requirements and the GLA's London Plan 2015 the following energy strategy has been developed for the proposed 120 Holborn leisure centre development:

- Thermal insulation levels for all the existing building elements will be increased beyond the new build standards, thereby substantially reducing the building's heat losses;
- The leisure centre will be mechanically ventilated with heat recovery, reducing the heating demand
- High efficiency gas boilers will provide the development's DHW demand and all showers will be equipped with high efficiency waste water heat recovery units;
- Space heating will be provided by Variable Refrigerant Flow (VRF) heat pumps with high seasonal coefficients of performance;
- The same VRF heat pumps will provide cooling during summer months;
- The development will use low energy lighting with timers, dimmers and zoning controls to reduce energy consumption;
- The London heat map indicates that the Citigen district heating network is proposed to run within 100m of the development and as such during the detailed design development negotiations will be opened with Citigen regarding potential connection. Whilst there is no time scale on this district network expansion as a minimum provision for plate heat exchangers will be provided in the plant rooms. We recommend further investigation into the technical and financial feasibility of connection is undertaken at the detailed design stage;
- As part of the leisure centre plant room the feasibility of incorporating a Combined Heat & Power (CHP) has been investigated.
- In the original application a CHP engine was proposed to meet the DHW and swimming pool heating load, however the proposed design on longer includes a pool and hence a CHP engine is on longer viable.
- An extensive range of low and zero carbon technologies have been considered in terms of providing a proportion of the development's energy demand;
- Using VRF heat pumps results in a 15% reduction in the development's CO_2 emissions when the heat pumps supply all of the development's heating and cooling; Space will be provided by the estate for the external VRF units.
- Biomass boilers are not compatible with the development's underground location due to refuelling and local air quality issues;
- The development has limited roof space meaning that solar thermal collectors and photovoltaic panels are not viable for this site;
- Wind turbines and ground source heat pumps are not viable due to the constraints associated with being a basement development;
- The combination of the aforementioned passive design measures and air source heat pumps in the development achieving a 42% improvements over the 2010 Building Regulation standards, exceeding the 40% target as set out in Policy 5.2 of the London Plan 2015.



Carbon Offset Fund		
40% Carbon Target Offset	315486	kg
Design Offset	330193	kg
Shortfall	-14707	kg
Carbon Cost (Zero Carbon Hub)	46	£/T
Years	30	
Total Offset Cost	-20296	£

	Regulated Carbon dioxide	
	(Tonnes CO_2 pa)	(%)
Savings from Energy Demand	215.26	27%
Savings from CHP	0.00	0%
Savings from Renewable Sources	114.94	42%
Total Cumulative Savings	**330.19**	**42%**
Total Target Savings	**315.49**	40%
Annual Surplus	**14.71**	

.

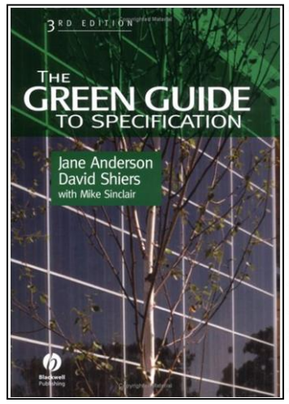
4. Materials

Building and construction activities worldwide consume 3 billion tons of raw material each year, which account for approximately 50% of total global consumption. Using green/sustainable building materials and products promotes conservation of dwindling non-renewable resources. In addition, integrating sustainable building materials into building projects can help reduce the environmental impacts associated with the extraction, transport, processing, fabrication, installation, reuse, recycling, and disposal of these source materials.

The aim for the proposed 120 Holborn development will be for its overall environmental impact to be minimised through the specification of sustainable materials and the re-use of the existing structure.

4.1 Environmental Impact of Materials

New materials with low overall environmental impact will be chosen and advice from the Green Guide to Specification will be taken into consideration for the selection. The Green Guide rates the environmental impact of different materials and components, taking into account factors like toxicity, ozone depletion, ease of recycling, waste disposal etc. Where viable, at least 80% (by area) of the new main elements in the building, fabric & building services insulation should be specified to achieve the best performing “A” and “A+” ratings from the Green Guide.



Environmental Issue
Climate Change*
Water extraction
Mineral extraction
Stratospheric ozone depletion*
Human toxicity
Ecotoxicity to freshwater
Higher level nuclear waste
Ecotoxicity to land
Waste disposal
Fossil fuel depletion
Eutrophication*
Photochemical ozone creation*
Acidification*

The 13 Environmental Issues assessed by the Green Guide

4.2 Sustainable Timber

All timber used for basic or finishing building elements in the scheme will be sourced from responsibly managed and sustainable forests or plantations. Such timber products are the only truly renewable construction material in common use and growing trees also absorb and fix CO_2. Forests can also provide the habitat for a wide variety of plant and animal life, preserving important ecology and promoting biodiversity.

4.3 Locally Sustainable Materials

A building that is truly sustainable must be constructed using locally sourced, sustainable materials i.e. materials that can be supplied without any adverse effect on the environment. Therefore, where practical, materials should be sourced from local suppliers, reducing the environmental impacts and CO_2 emissions associated with transportation to the site.

4.4 Recycled Materials

Scope for increased recycling will be incorporated by specifying recycled materials where possible and ensuring that even where new materials are used, as much as possible can be recycled at the end of the buildings’ life.

Specifying materials with a high-recycled content is also another method of saving processing or manufacturing energy. The recycled content of a material can be described as either post-consumer or post-industrial to indicate at what point in the life cycle a material is reclaimed.

As the development is reusing the existing basement of 120 Holborn, a large amount of embodied CO_2 emissions associated with new building materials will be saved. Furthermore the CO_2 emissions associated with transportation of new building materials are negated.

4.5 Ozone Depletion and Global Warming

CFCs and HCFCs, compounds commonly used in insulation materials and refrigerants, can cause long-term damage to the Earth’s stratospheric ozone layer, exposing living organisms to harmful radiation from the sun. They also significantly increase global-warming if they leak into the atmosphere. Following the Montreal Protocol, production and use of CFCs is no longer permitted and EC regulations will require phasing out of HCFCs by 2015. However, products that replace these gases are often still potent global warming contributors.

All insulation materials specified for the proposed scheme will have zero Ozone Depleting Potential and low Global Warming Potential, (GWP<5) in either manufacture or composition in line with the BREEAM requirements. This will include insulation for building elements (ceiling, internal & external walls, and floor – including foundations) as well as insulation for hot water vessels and pipe or duct work.

5. Water Conservation

Water consumption in the UK has risen by 70% over the last 30 years. Trying to meet the increasing demand by locating new sources of water supply is both expensive and damaging to the environment. Therefore, the design team have focused on reducing the demand for water and managing the existing resources.

5.1 Demand Reduction and Water Efficiency

The aim is to minimise internal and external potable water use within the development. Good water management can contribute to reducing the overall level of water consumption maintaining a vital resource and having environmental as well as cost benefits in the life-cycle of the building. The following water saving measures are being considered:

Dual Flush Cisterns on WC's - These units have the ability to provide a single flush of 4L and/or a full flush of 6L.

Flow Restrictors to Taps - Flow restrictors reduce the volume of water discharging from the tap. Spray taps have a similar effect and are recommended to reduce both hot and cold-water consumption. Low flow taps in one of the above forms will be installed in all areas.

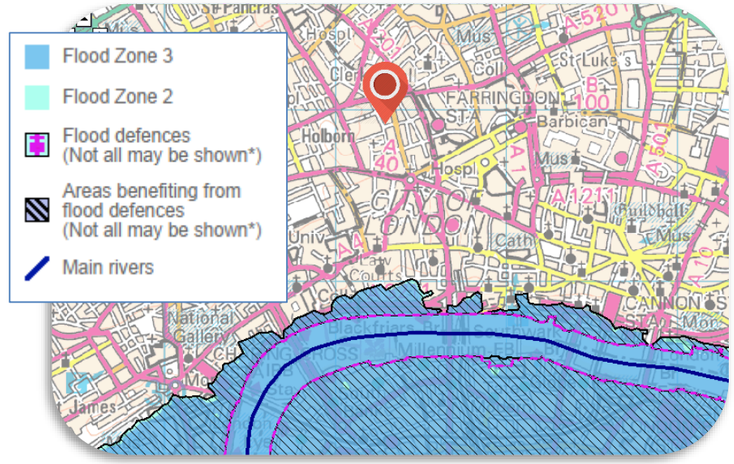
Low Flow Showers - The average shower uses 15 litres of water a minute, by restricting the output of the showers in the development to a maximum of 9 litres/ min a 40% water saving can be achieved. Flow rate can be reduced down to 6 litres/ min without compromising on water pressure and hence should be considered.

Water Meters - In 1995 approximately 33,200 million litres of water a day were extracted in England and Wales, this increased to 44,130 million litres/day in 2001, and much of this was for domestic water supply. To reduce this figure, accurate information on usage is required for management of a building's consumption. A water meter will be specified on the main supply to the development.

6. Sustainable Urban Drainage

As the site is currently completely impermeable with hard landscaping and building areas, the main aim for the development will be to improve the water retention of the site.

The Environment Agency's Flood Map indicates that the site is located within Flood Zone 1.



Flood Map for 120 Holborn

As a minimum, the design will ensure that the peak rate of runoff into watercourses is no worse than the existing site's run off rate. This will comply with the Interim Code of Practice for Sustainable Drainage systems (SUDS) (CIRIA, 2004) or for at least the 1 year and 100 year return period events.

7. Waste Management

Buildings and building sites produce a significant amount of waste annually. Most of the waste produced in the UK is disposed of in landfill sites and only a small percentage of it is recycled or reused.

7.1 Waste Targets

Under EU legislation the UK will have to ensure that less than a third of its waste is sent for burial in landfill sites by 2020 and the figure at present is about 80%. To achieve this target a number of measures are implemented, including landfill tax, aiming to discourage disposal of waste to landfill. Good waste management is a key component of sustainable development. Reducing waste is an important means of:

- Reducing unnecessary expenditure;
- Reducing the amount of natural resources used for production of new materials;
- Reducing energy for waste disposal;
- Reducing levels of contamination and pollution arising from waste disposal.

The proposed development will minimise the impact of waste in the environment where possible.

7.2 Demolition & Construction

During the construction phase a large amount of waste material will be generated through construction, demolition and land clearing procedures. In building construction, the primary waste products in descending percentages are: wood, asphalt/concrete/masonry, drywall, roofing, metals, and paper products.

Prior to commencement on site a Site Waste Management Plan (SWMP) that complies with the requirements of current legislation and CSH will be prepared. This plan will identify the local waste haulers and recyclers, determine the local salvage material market, identify and clearly label site spaces for various waste material storage and require a reporting system that will quantify the results and set targets. As a minimum the SWMP will contain:

a. The target benchmark for resource efficiency e.g. m^3 of waste per $100m^2$ or tonnes of waste per $100m^2$;
b. Procedures and commitments for minimising non-hazardous waste in line with the benchmark;
c. Procedures for minimising hazardous waste;
d. Procedures for monitoring, measuring and reporting hazardous and non-hazardous site waste;
e. Procedures for sorting, reusing and recycling construction waste into defined waste groups either on site or through a licensed external contractor;
f. The name or job title of the individual responsible for implementing the above.

As the proposed scheme will utilise the existing building's core and facades, the amount of new building material required will be far less than for a comparable new build. Opportunities for introducing more reused or reusable materials/components will be explored during detailed design.

7.3 Waste Management & Reporting in Operation

The detailed design phases will identify the potential waste streams that the development will produce. As a minimum, plans will be formulated to handle the separation, collection, and storage of common recyclable materials such as paper, glass, plastics, and metals. The collection points will be easily accessible to all of the users.

- The main aim will be to recycle as much waste as possible; this will be achieved by making sure that waste recycling facilities are strategically placed in convenient locations.

Waste collection points

At key ground floor and basement locations there will be a number of colour coded waste recycling collection points, which will be emptied on a regular basis.

The elevators located near the front entrance onto Greville Street could be used to bring the waste to ground level. A goods lift located near the café could also be used to bring waste up to ground level.

8. Environmental Management

Construction sites are responsible for significant impacts, especially at a local level. These arise from noise, potential sources of pollution and waste and other disturbances. Impacts such as increased energy and water use are also significant. Therefore attention is being given to site-related parameters with the aim to protect and enhance the existing site & its ecology.

The aim is to have a construction site managed in an environmentally sound manner in terms of resource use, storage, waste management, pollution and good neighbourliness. To achieve this, there will be a commitment to comply with the Considerate Constructors Scheme and get a formal certification under the scheme in line with the BREEAM requirements. As a minimum a score of greater than 35 of out 50 will be achieved with an aspiration to exceed 40, with no individual section achieving a score of less than 7.

Areas that can be taken into consideration in order to minimise the impact of the construction site on its surroundings and the global environment as outlined in the BREEAM methodology:

- Monitor, report and set targets for CO_2 or energy usage arising from site activities;
- Monitor, report and set targets for CO_2 or energy usage arising from transport to and from site;
- Monitor, report and set targets for water consumption arising from site activities;
- Monitor construction waste on site, sorting and recycling construction waste where applicable;
- Adopt best practice policies in respect of air and water pollution arising from site activities;
- Operates an Environmental Management System;
- Additionally, all timber used on site should be responsibly sourced.

9. Land Use and Ecology

The site currently comprises of a mix of existing buildings and hard landscaping, with no ecological value to the site.

The proposed development will result in no negative change to the ecology of the site. The underground development will result in no loss of green areas.

10. Pollution

Global concern for environmental pollution has risen in recent years, as concentrations of harmful pollutants in the atmosphere are increasing. Buildings have the potential to create major pollution both from their construction and operation, largely through pollution to the air (dust emissions, NOx emissions, ozone depletion and global warming) but also through pollution to watercourses and ground water. The proposed development will aim to minimise the above impacts, both at the design stage and onsite.

10.1 Ozone Depletion

CFCs and HCFCs, compounds commonly used in insulation materials and refrigerants, can cause long-term damage to the Earth's stratospheric ozone layer, exposing living organisms to harmful radiation from the sun. They also significantly increase global-warming if they leak into the atmosphere. Following the Montreal Protocol, production and use of CFCs is no longer permitted and EC regulations will require phasing out of HCFCs by 2015. However, products that replace these gases are often still potent global warming contributors. Where refrigerants are used for air-conditioning and comfort cooling they will be CFC and HCFC-free.

10.2 Internal pollutants

Volatile organic compounds (VOCs) are emitted as gases (commonly referred to as offgassing) from certain solids or liquids. VOCs include a variety of chemicals, some of which are known to have short-term and long-term adverse health effects. Concentrations of many VOCs are consistently higher indoors (up to ten times higher) than outdoors.

VOCs are emitted by a wide array of products numbering in the thousands. Examples include: paints and lacquers, paint strippers, cleaning supplies, pesticides, building materials, furnishings, adhesives, Urea-formaldehyde foam insulation (UFFI), pressed wood products (hardwood plywood wall panelling, particleboard, fibreboard) and furniture made with these pressed wood products.

'No' or 'low' VOC paints are available from most standard mainstream paint manufacturers. There 'eco-friendly' paints are made from organic plant sources and also powdered milk based products.

The design team will seek to select internal finishes and fittings with low or no emissions of VOCs and comply with European best practice levels as a minimum.

10.3 NOx emissions from boilers

Nitrous oxides (NOx) are emitted from the burning of fossil fuels and contribute to both acid rain and to global warming in the upper atmosphere. At ground level, they react to form ozone, a serious pollutant and irritant at low level. Burners in heating systems are a significant source of low-level NOx, while power stations (and therefore electric heating) are a significant source of NOx in the upper atmosphere.

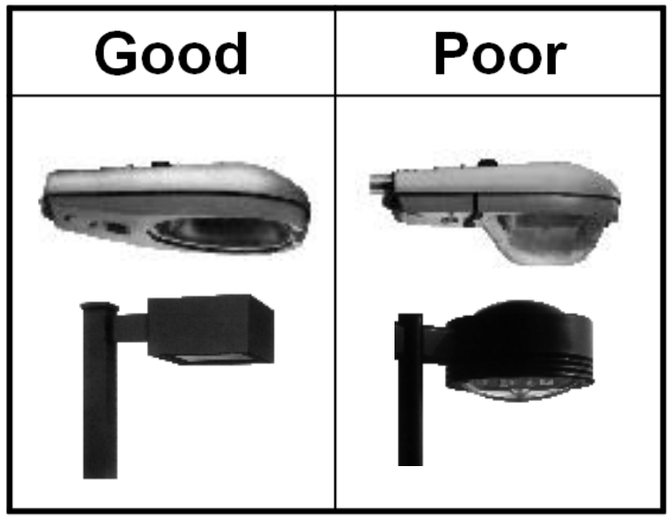
The amount of NOx emissions varies between products. New gas boilers vary from 40 NOx/kW to <70mg NOx/kWh (class 5). The proposed high efficiency gas boilers will be specified to have less than 40 NOx/kWh.

10.4 Night Sky Pollution

External lighting encompasses vehicle and pedestrian access lighting, security lighting, facility illumination and general feature lighting. Where present it will be designed on a site wide basis to meet the mandatory requirements and aesthetic considerations. The strategy is to provide a balance between adequate external lighting for safe and secure operation of the site without unnecessary illumination or power consumption.

The intention is to be a good neighbour and not to introduce nuisance glare or light pollution of the night sky from miss directed or unnecessary lighting. Feature lighting, where required, will be focussed to the task/subject. Where necessary luminaires will be further screened in cases where there may be an issue of close proximity and light spill to the adjacent neighbouring residential areas, although the intention is to avoid this situation arising wherever possible from the outset. The external lighting design will take into consideration the relevant guidance from the British Standards and other recommended documents including the following Standards and Design Guides:

- CIBSE Lighting Guide for the Outdoor Environment;
- CIBSE Lighting Design Guides;
- BS5489 Code of Practice for the Design of Road Lighting;
- BS EN 13201-1 Road Lighting, Selection of Lighting Classes;
- BSEN 13201-2 Road Lighting, Performance requirements;
- Institute of Lighting Engineers Guidance Notes for the Reduction of Obtrusive Light.



11. Transport

The transport of people between buildings is the second largest source of CO_2 emissions in the UK after energy use in buildings and remains the main source of many local pollutants. Energy use and emissions from transport are growing at 4% per year, and at the same time, the effects of climate change are becoming more severe; there will be greater pressure to control CO_2 emissions from transport and sites without good access to public transport will be at much greater risk from these controls.

11.1 Site location

The site for the proposed 120 Holborn development is located in central London, off the A40 (High Holborn Road). It has excellent access to the shops and offices of Tottenham Court Road and Oxford Circus.

The site is within 100m of Chancery Lane Underground station and 550m of Holborn Underground station. Farringdon Station, which has both Underground and National Rail services and from 2018 will be a Crossrail hub, is 500m away.

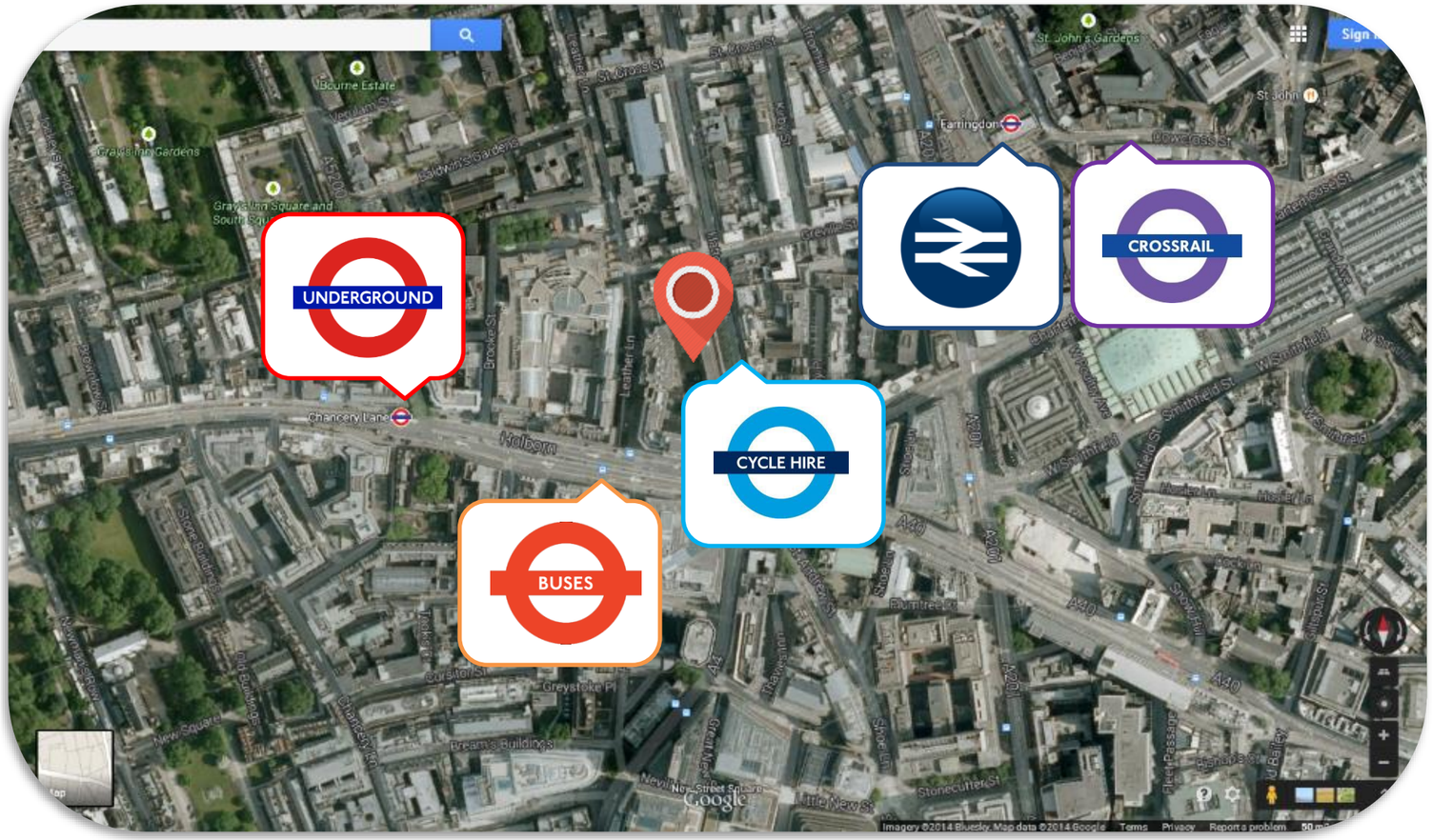
The London PTAL (Public Transport Accessibility) analysis indicates that 21 different bus routes have stops within 5 minutes' walk of the site. The Accessibility Index for the site is 73.42, with a PTAL rating of 6b, the highest possible.

11.2 Car Parking Spaces

No car parking spaces haven been provided for the proposed development so as to encourage the leisure centre occupants to use the local public transport facilities and green modes of transport.

11.3 Cycling facilities

The nearest Santander Cycle Hire scheme is 50m away. Furthermore, secure and covered bicycle storage will be provided within the development, with 8 spaces earmarked for staff and between 10 and 12 spaces earmarked for building users.



12. Appendix A: Preliminary BREEAM Assessment

BREEAM Bespoke Leisure Centre 2008

Job Number: ***1005811***

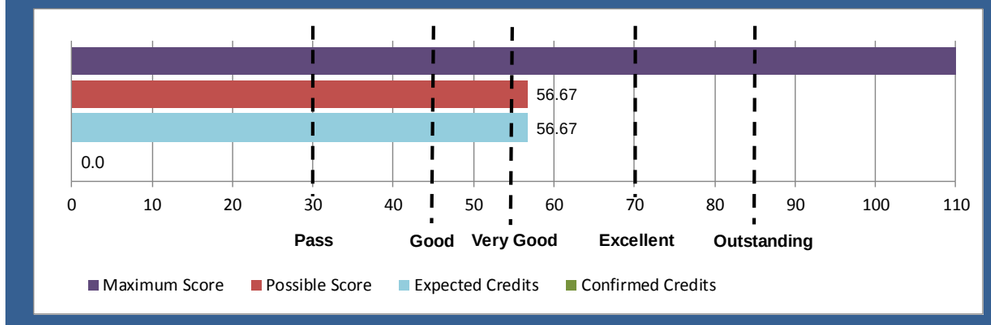
Building Name: ***120 Holborn***
BREEAM Ref No: ***-***
Assessor: ***Simon Wyatt***
Issue: ***13/05/2015***
Floor Area: **3573 sqm**

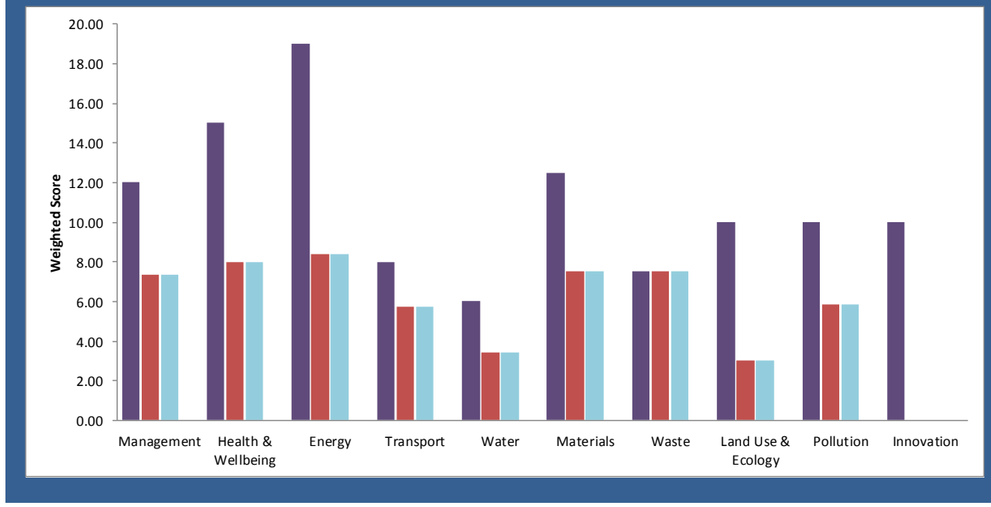
BREEAM RATINGS

Rating	Score
Pass	30
Good	45
Very Good	55
Excellent	70
Outstanding	85

WEIGHTED SCORE

Category	Maximum Score	Possible Score	Expected Credits	Confirmed Credits
Management	12.00	7.33	7.33	0
Health & Wellbeing	15.00	8.00	8.00	0
Energy	19.00	8.36	8.36	0
Transport	8.00	5.71	5.71	0
Water	6.00	3.43	3.43	0
Materials	12.50	7.50	7.50	0
Waste	7.50	7.50	7.50	0
Land Use & Ecology	10.00	3.00	3.00	0
Pollution	10.00	5.83	5.83	0
Innovation	10.00	0.00	0.00	0
TOTAL POINTS	**110.0**	**56.67**	**56.67**	**0.0**





Note: Check required mandatory credits are achieved for applicable rating

Ref	Title	Credit Criteria	BREEAM credits available	Credits confirmed - evidence received	Credits expected - awaiting evidence	Possible credits - design team to confirm	Mandatory Credits: Pass	Good	Very Good	Excellent	Outstanding	RIBA Stage	Comments / Actions	Design Action By	Extra Cost
Management			**12%**												
Man 1	Commissioning	One credit where an appropriate project team member has been appointed to monitor commissioning to ensure commissioning will be carried out in line with current best practice.	1		1		1	1	1	1	1	D	To be included in prelims		
		One credit where, in addition to the above, seasonal commissioning will be carried out during the first year of occupation, post construction (or post fit out).	1		1		-	-	-	-	1	D	Seasonal commissioning to be carried out over a minimum 12 month period, once the building becomes occupied. Possible additional cost.		
Man 2	Considerate Constructors	One credit where there is a commitment to comply with best practice site management principles. i.e. Considerate Constructors Scheme score of between 25 and 34	1		1		-	-	-	1	1	H	To be included in prelims		
		One credit where, in addition to the above, there is a commitment to go beyond best practice site management principles. i.e. Considerate Constructors Scheme score of between 35 and 39	1		1		-	-	-	-	1	H	To be included in prelims		
Man 3	Construction Site Impacts	One credit where 2 or more of items a-g (listed below) are achieved. a. Monitor, report and set targets for CO2 or energy arising from site activities b. Monitor, report and set targets for CO2 or energy arising from transport to and from site c. Monitor, report and set targets for water consumption arising from site activities d. Implement best practice policies in respect of air (dust) pollution arising from the site e. Implement best practice policies in respect of water (ground and surface) pollution occurring on the site f. Main contractor has an environmental materials policy, used for sourcing of construction materials to be utilised on site g. Main contractor operates an Environmental Management System.	1		1		-	-	-	-	-	H	To be included in prelims		
		Two credits where 4 or more of items a-g are achieved.	1		1		-	-	-	-	-	H	To be included in prelims		
		Three credits where 6 or more of items a-g are achieved:	1		1		-	-	-	-	-	H	To be included in prelims		
		One additional credit where at least 80% of site timber is responsibly sourced and 100% is legally sourced.	1		1		-	-	-	-	-	H	To be included in prelims		
Man 4	Building user guide	One credit for the provision of a simple guide that covers information relevant to the tenant/occupants and non-technical building manager on the operation and environmental performance of the building.	1		1		-	-	-	1	1	F	To be included in prelims		
Man 6	Consultation	One credit where consultation has been undertaken and feedback given to the local community & building users with advice sought from any relevant national and local history, archaeological bodies or military history groups regarding the heritage value of the building. One credit where, in addition to the above, the consultation process is being, or has been undertaken using an independent method facilitated by a third party.	1 1												
Man 8	Security	One credit where an Architectural Liaison Officer (ALO) or Crime Prevention Design Advisor (CPDA) from the local police force has been consulted at the design stage and their recommendations incorporated into the design of the building and its parking facilities	1		1		-	-	-	-	-	C			
Man 9	Publication of building information	One credit where the design team are committed to publicising information about the environmental performance of the new development via the internet, newsletters, site visits, presentations etc.	1				-	-	-	-	1	F			
Man 10	Development as a learning resource	One credit where the proposed building AND landscape design provides a learning resource that can be used to facilitate development of environmental issues.	1				-	-	-	-	1	C			
Man 11	Ease of maintenance	One credit where the specifications for the building and the building services/systems and landscaping have considered ease and efficiency of maintenance in line with best practice.	1		1		-	-	-	-	-	E			
Man 12	Life cycle costing	One credit where an assessment of Life Cycle Cost (LCC) analysis based on the feasibility study proposals has been undertaken on the building design at a strategic and system level. Must be done at RIBA Work Stages C/D.	1				-	-	-	-	-	C			
		One credit where, in addition to the above, the results of the feasibility study and consideration of LCC have been implemented.	1				-	-	-	-	-	D			
Man 14	Inclusivity	The first of the two available credits for BREEAM Issue Man 6 have been achieved. An access statement in line with the CABE publication Design & Access statements, How to write, read and use them, addressing access to and throughout the development for all users. The building is designed in accordance with British Standard 8300 Design of buildings and their approaches to meet the needs of disabled people.	1				-	-	-	-	-	D			
		Total Credits	**18**	**0**	**11**	**11**								**Total Extra Cost**	**£0**
		Category Score		**0%**	**61%**	**61%**									
		Weighted Points	**0.7** per credit	**0.0**	**7.3**	**7.3**									

Ref	Title	Credit Criteria	BREEAM credits available	Credits confirmed - evidence received	Credits expected - awaiting evidence	Possible credits - design team to confirm	Mandatory Credits: Pass	Good	Very Good	Excellent	Outstanding	RIBA Stage	Comments / Actions	Design Action By	Extra Cost
Health & Wellbeing			**15%**												
Hea 1	Daylighting	One credit where at least 80% of floor area in each occupied space is adequately daylit. i.e. an average daylight factor of 2% or more plus a uniformity ratio of at least 0.4 or the room depth criterion is satisfied.	1				-	-	-	-	-	D	Underground location of development means credit not possible.		
Hea 2	View Out	One credit where that all relevant building areas have an adequate view out. i.e. max. 7m radius from a window; where the window is ≥20% of the total inside wall area	1				-	-	-	-	-	D	Underground location of development means credit not possible.		
Hea 3	Glare Control	One credit where an occupant-controlled shading system (e.g. internal or external blinds) is fitted in relevant building areas.	1		1		-	-	-	-	-	D			
Hea 4	High frequency lighting	One credit where high frequency ballasts are installed on all fluorescent and compact fluorescent lamps.	1		1		1	1	1	1	1	D	MANDATORY CREDIT - All fluorescent and CFL lamps to be fitted with high frequency ballasts.		
Hea 5	Internal and external lighting levels	One credit where all internal & external lighting is specified in accordance with the appropriate maintained illuminance levels (in lux) recommended by CIBSE (CIBSE Lighting Guide 6 & 7, Code of Lighting 2004)	1		1		-	-	-	-	-	D			
Hea 6	Lighting zones & controls	One credit where in all relevant building areas, lighting is appropriately zoned and occupant controllable, i.e. zones of no more than 4 workstations and	1		1		-	-	-	-	-	D			
Hea 7	Potential for natural ventilation	One credit where external façade windows to all occupied areas are openable and at least on opposite sides for spaces more than 7m deep, for	1				-	-	-	-	-	D			
Hea 8	Indoor air quality	One credit where air intakes serving occupied areas avoid major sources of external pollution and recirculation of exhaust air. i.e. air inlets / exhausts at	1		1		-	-	-	-	-	D	Building's air intakes and exhausts are over 10m apart to minimise recirculation AND intakes are over 20m from sources of external pollution. Scaled drawings		
Hea 9	Volatile Organic Compounds	One credit where the emissions of VOCs and other substances from key internal finishes and fittings comply with best practice levels.	1		1		-	-	-	-	-	D	Products specified) have been tested against and meet the relevant standards for Volatile Organic Compound (VOC) emissions. Manufacturers datasheets required.		
Hea 10	Thermal comfort	One credit where thermal comfort levels in occupied spaces of the building are assessed at the design stage to evaluate appropriate servicing options.	1		1		-	-	-	-	-	D	Detailed dynamic modelling calcs required to demonstrates that the building design and services strategy can deliver thermal comfort levels in occupied spaces in		
Hea 11	Thermal zoning	One credit where evidence provided demonstrates that local occupant control in each occupied space is provided for temperature adjustment. The	1				-	-	-	-	-	D			
Hea 12	Microbial contamination	One credit where the risk of waterborne and airborne legionella contamination has been minimised AND there is no humidification is specified or only steam humidification is provided.. All water systems in the building are designed in compliance with the measures outlined in the Health and Safety Executive's "Legionnaires' disease - The control of legionella bacteria in water systems". Approved Code of Practice and guidance, 2000	1		1		1	1	1	1	1	D	MANDATORY CREDIT - All water systems must comply.		
Hea 13	Acoustic Performance	One credit where the building achieves appropriate indoor ambient noise levels in office areas, ≤35 dB LAeqT in spaces designed for seminar/lecture rooms, ≤40 dB LAeqT in single occupancy offices & general spaces, 40-50 dB LAeqT in multiple occupancy offices, ≤50 dB LAeq,T in informal café/canteen areas. This credit does not apply if there is no office space, or office space <500m2.	1				-	-	-	-	-	D			
Hea 15	Outdoor Space	One credit where there is adequate outdoor space, easily accessible for pedestrians with either landscaping, a balcony or terrace with seating and socialising areas.	1												
Hea 16	Drinking Water	One credit where mains-fed point of use water coolers are provided for building occupants use throughout the day. One compliant point of use water cooler is provided for every 200 building users, subject to a minimum of two water coolers.	1				-	-	-	-	-	D			
		Total Credits	**15**	**0**	**8**	**8**								**Total Extra Cost**	**£0**
		Category Score		**0%**	**53%**	**53%**									
		Weighted Points	**1.0** per credit	**0.0**	**8.0**	**8.0**									

Energy

19%

Ene 1	Reduction of CO2 Emissions	Up to fifteen credits are available for demonstrating an improvement in the energy efficiency of the building's fabric and services and therefore achieves lower building operational related CO2 emissions – credits based on EPC rating	15		6		-	-	-	6	10	D	Window U-value and g-values required as well as HVAC seasonal efficiencies, Fan SFPs, PIR control, daylight dimming, lighting calculations and LZC tech details required.		££
Ene 2	Sub-metering of Substantial Energy Uses	One credit where the provision of direct sub-metering of energy uses within the building. e.g. space heating, domestic hot water, humidification, cooling, fans, lighting & small power, lifts, and escalators	1		1		-	-	1	1	1	D	MANDATORY CREDIT - Energy meters need to be installed on all major energy consuming equipment : a. Space Heating, b. Domestic Hot Water, c. Humidification d. Cooling, e. Fans (major), f. Lighting, g. Small Power (lighting and small power can be on the same sub-meter where supplies are taken at each floor/department). h. Other major energy-consuming items i.e. kitchen plant, cold storage plant, lifts & escalators. See also CIBSE TM39: Building Energy Metering. The energy meters must be located in an area of the building that allows for easy access to facilitate regular monitoring and readings by the buildings staff and facilities manager. Typically this will be the plant room, main distribution room or control room (where BMS is installed).		
Ene 3	Sub-metering of high energy load Areas and Tenancy	One credit where sub-metering of energy consumption by tenancy/building function area/departments is installed within the building. The meters are labelled with the end energy consuming use.	1		1		-	-	-	-	-	D			
Ene 4	External Lighting	One credit where energy-efficient external lighting is specified and all light fittings are controlled for the presence of daylight.	1		1		-	-	-	-	-	D	Luminous efficacy in lamp lumens/circuit Watt and colour rendering index detailed calculations must be made available. External light fittings need to be controlled through a time switch, or daylight sensor, to prevent operation during daylight hours. Daylight sensor override on a manually switched lighting circuit is acceptable. External illuminated signs would need to meet the criteria requirements.		
Ene 5	Low zero carbon technologies	One credit where a feasibility study considering local (on-site and/or near site) low or zero carbon (LZC) technologies has been carried out and the	1		1		-	-	-	1	1	C	Feasibility study must be carried out at Stage C and results/ recommendations implemented. Tenant must be committed to install LZC to achieve further credits.		
		One credit where, in addition to the above, there is a 10% reduction in the building's CO2 emissions as a result of the installation of a feasible local LZC	1				-	-	-	-	-	C	Feasibility study must be carried out at Stage C and results/ recommendations implemented. Tenant must be committed to install LZC to achieve further credits.		
		Two credits where, in addition to the above, there is a 15% reduction in the building's CO2 emissions as a result of the installation of a feasible local LZC technology.	1				-	-	-	-	-	C	Feasibility study must be carried out at Stage C and results/ recommendations implemented. Tenant must be committed to install LZC to achieve further credits. Feasibility Study appointment required. Additional cost.		
Ene 8	Lifts	One credit where an analysis of transport demand and patterns for the building has been carried out and the energy consumption for at least two types of lift or lift strategy has been compared with the most efficient system specified	1				-	-	-	-	-	D			
		One credit where, in addition to the above, at least three energy-efficient features have been specified.	1				-	-	-	-	-	D			
Ene 12	Swimming Pool Ventilation and Heat Loss	One credit where there are automatic or semi automatic pool covers fitted to all pools, which fully envelop the entire pool surface, and where the air temperature in the pool hall can be controlled to 1 degreeC above water temperature.	1												
Ene 14	BMS	One credit where a BMS with the ability to monitor and control boiler plant, chiller, AHU and pumps where specified and internal environmental controls is specified. It must have the ability to draw the attention of the user to out of range operational values and monitor internal conditions. It must have the ability to control heating output to maintain internal temperatures with a predetermined range.	1		1		-	-	-	-	-	D			
		Total Credits	25	0	11	11								Total Extra Cost	£0
		Category Score		0%	44%	44%									
		Weighted Points	0.8 per credit	0.0	8.4	8.4									

Transport

8%

Tra 1	Provision of public transport	Up to five credits are available on a sliding scale based on the assessed buildings' accessibility to the public transport network, dependant on distances to bus stops / train station and frequencies of services	5		5		-	-	-	-	-	C	Frequency and location of all public transport modes must be made available.		
Tra 2	Proximity to amenities	One credit where the building is located within 500m of accessible local amenities appropriate to the building type and its users, i.e. grocery shop, food outlet, post box, cash machine	1		1		-	-	-	-	-	C	Scaled plan need to be provided showing the required amenities.		
Tra 3	Cyclist Facilities	One credit where covered, secure and well-lit cycle storage facilities are provided for all building users. i.e. 10% of building users. Two credits where, in addition to the above, adequate changing facilities are provided for staff use.	1				-	-	-	-	-	C			
		One credit where, in addition to the above, adequate changing facilities are provided for staff use, including showers, lockers or drying spaces	1				-	-	-	-	-	C			
Tra 4	Pedestrian and cycle safety	One credit where the site layout has been designed in accordance with best practice to ensure safe and adequate pedestrian and cycle access.	1				-	-	-	-	-	C			
Tra 5	Travel plan	One credit where a travel plan has been developed and tailored to the specific needs of the building users.	1		1		-	-	-	-	-	C	Site specific transport survey/assessment and travel plan required and recommended measures implemented.		
Tra 6	Maximum Car Parking Capacity	One credit where no more than one parking space is provided for every three building users. Two credits where no more than one parking space is provided for every four building users.	2		2										
Tra 7	Travel Information Point	One credit where there is a dedicated space within the development for the provision of real-time public transport information.	1		1		-	-	-	-	-	C			
Tra 8	Deliveries and Manoeuvring	One credit where vehicle access areas have been designed to ensure adequate space for manoeuvring delivery vehicles and provide space away from manoeuvring area for storage of refuse skips and pallets.	1				-	-	-	-	-	C			
		Total Credits	14	0	10	10								Total Extra Cost	£0
		Category Score		0%	71%	71%									
		Weighted Points	0.6 per credit	0.0	5.7	5.7									

Water

6%

Wat 1	Water Consumption	Up to three credits for the specification of low water usage taps, urinals, WCs and showers. Where consumption is 4.5-5.5 m^3 per person per year	1		1		-	1	1	1	1	D	MANDATORY CREDIT - low flush volume WCs have an effective flush volume of 4.5 litres or less. Where dual flush toilets are specified they have guidance or symbols instructing the user on the appropriate operation of the flushing device. This can be provided on the flush control buttons, cistern, or nearby for a group of cisterns.		
		Where water consumption is 1.5-4.4 m^3 per person per year	1		1		-	-	-	-	1	D			
		Where water consumption is <1.5 m^3 per person per year	1				-	-	-	-	-	D			
Wat 2	Water meter	One credit where a water meter with a pulsed output will be installed on the mains supply to each building/unit.	1		1		-	1	1	1	1	D	MANDATORY CREDIT - Water meter with pulsed output to enable connection to a Building Management System (BMS).		
Wat 3	Major leak detection	One credit where a leak detection system is specified or installed on the building's water supply. The system must cover all mains water supply between and within the building and the site boundary.	1		1		-	-	-	-	-	D			
Wat 4	Sanitary supply shut off	One credit where proximity detection shut-off is provided to the water supply to all toilet areas. It must be controlled by a link to either: Infra-red movement detectors or Sensors / switches placed at or on entry doors.	1				-	-	-	-	-	D			
Wat 5	Water Recycling	One credit where evidence provided demonstrates the specification of systems that collect, store and, where necessary treat, rainwater or greywater for WC and urinal flushing purposes.	1												
		Total Credits	7	0	4	4								Total Extra Cost	£0
		Category Score		0%	57%	57%									
		Weighted Points	0.9 per credit	0.0	3.4	3.4									

Materials

12.5%

Mat 1	Materials Specification	Up to four credits are available, determined by the Green Guide to Specification ratings for the following major building/finishing elements: 1. External Walls 2. Windows 3. Roof 4. Upper Floor Slabs Based on the results of the Mat 1 calculator, details, areas and green guide ratings of all elements required	1		1		-	-	-	-	-	D		Assessor, Contractor	
			1		1		-	-	-	-	-	D			
			1		1		-	-	-	-	-	D			
			1												
			1												
			1				-	-	-	-	-	D			
Mat 2	Hard landscaping and boundary protection	One credit where at least 80% of the combined area of external hard landscaping and boundary protection specifications achieve an A or A+ rating, as defined by the Green Guide to Specification.	1		1		-	-	-	-	-	D			
Mat 3	Re-use of building façade	One credit where at least 50% of the total façade (by area) is reused and at least 80% of the reused façade (by mass) comprises in-situ reused material.	1		1		-	-	-	-	-	D			
Mat 4	Re-use of building structure	One credit where the design reuses at least 80% of an existing primary structure and for part refurbishment and part new build, the volume of the reused structure comprises at least 50% of the final structure's volume.	1		1		-	-	-	-	-	D			
Mat 5	Responsible sourcing of materials	Up to 3 credits are available where evidence provided demonstrates that 80% of the assessed materials in the following building elements are responsibly sourced: Structural Frame, Ground floor, Upper floors (including separating floors), Roof, External walls, Internal walls, Foundation/substructure and Staircase Additionally 100% of any timber must be legally sourced.	1				-	-	-	-	-	H			
			1				-	-	-	-	-	H			
			1				-	-	-	-	-	H			
Mat 6	Insulation	One credit where thermal insulation products used in the building have a low embodied impact relative to their thermal properties, determined by the Green Guide to Specification ratings (building fabric(external walls, ground floor& roof) and services).	1		1		-	-	-	-	-	D	A/A+ materials must be specified. The volume weighted thermal resistance provided by each type of insulation is calculated as follows: a. (Area of insulation (m2) * thickness(m)) / Thermal Conductivity (W/ m.K) OR b. Total volume of insulation used (m3) / Thermal conductivity (W/m.K)		
		One credit where at least 80% of thethermal insulation products used in the building have been responsibly sourced.	1		1		-	-	-	-	-	H	Chain of Custody certificates, BES 6001 certificates and EMS certificates to be made available.		
Mat 7	Designing For Robustness	One credit where protection is given to vulnerable parts of the building such as areas exposed to high pedestrian traffic, vehicular and trolley movements. 1. Internal and external areas of the building where vehicular, trolley and	1		1		-	-	-	-	-	D	Examples include bollards, barriers, raised kerbs, severe duty corridor walls, hard wearing washable floors, kick plates, protection rails to walls.		
		Total Credits	15	0	9	9								Total Extra Cost	£0
		Category Score		0%	60%	60%									
		Weighted Points	0.8 per credit	0.0	7.5	7.5									

Waste

7.5%

Wst 1	Construction Site Waste Management	Up to three credits are available where non-hazardous construction waste generated by the building's construction phase meets or exceeds the following resource efficiency benchmarks: **One** credit: 13.0-16.6 m3 (6.6-8.5 tonnes) of waste generated per 100m2 **Two** credits: 9.2-12.9 m3 (4.7-6.5 tonnes) of waste generated per 100m2 **Three** credits : <9.2 m3 (<4.7 tonnes) of waste generated per 100m2	1		1		-	-	-	-	-	H		Contractor	
			1		1		-	-	-	-	-	H			
			1		1		-	-	-	-	-	H			
		One additional credit where at least 75% by weight or 65% by volume of non-hazardous construction waste generated by the project has been diverted	1		1		-	-	-	-	-	H	Site Waste Management Plan required to be set up and construction waste recycled and recorded.		
Wst 2	Recycled aggregates	One credit where there is a significant use of recycled or secondary aggregates in 'high-grade' building aggregate uses. At least 25% by weight or volume.	1		1		-	-	-	-	-	H		Contractor	
Wst 3	Recyclable waste storage	One credit where a central, dedicated space is provided for the storage of the building's recyclable waste streams. A minimum of 10m2 for buildings ≥ 5000m2 of floor area.	1		1		-	-	-	1	1	D	Dedicated recyclable storage space, in addition to general waste storage, must be provided for at least 6 different types of recyclable materials.	Architect	
		Total Credits	6	0	6	6								Total Extra Cost	£0
		Category Score		0%	100%	100%									
		Weighted Points	1.3 per credit	0.0	7.5	7.5									

Land Use & Ecology

10%

LE1	Re-use of land	One credit where the majority of the footprint of the proposed development falls within the boundary of previously developed land.	1		1		-	-	-	-	-	C			
LE2	Contaminated land	One credit where the land used for the new development has, prior to development, been defined as contaminated and adequate remedial steps have been taken to decontaminate the site prior to construction.	1				-	-	-	-	-	C			££
LE3	Ecological value of site AND Protection of ecological features	One credit where the construction zone is defined as land of low ecological value and all existing features of ecological value will be fully protected from damage during site preparation and construction works.	1		1		-	-	-	-	-	C	Specialist appointment		££
LE4	Mitigating Ecological impact	One credit where the change in the site's existing ecological value, as a result of development, is minimal.	1		1		-	-	1	1	1	C	MANDATORY CREDIT		££
		Two credits where there is no negative change in the site's existing ecological value as a result of development.	1				-	-	-	-	-	C			££
LE5	Enhancing Site Ecology	One credit for appointed a suitably qualified ecologist to advise and report on enhancing and protecting the ecological value of the site; and implemented	1				-	-	-	-	-	C	Specialist appointment		££
		One credit where, in addition to the above, there is a positive increase in the ecological value of the site of up to (but not including) 6 species.	1				-	-	-	-	-	C			££
		Two credits where, in addition to the above, there is a positive increase in the ecological value of the site of 6 species or greater.	1				-	-	-	-	-	C	Specialist appointment		££
LE6	Long term impact on biodiversity	One credit where the client has committed to achieving the mandatory LE6 requirements and at least two of the additional requirements.	1				-	-	-	-	-	C	Specialist appointment		££
		Two credits where the client has committed to achieving the mandatory LE6 requirements and at least four of the additional requirements.	1				-	-	-	-	-	C			££
		Total Credits	10	0	3	3								Total Extra Cost	£0
		Category Score		0%	30%	30%									
		Weighted Points	1.0 per credit	0.0	3.0	3.0									

Pollution

10%

Pol 1	Refrigerant GWP - Building services	One credit where the use of refrigerants with a global warming potential (GWP) of less than 5 or where there are no refrigerants specified for use in building services.	1				-	-	-	-	-	D	Credit not sought.		
Pol 2	Preventing refrigerant leaks	One credit where refrigerant leaks can be detected or where there are no refrigerants specified for the development.	1		1		-	-	-	-	-	D			
		One credit where the provision of automatic refrigerant pump down is made to a heat exchanger (or dedicated storage tanks) with isolation valves. Or where there are no refrigerants specified for the development.	1				-	-	-	-	-	D			
Pol 4	NOx emissions from heating source	One credit where the maximum dry NOx emissions from delivered space heating energy are ≤100 mg/kWh (at 0% excess O2).	1				-	-	-	-	-	D	These credits can only be considered if high efficiency boilers with ≤100 mg/kWh dry Nox emissions are specified.		
		Two credits where evidence the maximum dry NOx emissions from delivered space heating energy are ≤70 mg/kWh (at 0% excess O2)	1				-	-	-	-	-	D	These credits can only be considered if high efficiency boilers with ≤70 mg/kWh dry Nox emissions are specified.		
		Three credits where evidence the maximum dry NOx emissions from delivered space heating energy are ≤40 mg/kWh (at 0% excess O2).	1				-	-	-	-	-	D	These credits can only be considered if high efficiency boilers with ≤40 mg/kWh dry Nox emissions are specified.		
Pol 5	Flood risk	One credit where the development is located in a zone of medium or high annual probability of flooding the ground level of the building, car parking and access is above the design flood level for the site's location. Flood Risk Assessment (FRA) required	1		1		-	-	-	-	-	C	Site potentially located within zone of low annual probability of flooding. Flood Risk Assessment required to confirm this.		
		Two credits where the assessed development is located in a zone defined as having a low annual probability of flooding and a Flood Risk Assessment (FRA) has been carried out for all flood sources	1		1		-	-	-	-	-	C	Site potentially located within zone of low annual probability of flooding. Flood Risk Assessment required to confirm this.		
		One further credit where evidence provided demonstrates that surface water run-off attenuation measures are specified to minimise the risk of	1		1		-	-	-	-	-	C			
Pol 6	Minimising watercourse pollution	One credit where effective on site treatment such as Sustainable Drainage Systems (SUDs) or oil separators have been specified in areas that are or could be a source of watercourse pollution.	1		1		-	-	-	-	-	D	Up-to-date drainage plans and pollution control system details required. A		
Pol 7	Reduction of Night Time Light Pollution	One credit where the external lighting design is in compliance with the guidance in the Institution of Lighting Engineers (ILE) Guidance notes for the reduction of obtrusive light, 2005.	1		1		-	-	-	-	-	D	Lighting design to comply with ILE guidance notes for the reduction of Obstructive Light and strategy statement required.	Contractor	
Pol 8	Noise Attenuation	One credit where new sources of noise from the development do not give rise to the likelihood of complaints from existing noise-sensitive premises and amenity or wildlife areas that are within the locality of the site.	1		1		-	-	-	-	-	D	Acousticians report required and recommendations implemented. Acoustician appointment required. Additional cost.	Contractor	
		Total Credits	12	0	7	7								**Total Extra Cost**	£0
		Category Score		0%	58%	58%									
		Weighted Points	0.8 per credit	0.0	5.8	5.8									

Innovation

10

Man 2	Considerate Constructors	One innovation credit if the site achieves a Considerate Constructors Scheme Code of Considerate Practice score of at least 40.	1				-	-	-	-	-	H	Credit not sought		
Hea 1	Daylighting	One innovation credit if at least 80% of the floor area has an average daylight factor of 3% in multi-storey buildings and 4% in single-storey buildings.	1				-	-	-	-	-	D	Credit not sought		
Ene 1	Reduction of CO2 emissions	One innovation credit if the building is designed to be a carbon neutral building as defined by the NCM	1				-	-	-	-	-	C	Credit not sought.		
		One additional innovation credits if the building is designed to be a True zero carbon building, in terms of building services and operational energy demand.	1				-	-	-	-	-	C	Credit not sought.		
Ene 5	Low or Zero Carbon	One innovation credit if local LZC energy technology has been installed in line	1				-	-	-	-	-	C	Credit not sought		
Wat 2	Water Meter	One innovation credit where pulsed sub meters are fitted to allow individual water-consuming plant or building areas to be monitored such as cooling	1				-	-	-	-	-	D	Credit not sought.		
Mat 1	Materials Specification	One innovation credit where the building achieves additional points to the total points required to achieve maximum credits under the standard BREEAM	1				-	-	-	-	-	D	Credit not sought		
Mat 5	Responsible Sourcing of Materials	One innovation credit where, in addition to the standard BREEAM requirements, 95% of the applicable materials, comprised within the	1				-	-	-	-	-	H	Credit not sought		
Wst 1	Construction Site Waste Management	One innovation credit where all the requirements of Wst 1 are meet and where at least 90% by weight (80% by volume) of non-hazardous	1				-	-	-	-	-	H			
	Additional Innovation Credits	Up to two credits are available for the comprehensive use of a BREEAM Accredited Professional (AP) throughout project work stages	2				-	-	-	-	-		BREEAM AP needs to be appointed prior to the commencement of initial site preparation works.		
		Number of additional approved Innovation points achieved	10	0	0	0								**Total Extra Cost**	£0

Total

BREEAM 2008 Score	110	0	57	57	Total Extra Cost £0