

BEROL QUARTER

Sustainability Statement

WSP

BEROL QUARTER LIMITED

December 2022



Berol Quarter Limited

BEROL QUARTER, TOTTENHAM HALE, LONDON, N17 9LJ

Sustainability Statement

CONFIDENTIAL

PROJECT NO. 70094918

BEROL QUARTER

DATE: DECEMBER 2022

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1. APPLICATION SUMMARY

This Sustainability Statement has been prepared in support of an application for planning permission (the 'Application') for development of the Berol Quarter in Tottenham Hale, London (the 'site'). The Applicant is Berol Quarter Limited (the 'Applicant'). The description of the site is as follows:

The existing site comprises 2 Berol Yard, a currently vacant plot of land on Watermead Way, and Berol House, the former Berol pencil factory which is now an existing office building, that runs north-south along Ashley Road.

To the north of the site lies the Cannon Factory, located off Ashley Road, which is owned by Notting Hill Genesis and has permission for new homes and commercial space, the Lee Valley Technopark is located further north. To the northeast lies the Gessner which was delivered by BSD, Watermead Way and the Lee Valley Railway Line. To the south of the site is Tottenham Hale Station and the Tottenham Hale District Centre, which mainly comprises Tottenham Hale Retail Park on the opposite side of Ferry Lane. To the west on the opposite side of Ashley Road are the development plots of Ashley Gardens, Ashley House and Ashley Park which will provide new residential accommodation. Down Lane Park is located further west and to the north west of the site and is within minutes walking distance.

The surrounding area is currently undergoing transformational change. It is a former industrial area, with a number of remaining warehouse-type buildings, however, there are several approved planning permissions for mixed-use development in the immediate surroundings, some of which are built or under construction. In the coming years, the area will be residential with a mix of commercial and employment uses across much of the ground floor.

The description of the Proposed Development is as follows:

Full planning permission for the refurbishment and extension of Berol House to include Use Class E floorspace and the redevelopment of 2 Berol Yard to provide new residential homes, Use Class E floorspace and associated landscaping, public realm improvements, car and cycle parking and other associated works.

Multiple layers of statutory and policy requirements apply to the Proposed Development at a national, regional and local level, each of which requires different energy efficiency and carbon emission targets to be met. The Proposed Development will be designed to address the relevant requirements applicable at each stage of development.

The Applicant's approach to sustainable development is underpinned by policies from the London Plan and the Haringey Local Plan. Together these documents provide spatial policies, development management policies and site allocations to guide and manage development in the borough.

2. EXECUTIVE SUMMARY

This Sustainability Statement is submitted in support of an application for planning (the 'Application') for development at the Berol Quarter in Tottenham Hale, London (the 'site').

WSP has been commissioned by the Applicant to develop the Sustainability Statement for the Proposed Development, which will be submitted as part of the planning application.

This Sustainability Statement has been produced to demonstrate how the design and construction of the development addresses the various issues that contribute to a sustainable development by following the policy and guidance documents identified below:

- National Planning Policy Framework (2021);
- The London Plan (2021);
- Mayor's Sustainable Design and Construction SPG (2014);
- Mayor's Climate Change Adaptation Strategy (2011);
- The Haringey Core Strategy/Development DPD (2012);
- The Haringey Development Management DPD (2013);
- The Haringey Development Sites DPD (2013);

The Proposed Development was found to respond to the issues raised in the policy documents in the following areas as shown in Table 2-1:

Table 2-1 Summary of Proposed Measures for the development

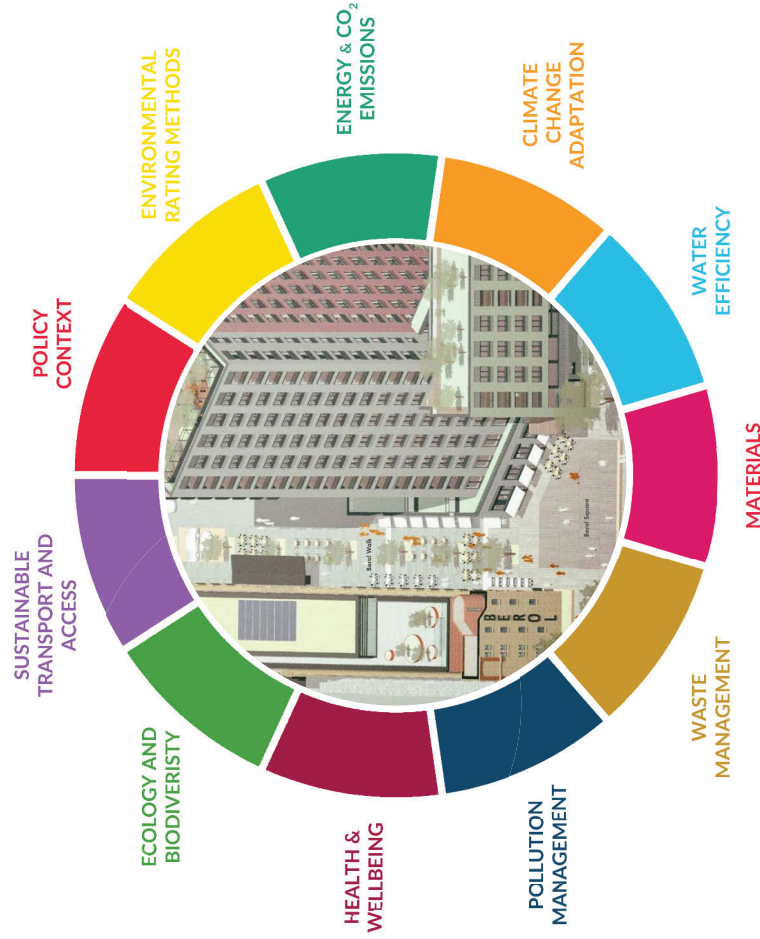
KEY SUSTAINABILITY AREA	PROPOSED MEASURES
Environmental Rating Methods (refer to Section 5 for full details)	A BREEAM* Pre-assessment has been carried out by an accredited BREEAM Assessor/ AP during RIBA Stage 2. The non-residential elements of the Proposed Development are expected to achieve as a minimum a BREEAM 'Very Good' rating. The attached BREEAM Pre-assessment shows how this target is proposed to be achieved. * BREEAM is a third-party sustainability certification tool for project teams to utilise to demonstrate performance beyond current minimum legal requirements. Refer to section 5 and Appendix A for further detail.

KEY SUSTAINABILITY AREA	PROPOSED MEASURES
Energy & CO ₂ Emissions (refer to Section 6 for full details)	The proposals for the Proposed Development outlined within this energy strategy are considered to maximise the potential carbon savings which can be achieved on the application site through the provision of: ■ A highly efficient building fabric ■ Efficient building services plant, including providing high efficiency air handling plant with heat recovery and low specific fan power for the non-residential areas. ■ 100% low energy lighting and maximised use of LED and low energy fixtures. ■ District heat network connection. ■ Roof mounted PV panels. Overall, the Proposed Development is shown to achieve the following carbon reductions after following the Energy Hierarchy of LEAN, CLEAN, GREEN when compared to Part L 2013 using SAP10.0 carbon factors: ■ Residential – 80.8% ■ Non-residential (2 Berol Yard) – 35.6% ■ Non-residential (Berol House Refurbished) – 49.8% ■ Non-residential (Berol House Extension) – 49.7% ■ Whole Development – 66.9% The figures above are the reduction in carbon emissions compared to each respective baseline. The development meets and substantially exceeds the carbon reduction target of 35% over 2013 Building Regulations set by GLA. Following the measures and results above the development has demonstrated compliance with Building Regulations Part L and London Plan 2021 Policies SI2, as well as Haringey's Development DPD Policies SP0 and SP4.
Climate Change Adaptation (refer to Section 7 for full details)	The Proposed Development has ensured that it has reduced its external heat rejection to the atmosphere; has incorporated planting wherever viable; and it has reduced its reliance on air conditioning systems to combat overheating by using solar control glazing, mechanical heat recovery ventilation and reducing internal heat gains as far as feasible. Moreover, as the Proposed Development is located within Flood Zone 2, sufficient measures to mitigate flood risk have been implemented. These include SuDS and geo-cellular tanks. The daylight and sunlight assessment for the Proposed Development highlights that daylight and sunlight amenity into rooms is in line with the BRE Guidance. While some rooms fall short of meeting the BRE Guidance, it can still be concluded that the level daylight and sunlight amenity achieved is appropriate for this type of development. The measures incorporated into the design are in compliance with London Plan 2021 Policies SI4, SI12, SI13, GG5, with Haringey Local Plan SP5 and Development Management DPD DM24.

KEY SUSTAINABILITY AREA	PROPOSED MEASURES
Water Efficiency (refer to Section 8 for full details)	The Proposed Development has ensured the site has maximised the opportunities for incorporation of water saving measures which include the use of water saving fixtures and fittings, optimised water management through leak detection and reduced water flow rates in compliance with LP2021 Policy S15. The consumption target of 'Excellent' in Wat 01 has been targeted and most attainable water credits in the BREEAM assessment. The Proposed Development has ensured, as far as practicable that materials used on site will have a low embodied energy, some of the key elements of the building envelope will achieve a rating of A+ to D in the BRE's 'The Green Guide' to specification and all the timber used on site will be sustainably sourced from accredited FSC or PEFC sources. The internal materials will be specified to have low toxicity to humans and the environment, to be durable to cater for their level of use and exposure and the Proposed Development will maximise the use of prefabricated or easily dismantlable materials. Additionally, in line with the GLA and RICS guidance, an initial circular economy strategy has been developed as well as a life cycle analysis of the environmental impact of materials in the building. Various design options to reduce overall impact have been considered. The measures incorporated into the design are in compliance with LP2021 Policies S12 and S17.
Materials (refer to Section 9 for full details)	The Proposed Development has ensured that both the construction and the operational waste is effectively managed in accordance with national and local policy. A Circular Economy Statement has been submitted for the Proposed Development and demonstrates how the design and construction of the development addresses the challenges of the climate emergency by prompting resource efficiency and adopting a circular economy approach that contribute to a sustainable development. The Applicant commits to design the Proposed Development to conserve resources, eliminate waste and manage waste sustainably. A Circular Economy strategy will be followed throughout all the design stages of the Project, according to the following implementation strategies: ■ Site Waste Management Plan ■ Construction Environmental Management Plan ■ BREEAM Pre-assessment Very Good targeted ■ Pre-demolition audit ■ Sustainable Procurement Plan ■ Operational Waste Management strategy The measures incorporated into the design are in compliance with LP2021 S17.
Waste Management (refer to Section 10 for full details)	

KEY SUSTAINABILITY AREA	PROPOSED MEASURES
Pollution Management (refer to Section 11 for full details)	The Proposed Development will be designed to minimise the noise and vibration impacts on existing and future sensitive receptors. During the operational phase of the development dust and other air pollution will be minimised, and performance will be demonstrated through application to the Considerate Contractors Scheme (CCS). The results of the Air Quality Neutral Assessment show that at full planning stage, the Proposed Development is compliant with the building and transport emissions benchmarks for NOx and PM10 for this part of London. The measures incorporated into the design are in compliance with LP2021 Policies S11, D12 and D13.
Ecology & Biodiversity (refer to Section 12 for full details)	Every effort will be taken to create opportunities for attracting biodiversity and habitat to improve the Proposed Development's ecological value through the inclusion of areas of groundcover planting on the pedestrian level. The site is currently achieving an Urban Greening Factor of 0.32 The measures incorporated into the design are in compliance with LP2021 Policies G1, G6 and G7 and have strived to maximise green infrastructure to achieve a UGF as high as possible to comply with Policy G5.
Sustainable Transport & Access (refer to Section 13 for full details)	The Proposed Development will provide compliant and appropriate pedestrian and cycle access, cycle spaces and servicing access. The site is located very near Tottenham Hale station, which provides great public transport links. The separate Travel Plan and Outline Delivery and Servicing Plan will encourage and maximise the use of sustainable travel options available near the site, as well as provide the required level of parking for cars and cycles. The measures incorporated into the design are in compliance with LP2021 Policies T5 and T6.

3. INTRODUCTION



3.1. SUSTAINABILITY STRATEGY

Considering the principles of sustainability early in the design and planning process is a positive step to ensuring that the Proposed Development is sustainable in terms of construction, operation, local community, environment and its future occupation.

This Sustainability Statement appraises the proposed design solutions which apply to the Proposed Development to ensure that they meet the current and relevant planning requirements. The appraisal identifies key legislative drivers, local planning policy and client targets regarding sustainable development and establishes how these objectives are met by the design.

A sustainable approach is presented as the desired result for human development as well as the means with which to balance current and future social, economic and environmental needs. It is important to acknowledge sustainable development as per the definition set out by the United Nations:

‘... development which improves people’s quality of life within the carrying capacity of supporting ecosystems.’

The Proposed Development will therefore endeavour to ensure that social, economic and environmental issues are dealt with in an integrated and equal manner. The sustainability of the design, construction and proposed community structure of the development will be assessed as well as considering its contribution to sustainable development within the local area.

3.2. DEVELOPMENT DESCRIPTION

PROPOSED DEVELOPMENT

The existing site comprises 2 Berol Yard, a currently vacant plot of land on Watermead Way, and Berol House, the former Berol pencil factory which is now an existing office building, that runs north-south along Ashley Road.

To the north of the site lies the Cannon Factory, located off Ashley Road, which is owned by Notting Hill Genesis and has permission for new homes and commercial space. To the north east lies the Gessner which was delivered by BSD, Watermead Way and the Lee Valley Railway Line. To the south of the site is Tottenham Hale Station and the Tottenham Hale District Centre, which mainly comprises Tottenham Hale Retail Park on the opposite side of Ferry Lane. To the west on the opposite side of Ashley Road are the development plots of Ashley Gardens, Ashley House and Ashley Park which will provide new residential accommodation. Down Lane Park is located further west and to the north west of the site and is within minutes walking distance.

The surrounding area is currently undergoing transformational change. It is a former industrial area, with a number of remaining warehouse-type buildings, however, there are several approved planning permissions for mixed-use development in the immediate surroundings, some of which are built or under construction. In the coming years, the area will be residential with a mix of commercial and employment uses across much of the ground floor.

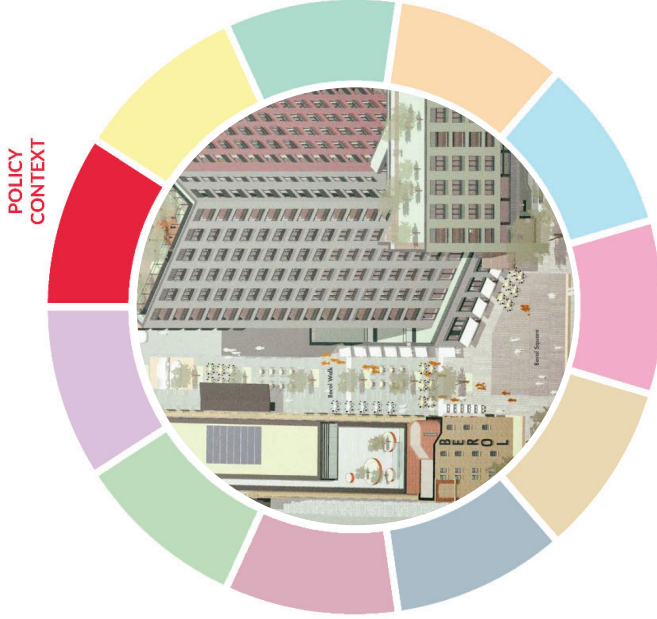


Full planning permission for the refurbishment and extension of Berol House to include Use Class E floorspace and the redevelopment of 2 Berol Yard to provide new residential homes, Use Class E floorspace and associated landscaping, public realm improvements, car and cycle parking and other associated works.

Multiple layers of statutory and policy requirements apply to the Proposed Development at a national, regional and local level, each of which requires different energy efficiency and carbon emission targets to be met. The Proposed Development will be designed to address the relevant requirements applicable at each stage of development.

The Applicant's approach to sustainable development is underpinned by policies from the London Plan and the Haringey Local Plan. Together these documents provide spatial policies, development management policies and site allocations to guide and manage development in the borough.

4. POLICY CONTEXT



4.1. OVERVIEW

The Proposed Development is designed in line with current national, regional and local policy. The key policies are set out in Haringey Development Strategy 2026 (2012), the London Plan (March 2021) and the National Planning Policy Framework (2021).

4.2. NATIONAL POLICY

NATIONAL PLANNING POLICY FRAMEWORK (JULY 2021)

The National Planning Policy Framework (NPPF) was updated in July 2021 and replaces the previous versions. Plans and decisions should apply a presumption in favour of sustainable development.

The NPPF sets the planning context for sustainable design and construction. It is this that Local Planning Policies are based on and adapted to account for regionally specific requirements.

The NPPF identifies three dimensions to sustainable development - economic, social and environmental - which should be applied jointly and simultaneously:

- **Economic objective** – to help build a strong, responsive and competitive economy, by ensuring that sufficient land of the right types is available in the right places and at the right time to support growth, innovation and improved productivity; and by identifying and coordinating the provision of infrastructure;
- **Social objective** – to support strong, vibrant and healthy communities, by ensuring that a sufficient number and range of homes can be provided to meet the needs of present and future generations; and by fostering a well-designed and safe built environment, with accessible services and open spaces that reflect current and future needs and support communities' health, social and cultural well-being; and
- **Environmental objective** – to contribute to protecting and enhancing our natural, built and historic environment; including making effective use of land, helping to improve biodiversity, using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change, including moving to a low carbon economy.

The NPPF promotes the pursuit of sustainable development by seeking positive improvements to the built and natural environment, and to people's quality of life. This will include:

- Delivering a sufficient supply of homes
- Building a strong, competitive economy
- Ensuring the vitality of town centres
- Promoting healthy and safe communities
- Promoting sustainable transport
- Supporting high quality communications
- Making effective use of land
- Achieving well-designed places
- Protecting green belt land
- Meeting the challenge of climate change, flooding and coastal change
- Conserving and enhancing the natural environment
- Conserving and enhancing the historic environment
- Facilitating the sustainable use of materials.

4.3. REGIONAL PLANNING POLICY

THE LONDON PLAN MARCH 2021

The first draft of the new London Plan was subject to public consultation from 1 December 2017 to 2 March 2018. On 13 August 2018, the Mayor published a version of the draft Plan that includes his minor suggested changes and further suggested changes in December 2019. The 'Publication London Plan' was formally approved by the Mayor in December 2020 and was sent to the Secretary of State for consideration.

This was subsequently accepted by the Secretary of State for Housing, Communities and Local Government in a letter dated 29 January 2021.

The current London Plan March 2021(LP2021) is now adopted and is a material consideration in planning decisions.

An overview of the policy is provided in Table 4-1:

Table 4-1 – Summary of key London Plan policies

POLICY TITLE	SUMMARY OF POLICY
Policy SI1: Improving Air Quality	Development should not lead to further deterioration of existing poor air quality, create any new areas that exceed air quality limits and create unacceptable risk of high levels of exposure to poor air quality. Major development must be at least air quality neutral and should use design solutions to prevent or minimise increased exposure to existing air pollution and make provision to address local problems of air quality in preference to post-design or retrofitted mitigation measures. Major development must be submitted with an Air Quality Assessment. To reduce the impact on air quality during the construction and demolition phase development proposals must demonstrate how they plan to comply with the Non-Road Mobile Machinery Low Emission Zone and reduce emissions from the demolition and construction of buildings following best practice guidance
Policy SI2: Minimising Greenhouse Gas Emissions	Major development should be net zero-carbon. Reducing greenhouse gas emissions in operation and minimising both annual and peak energy demand in accordance with the energy hierarchy: Be Lean – Be Clean – Be Green – Be Seen. Major development proposals should include a detailed energy strategy to demonstrate how the zero-carbon target will be met and achieve a minimum on-site reduction of at least 35% beyond Building Regulations. Residential development should achieve 10% and non-residential should achieve 15% through energy efficiency measures. Where it is clearly demonstrated that the zero-carbon target cannot be fully achieved on-site, any shortfall should be provided, in agreement with the borough, either: 1) through a cash in lieu contribution to the borough's carbon offset fund, or 2) off-site provided that an alternative proposal is identified and delivery is certain. Major development should calculate and minimise carbon emissions from any other part of the development, including plant or equipment (Unregulated emissions).
Policy SI3 Energy Infrastructure	Boroughs and developers should engage at an early stage with relevant energy companies and bodies to establish the future energy and infrastructure requirements arising from large-scale development proposals such as Opportunity Areas, Town Centres, other growth areas or clusters of significant new development.
Policy SI4 Managing Heat Risk	Development should minimise adverse impacts on the urban heat island through design, layout, orientation, materials and the incorporation of green infrastructure. Through an energy strategy, development should demonstrate how they will reduce internal overheating and reliance on air conditioning systems in accordance with the cooling hierarchy.

POLICY TITLE	SUMMARY OF POLICY
Policy SI5 Water Infrastructure	Residential developments should minimise the use of mains water and achieving mains water consumption of 105 litres or less per head per day. Commercial development should achieve at least the BREEAM excellent standard for the Wat 01 or equivalent (12.5% improvement over defined baseline performance standard) Development should seek to improve the water environment and ensure that adequate wastewater infrastructure capacity is provided.
Policy SI6 Digital Connectivity Infrastructure	Development should ensure that sufficient ducting space for full fibre connectivity infrastructure is provided to all end user within new developments, unless an affordable alternative 1GB/s capable connection is made available to all end users Development should meet expected demand for mobile connectivity generated by the development Support the effective use of rooftops and public realm (such as street furniture and bins) to accommodate well-designed and suitably located mobile digital infrastructure
Policy SI7 Reducing waste and supporting the circular economy	A) Resource conservation, waste reduction, increases in material re-use and recycling, and reductions in waste going for disposal will be achieved by the Mayor, waste planning authorities and industry working in collaboration to: - Promote a more circular economy that improves resource efficiency and innovation to keep products and materials at their highest use for as long as possible - Encourage waste minimisation and waste prevention through the reuse of materials and using fewer resources in the production and distribution of products - ensure that there is zero biodegradable or recyclable waste to landfill by 2026. - meet or exceed the targets for each of the following waste and material streams: a) construction and demolition – 95 per cent reuse/recycling/recovery b) excavation – 95 per cent beneficial use127A - design developments with adequate, flexible, and easily accessible storage space and collection systems that support, as a minimum, the separate collection of dry recyclables (at least card, paper, mixed plastics, metals, glass) and food.
SI12 Flood Risk Management	Development should ensure that flood risk is minimised and mitigated, and that residual risk is addressed. Development proposal adjacent to flood defences will be required to protect the integrity of flood defences and allow access for future maintenance and upgrading. Natural flood management methods should be employed in development proposals due to their multiple benefits including increasing flood storage and creating recreational areas and habitat.

POLICY TITLE	SUMMARY OF POLICY
SI13 Sustainable Drainage	Development should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible in line with the London drainage hierarchy. Development for impermeable paving should be refuse unless they can be shown to be unavoidable. Drainage should be designed and implemented in ways that promote multiple benefits including increased water use efficiency, improve water quality, and enhance biodiversity, urban greening, amenity and recreation.
T5 Cycling	All new development in the city must provide convenient and accessible cycle parking in line with minimum standards.
T6 Car Parking	Parking should be restricted in line with existing and future public transport accessibility and connectivity.

4.4. REGIONAL POLICY – SUPPLEMENTARY PLANNING GUIDANCE

The following documents remain the current guidance in relation to the current London Plan 2021

LONDON ENVIRONMENT STRATEGY (MAY 2018)

The Mayor's London Environment Strategy sets out an ambitious vision for improving London's environment for the benefit of all Londoners. The state of London's environment affects everyone who lives in and visits the city – it helps Londoners to stay healthy, allows businesses to thrive and keeps London functioning from day to day. This is the first strategy to bring together approaches to every aspect of London's environment, integrating the following areas:

- Air Quality
- Green infrastructure
- Climate Change mitigation and energy
- Waste
- Adapting to Climate Change
- Ambient Noise
- Low carbon circular economy

SUSTAINABLE DESIGN AND CONSTRUCTION: SUPPLEMENTARY PLANNING GUIDANCE (SPG)

The Sustainable Design and Construction SPG was published in May 2006 to provide additional information to support the implementation of the London Plan policies. A revised version of the Sustainable Design and Construction SPG was issued in April 2014.

The SPG explains the principles of sustainable design and construction and how they should be implemented in London. It provides guidance on how to achieve the objectives of the local plan effectively and supports developers and local planning authorities in achieving sustainable development.

AIR QUALITY POSITIVE LPG & AIR QUALITY NEUTRAL LPG (DRAFT)

This guidance aims to promote to benefits of local air quality, while ensuring that exposure to poor air quality is minimised. This aligns with Policy SI 1 of the London Plan, which requires new developments to be air quality neutral.

BE SEEN ENERGY MONITORING LPG

This guidance focuses on the operational energy performance of buildings. The guidance seeks to minimising the 'performance gap' so that it is possible to predict or forecast the operational energy based on energy modelling at design stage. This guidance aligns with Policy SI 2 of the London Plan and is the last stage of the GLA energy hierarchy. At planning and as-built stage, a webform should be filled out to verify the results.

CIRCULAR ECONOMY STATEMENTS LPG

The circular economy guidance promotes the adaption and recycling of building materials over a building's lifetime. This is to ensure a sustainable built environment, where the lifetime of building elements is prolonged and waste is minimised. This is in line with Policy SI 7 of the London Plan.

ENERGY PLANNING GUIDANCE

This guidance aligns with the London Plan 2021. The GLA sets out the guidance on the energy hierarchy, where a minimum 35% improvement over Building Regulation Part L 2013 is required. This is part of the mayor's net zero targets for London.

WHOLE LIFE CARBON LPG

Whole life carbon emissions from embodied and operational energy should form part of the whole life carbon assessment for a new development. This is done by establishing the carbon emissions from materials, construction, operation, demolition and disposal. The calculation method for whole life carbon is set out in line with Policy SI 2 of the London Plan.

MAYOR'S WATER STRATEGY (2011)

The Mayor's water strategy is the first water strategy for London and provides a complete picture of London's water needs. The strategy calls for organisations involved in the city's management to:

- Invest in a water management and sewerage infrastructure system that's fit for a world class city and will create jobs.
- Support and encourage Londoners to take practical actions to save water, save energy and save money off their utility bills.
- Realise the potential of London's sewerage as an energy resource to help reduce greenhouse gas emissions.
- Work in partnership with the Mayor, boroughs and communities to see and develop opportunities to manage flood risk through enhancing London's green spaces.

4.5. HARINGEY'S LOCAL PLAN

Haringey's Local Plan: Strategic Policies (2013-2026) was adopted in March 2013 and consolidated with alterations in 2017. The most relevant policies for this development are as follows:

Policy title	Summary of policy
SP0: Presumption in favour of sustainable development	When considering development proposals the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework (NPPF). The Council will always work proactively with applicants to find solutions, which mean that proposals can be approved wherever possible and to secure development that improves the economic social and environmental conditions in Haringey. Planning applications that accord with the policies in Haringey's Local Plan (and, where relevant, with policies in neighbourhood plans) will be approved without delay, unless material considerations indicate otherwise.

Policy title

Summary of policy

The Council will promote the measures outlined below to reduce carbon emissions from new and existing buildings.

1. In line with London Plan policy, the Council will promote and require all new developments to take measures to reduce energy use and carbon emissions during design, construction and occupation, by incorporating the following measures:

a. (...) All new residential development shall be zero carbon from 2016 onwards; and
b. From 2011 onwards all new non-residential development shall be built to at least BREEAM "very good" standard and should aim to achieve BREEAM "excellent" (...). All new non-residential development shall be zero carbon from 2019.

2. The Council will promote low- and zero-carbon energy generation through the following measures:

a. Requiring all developments to assess, identify and implement, where viable, site-wide and area-wide decentralised energy facilities

including the potential to link into a wider network;

b. Establishing local networks of decentralised heat and energy facilities by requiring developers to prioritise connection to existing

or planned networks where feasible;

c. Working with neighbouring boroughs and other partners to explore ways of implementing sub-regional decentralised energy networks

including the potential in the Upper Lee Valley Opportunity Area; and

d. All new developments are required, where viable, to achieve a reduction in predicted carbon dioxide emissions of 20% from on-site renewable energy regeneration, which can include connections to local sources of decentralised renewable energy.

The Council will require all development in Haringey to be water efficient during construction and operation and to reduce all forms of flood risk. All development shall:

- Improve the water environment, water quality and drainage systems;
- Minimise water use and illustrate how development would contribute to general and flash flooding;
- Take account of flood risk vulnerability classification as set out in paragraph 100 of the NPPF and will apply the NPPF Sequential Test and Exception Test;
- Implement measures to prevent (or mitigate as last resort) local surface water and downstream flooding;
- Implement Sustainable Drainage Systems from strategic to individual site level to improve water attenuation, quality and amenity;
- Restore and enhance the Blue Ribbon Network including Pymmes Brook, Moselle Brook, the River Lee and its tributaries, deculverting wherever feasible, to improve water quality and amenity of these waterways and to help reduce flood risk (in line with London River Action Plan); and
- Require higher resilience and levels of flood protection for critical infrastructure to ensure the protection of essential services such as water and power.

The Council supports the objectives of sustainable waste management set out by the Government in PPS10 Planning for Sustainable Waste Management and the Mayor's London Plan. To achieve these, the Council shall:

- Safeguard existing waste sites unless compensatory provision is made;
- Maximise self-sufficiency in waste management capacity;
- Seek to minimise waste creation, increase recycling rates in relation to commercial, industrial and municipal waste in order to achieve the Mayor's recycling targets;
- Address waste as a resource and look to disposal as the last option, in line with the Mayor's waste hierarchy;
- Require integrated, well-designed recycling facilities to be incorporated into all new developments;
- Monitor changes in the stock of waste management facilities, waste arisings, and the amount of waste recycled, recovered and going for disposal; and

SP6: Waste and Recycling

Policy title

Summary of policy

- Continue working with its partners in the North London Waste Authority to adopt the North London Waste Plan (NLWP)
- In line with the London Plan, the Council will work with its partners to promote the following travel demand management schemes to tackle climate change, improve local place shaping and public realm, and environmental and transport quality and safety by:
 - Minimising congestion and addressing the environmental impacts of travel;
 - Promoting public transport, walking and cycling (including minimum cycle parking standards);
 - Promoting road safety and pedestrian movement particularly in town centres and close to local services;
 - Promoting car sharing and establishing car clubs.
- All new development should enhance and enrich Haringey's built environment and create places and buildings that are high quality, attractive, sustainable, safe and easy to use. To achieve this all development shall:
 - Be of the highest standard of design that respects its local context and character and historic significance, to contribute to the creation and enhancement of Haringey's sense of place and identity;
 - Ensure impacts on health, climate change, natural resources and biodiversity are minimised by adopting and improving sustainable design and construction techniques;
 - Incorporate solutions to reduce crime and the fear of crime, such as promoting social inclusion; creating well-connected and high quality public realm that is easy and safe to use; and by applying the principles set out in 'Secured by Design' and Safer Places;
 - Promote high quality landscaping on and off site, including improvements to existing streets and public spaces;
 - Seek the highest standards of access in all buildings and places; and
 - Ensure buildings are designed to be flexible and adaptable – and able to integrate services and functions.

The Council shall ensure the conservation of the historic significance of Haringey's heritage assets, their setting, and the wider historic environment. The borough's heritage assets include Statutory Listed Buildings, Conservation Areas, Registered Parks and Gardens, Archaeological Priority Areas, and other locally important heritage assets such as Locally Listed Buildings, Local Historic Green Spaces and Sites of Industrial Heritage Interest. Where archaeological excavation is required, findings should be published, disseminated, and used as the basis for archaeological interpretation on site.

- New development shall protect and improve Haringey's parks and open spaces. All new development shall:
- Protect and enhance, and when and where possible, extend the existing boundaries of the borough's Green Belt, designated Metropolitan Open Land, designated Open Spaces, Green Chains, allotments, river corridors and other open spaces from inappropriate development;
 - Provide amenity space in accordance with the Council's Open Space and Recreational Standards Supplementary Planning Document (SPD);
 - Manage the impact of such new developments in areas adjacent to designated open space;
 - Secure improvements, enhancement and management in both quality and access to existing green spaces;

4.6. HARINGEY'S DEVELOPMENT MANAGEMENT DPD

Haringey's Development Management DPD was adopted in July 2017. The most relevant policies for this development are as follows:

Policy title

Summary of policy

- Development that protects and enhances Haringey's open spaces will be supported. (...)
The Council will require all development providing new or replacement open space, wherever possible, to connect to the All London Green Grid. Protection and enhancement of this network will make a positive contribution to Haringey and its communities, in addition to providing social, recreational and ecological benefits. (...)
- The Council supports the provision and improvement of outdoor leisure facilities. Ancillary developments which enhance the park and open space offer (such as refreshment facilities, market and event spaces, public conveniences, public art installations or outdoor play and fitness equipment), or those which meet the special needs of education, will be permitted, provided that they:
- a Are of a high standard of design and quality, safe and accessible to all;
 - b Do not detrimentally impact on nature conservation and biodiversity;
 - c Do not adversely detract from the overall function, amenity, character and appearance of the park or open space.
- A All new development, including building and landscape works, will be expected to consider and implement sustainable design, layout and construction techniques. Proposals should:
- a Apply the energy hierarchy to minimise energy use in order to meet, and if possible exceed, minimum carbon dioxide reduction requirements;
 - b Apply the cooling hierarchy to reduce the potential for overheating and limit reliance on mechanical air conditioning systems;
 - c Maximise opportunities to enhance biodiversity on-site, including through appropriate landscaping, Sustainable Drainage Systems, living roofs and green walls
 - d Wherever possible, use building materials with high environmental performance ratings; and
 - e Seek opportunities for locally sourced labour.
- B The Council will support appropriate measures to sustainably retrofit existing homes and nonresidential buildings.
- C Proposals that fail to demonstrate adequate consideration for sustainable design, layout and construction techniques will be resisted.
- D Consideration will be given to the use of carbon offset payments, to be secured by planning obligations, where it can be demonstrated that proposals are unable to meet carbon dioxide emission reduction targets on-site.
- Existing and planned future DE networks
- D. All development proposals should prioritise connection to existing or planned future DE networks.
- E All major development located within 500 metres of an existing DE Network, and minor new-build development located within 25 metres, will be expected to secure connection to that network subject to demonstration of technical feasibility and financial viability.
- F All major development located within 500 metres of a planned future DE Network, which is considered by the Council likely to be operational within 3 years of a grant of planning permission, will be expected to secure connection to that network subject to demonstration of technical feasibility and financial viability.
- Air Quality
- A All development proposals should consider air quality and be designed to: a Improve or mitigate the impact on air quality in the Borough; and b Improve or mitigate the impact on air quality for the occupiers of the building or users of the development.
- B Air quality assessments will be required for all major development and other development proposals, where appropriate.
- C Where necessary, adequate mitigation must be provided.
- Noise and Vibration
- D The Council will seek to ensure that new noise sensitive development is located away from existing or planned sources of noise pollution. Proposals for potentially noisy development must suitably demonstrate that measures will be implemented to mitigate its impact.
- E A noise assessment will be required to be submitted if the proposed development is a noise sensitive development, or an activity with the potential to generate noise.
- Light Pollution
- F Development proposals that include external lighting must mitigate potential adverse impacts from such lighting. Where appropriate, proposals will be required to submit details
- Policy DM20: Open space and green grid
- Policy DM21: Sustainable design, layout and construction
- Policy DM22: Decentralised energy
- Policy DM23: Environmental Protection

Policy title

Summary of policy

demonstrating that external lighting is: a Appropriate for its purpose in its setting; b Designed to minimise and provide protection from glare and light spillage, particularly to sensitive receptors such as residential properties and natural habitats, including watercourses; and c Energy efficient.

Contaminated Land

G Proposals for new development will only be permitted where it is demonstrated that any risks associated with land contamination, including to human health and the environment, can be adequately addressed in order to make the development safe.

H All proposals for new development on land which is known to be contaminated, or potentially contaminated, will be required to submit a preliminary assessment to identify the level and risk of contamination and, where appropriate, a risk management and remediation strategy.

Hazardous Substances

I Proposals for development of new hazardous installations, or development of sites located within the vicinity of existing installations, will only be permitted where it is demonstrated that necessary safeguards are incorporated to ensure the development is safe.

A. The Council will ensure that all proposals for new development avoid and reduce the risk of flooding to future occupants and do not increase the risk of flooding.

B. All proposals for new development within Flood Zone 2 and 3a will be required to provide sufficient evidence for the Council to assess whether the requirements of the Sequential Test and Exception Test, where required, have been satisfied. Proposals must be informed by a site specific Flood Risk Assessment (FRA) taking account of all potential sources of flooding and should: a Demonstrate the application of a sequential approach for the development of individual sites to ensure that the most vulnerable land uses are located in areas of the site that are at lowest risk of flooding; b Preserve overland flood and flow routes and ensure there is no net loss of flood storage. Adequate flood storage and compensation should be provided on site, or if this is not possible, provided off site where circumstances allow; c Where appropriate, set out the mitigation measures that will be incorporated on site to manage residual flood risk including: i Finished floor levels set no lower than 300mm above the 1 in 100 chance in any given year, including an allowance for climate change, flood level; and ii Ensure safe access and egress for future users of the development or an appropriate emergency evacuation plan. d Contribute to naturalising watercourses where opportunities arise.

C All proposals for new development will be required to: a Manage and reduce surface water run-off; and b Manage water and waste water discharges.

D With the exception of water compatible uses and essential infrastructure, development in areas designated in Haringey's Strategic Flood Risk Assessment as being within Flood Zone 3b will not be permitted.

Policy DM24: Managing and Reducing Flood Risk

Policy DM25: Sustainable Drainage Systems

A All proposals for new development must seek to manage surface water as close to its source as possible in line with the London Plan drainage hierarchy.

B The Council will require Sustainable Drainage Systems (SuDS) to be sensitively incorporated into new development by way of site layout and design, having regard to the following requirements: a All major development proposals will be required to reduce surface water flows to a greenfield run-off rate for a 1 in 100 year critical storm event; b All minor development proposals should aim to achieve a greenfield run-off rate and, at a minimum, achieve a 50 per cent reduction on existing site run-off rates; c All other development should seek to achieve a greenfield run-off rate and include at least one 'at source' SuDS measure resulting in a net improvement in water quantity or quality discharging to a sewer; and d For all development where a greenfield runoff rate cannot be achieved justification must be provided to demonstrate that the run-off rate has been reduced as much as possible.

C Where Sustainable Drainage Systems are implemented they will be expected to: a Meet the requirements set out in the Council's relevant local standards and guidance, or national standards where agreed; b Incorporate measures identified in the Surface Water Management Plan; c Be designed to maximise biodiversity and local amenity benefits, and where appropriate, ensure that SuDS techniques provide for clean and safe water at the surface; d Improve water quality; and e Function effectively over the lifespan of the development. D Where SuDS cannot be implemented due to site constraints (such as land contamination or space limitations) robust justification must be provided along with proposed alternative sustainable approaches to surface water management.

Policy title

Summary of policy

A The Council will seek to protect and improve the quality and quantity of groundwater resources within the Borough.
B All proposals for new development will be required to identify existing and potential new sources of groundwater pollution and where appropriate, submit a relevant desktop study to demonstrate this has been fully considered, including on sites with an historic legacy of contamination.

C All proposals for new development must ensure that: a There is no adverse impact on groundwater quality, either by design, construction or operation of the development; and b Appropriate construction techniques are used in order to limit disturbance to natural groundwater flows.

D Proposals for new development in Source Protection Zones must not result in an unacceptable risk to groundwater quality.

A The Council will require that developments with high trip generating characteristics locate where public transport accessibility is high and car parking is minimised to mitigate generated car travel.

B The Council will support the protection, improvement and creation of pedestrian and cycle routes in the Borough to encourage walking and cycling both as a means of transport and as a recreational activity. The Council will also encourage improved links between pedestrian and cycle routes and public transport facilities, particularly at transport hubs.

C The Council will require the submission of a Travel Plan and a Transport Assessment/Statement in support of development proposals in accordance with the Transport for London thresholds.¹³

A Development proposals will be assessed against the car parking and cycle parking standards set out in the London Plan.

B The Council will strongly encourage contributions to car club schemes or the provision of car club bays as an alternative to on-site car parking.

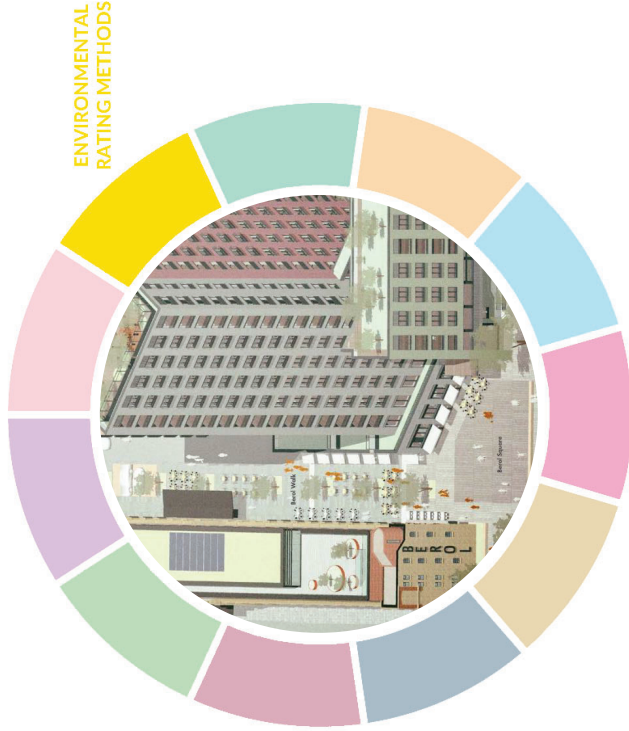
C The Council will support proposals for new development with limited or no on-site parking where: a There are alternative and accessible means of transport available; b Public transport accessibility is at least 4 as defined in the Public Transport Accessibility Index; c A Controlled Parking Zone (CPZ) exists or will be provided prior to the occupation of the development; d Parking is provided for disabled people; and e Parking is designated for occupiers of developments specified as car capped.

Policy DM27: Protecting and Improving Groundwater Quality and Quantity

Policy DM31: Sustainable Transport

Policy DM32: Parking

5. ENVIRONMENTAL RATING METHODS



5.1. REQUIREMENTS AND TARGETS

THE LONDON PLAN (MARCH 2021)

POLICY SI 5 WATER INFRASTRUCTURE

- Achieve at least the BREEAM Excellent standard for the Wat 01 – Water Category or equivalent.

HARINGEY'S LOCAL PLAN (2013)

POLICY SP4: WORKING TOWARDS A LOW CARBON HARINGEY

- Non-residential development shall be built to at least BREEAM “very good” standard and should aim to achieve BREEAM “excellent”

It should be noted that the Code for Sustainable Homes (CfSH) was withdrawn by the UK Government in 2015 and is no longer applicable.

5.2. PRELIMINARY ASSESSMENT

A BREEAM credit strategy has been produced by NRG Consulting to demonstrate opportunities to embed sustainability principles from the outset of the project, and how the design of the Proposed Development aims to achieve BREEAM ‘Very Good’ rating as a minimum through the proposed strategy and scoring. This report summarises the indicative performance of the Proposed Development against BREEAM NC 2018 assessment.

The project under assessment comprises:

Project Name	One Portal Way
Location	Berol Quarter, 2 Berol Yard, Greater London, N17
Main Use Function	Retail, Leisure, and Offices
BREEAM Assessment Scheme	BREEAM Non-Domestic New Construction NC 2018
Assessment type	Retail (shell and core), Leisure (shell and core), Offices (shell and core)
Current Stage	RIBA Stage 2
Target Rating/ Reason	BREEAM ‘Very good’
Stage of Assessment	Concept Design (RIBA Stage 2)

The purpose of the report is to demonstrate:

- An initial route for the achievement of a formal BREEAM ‘Very good’ certification (RIBA 2 Strategy) for the retail, leisure, and office aspects of the development.
- The credits/performance requirements which the team could target and implement to achieve this.

Based on an initial credit strategy, the following scoring scenario is predicted for 2 Berol Yard.

RETAIL – SHELL AND CORE

Scoring Scenario		BREEAM Score (Cumulative)*	Indicative BREEAM Rating
BREEAM NC 2018	Targeted	57.55%	Very good
*Score as produced by BRE’s BREEAM scoring and reporting tool			

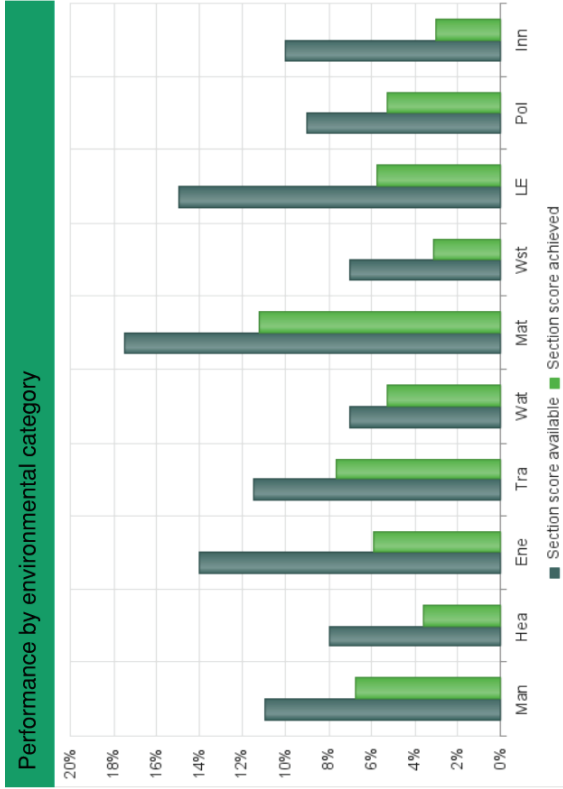


Figure 5-1 Retail - Graphical representation of the credits associated with each environmental section.

Targeted Scoring Scenario

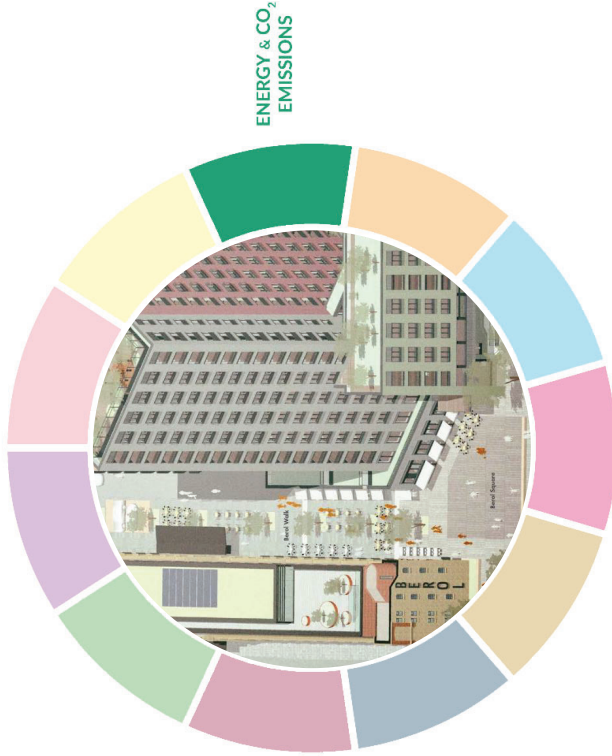
This is based on the items agreed as being targetable by the design team. Upon the presentation of suitable documentary evidence to the Assessor, the corresponding achievement will be confirmed.

For full details please refer to the main assessment tracker provided by NRG Consulting.

5.3. SUMMARY

A BREEAM Pre-assessment has been carried out by an accredited BREEAM Assessor/ AP during RIBA Stage 2. The non-residential elements of the Proposed Development are expected to achieve as a minimum a BREEAM 'Very Good' rating. The attached BREEAM credit strategy shows how this target is proposed to be achieved.

6. ENERGY & CO₂ EMISSIONS



6.1. REQUIREMENTS AND TARGETS

BUILDING REGULATIONS (PART L)

- All new buildings constructed in the UK must meet the minimum requirements of the UK Building Regulations. With regards to energy and carbon compliance, all buildings must meet the building regulations Part L 'Target Emission Rate' (TER) requirements for the Part L revision which is current at the time of initial construction works for each developmental phase. In line with the GLA's pre-application report (September 2022), the carbon emissions will be assessed against the 2013 Building Regulations: "The London Plan requires all major developments (residential and non-residential) to meet a net-zero carbon target. This should be met with a minimum on-site 35% reduction in carbon emissions beyond Part L of 2013 Building Regulations with any carbon shortfall to net zero being paid into the relevant borough's carbon offset fund."
- The development will need to comply with the revision of Part L which is current at the start of construction. This analysis will be carried out at a later stage of design to ensure compliance is met throughout the site.

LONDON PLAN & SUSTAINABLE DESIGN AND CONSTRUCTION SPG

ENERGY AND CARBON DIOXIDE EMISSIONS

- The overall carbon dioxide emissions from a development should be minimised through the implementation of the energy hierarchy.
- Development should be designing to meet the following Regulated carbon dioxide standards:
 - Non-domestic building (2019 onwards): Zero-carbon emissions with 35% on-site carbon emissions improvement upon Building Regulations Part L 2013

THE LONDON PLAN (MARCH 2021)

POLICY SI2 – MINIMISING GREENHOUSE GAS EMISSIONS

- Major development should be net zero-carbon. Reducing greenhouse gas emissions in operation and minimising both annual and peak energy demand in accordance with the energy hierarchy: Be Lean – Be Clean – Be Green – Be Seen.
- Major development proposal should include a detailed energy strategy to demonstrate how the zero-carbon target will be met and achieve a minimum on-site reduction of at least 35% beyond Building Regulations Part L 2013.
- Non-residential should achieve 15% through energy efficiency measures
- Major development should calculate and minimise carbon emissions from any other part of the development, including plant or equipment (unregulated emissions).

POLICY SI3 ENERGY INFRASTRUCTURE

- Boroughs and developers should engage at an early stage with relevant energy companies and bodies to establish the future energy and infrastructure requirements arising from large-scale development proposals such as Opportunity Areas, Town Centres, other growth areas or clusters of significant new development.

HARINGEY DEVELOPMENT MANAGEMENT PLAN 2026 (2013)

POLICY SP0: PRESUMPTION IN FAVOUR OF SUSTAINABILITY DEVELOPMENT

- The Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework (NPPF). The Council will always work proactively with applicants to find solutions, which mean that proposals can be approved wherever possible and to secure development that improves the economic social and environmental conditions in Haringey.

POLICY SP4: WORKING TOWARDS A LOW CARBON HARINGEY

- The Council will promote the measures outlined below to reduce carbon emissions from new and existing buildings. In line with London Plan policy, the Council will promote and require all new developments to take measures to reduce energy use and carbon emissions during design, construction and occupation.
- The Council will promote low- and zero-carbon energy generation.

CARBON REDUCTION

- All development proposals should follow the principles of the Mayor of London's energy hierarchy. Major development should be net zero carbon and demonstrate through an energy strategy how this target can be achieved
- Where it is clearly demonstrated that it is not financially or technically viable to achieve zero-carbon on-site, any shortfall in carbon reduction targets should be addressed via off-site measures or through the provision of a carbon offset payment secured by legal agreement.

HEAT NETWORKS

- Developments should be designed in accordance with the Mayor of London's heating hierarchy. Major developments must connect to existing or planned local heat networks, or establish a new network, wherever feasible

OVERHEATING

- All developments should be designed and operated to minimise the risk of internal overheating. Major development proposals will include a cooling strategy in line with the Mayor of London's cooling hierarchy.

6.2. DESIGN APPRAISAL

A separate Energy Strategy has been prepared by WSP (November 2022) for the Proposed Development to accompany the Planning Submission and should be referred to for full details, a summary is provided below.

The energy strategy has been structured in accordance with Ealing and GLA's energy hierarchy. The three principal steps taken; Be Lean (Use Less Energy), Be Clean (Supply Energy Efficiently) and Be Green (Renewable Technology Measures) are summarised below. A commitment made to report on Be Seen has also been made.

DEMAND REDUCTION (BE LEAN)

The application of the measures identified in Section 5 of the Energy Statement provides an overall reduction of 16.1% in regulated carbon emissions from the Proposed Development and a total carbon reduction of 57.5 tonnes CO₂ per annum from the baseline carbon emissions. After this stage of the energy hierarchy the total regulated carbon emissions from the Whole Development is shown to be 289.7 tonnes CO₂ per annum.

HEATING INFRASTRUCTURE (BE CLEAN)

A District Heat Network is proposed in the area and will be available for the Proposed Development to connect to, see Figure 6-1. Provision will therefore be made to allow for the connection. By connecting to the district heat network, an overall reduction of 168.1tCO₂ in regulated carbon is achieved on site. After this stage of the energy hierarchy the total regulated carbon emissions from the Whole Development is shown to be 121.7tCO₂ tonnes CO₂ per annum.



Figure 6-1 - Proposed District Heat Network

RENEWABLE ENERGY (BE GREEN)

The feasibility of a range of renewable technologies has been assessed in the context of the London Plan. It was concluded that roof mounted PV panels are suitable for inclusion in the proposals.

The sustainable design provide an **overall reduction of 66.9%** in carbon emissions from the Proposed Development and a total carbon reduction of 232.2 tonnes CO₂ per annum from the baseline carbon emissions compliant development. After this stage of the energy hierarchy the total regulated carbon emissions from the Proposed Development is shown to be 115 tonnes CO₂ per annum.

GLA GUIDANCE ON PREPARING ENERGY ASSESSMENTS

In direct response to the information outlined within the Greater London Authority (GLA) Guidance on Preparing Energy Assessments (April 2020), the results outlined previously are summarised in the tables below, with the results presented against the overall carbon reduction target.

The proposals for the Proposed Development outlined within this energy strategy are considered to maximise the potential carbon savings which can be achieved on the application site through the provision of:

- A highly efficient building fabric
- Efficient building services plant, including providing high efficiency air handling plant with heat recovery and low specific fan power.
- Low energy LED lighting incorporating daylight and motion controls will be specified throughout.
- Connection to a proposed district heat network.

Overall, the Whole Development is shown to exceed the carbon reduction target of 35% set by GLA achieving a 66.9% reduction in carbon emissions compared to the baseline utilising SAP10.0 carbon factors.

PART L 2013 CARBON DIOXIDE EMISSIONS

Table 6-1 provides a summary of the whole development, for the detailed and outline application.

Table 6-1 Regulated carbon dioxide savings from each stage of the energy hierarchy (SAP10.0 carbon factors) Site wide

	REGULATED CARBON DIOXIDE EMISSIONS SAVINGS (TONNES CO ₂ PER ANNUM)	REGULATED CARBON DIOXIDE EMISSIONS SAVINGS (%)
Be Lean: Savings from energy demand reduction	57.5	17%
Be Clean: Savings from heat network	168.1	48%
Be Green: Savings from renewable energy	6.7	2%
Cumulative on-site savings	232.2	67%
Total Target Savings	347.2	100%
Carbon Shortfall	115.0	-
Cumulative shortfall for offset payment (over 30 years)	£327,696	

OVERHEATING

Dynamic thermal models were built in IES VE to verify the internal conditions of all occupied spaces against the criteria within TM52 and TM59. A stepped approach was utilised following the cooling hierarchy.

Measures were incorporated into the models and building design until internal conditions became acceptable.

Dynamic thermal models were built in IES VE to verify the internal conditions of the bedrooms and other non-residential elements of the development. All occupied spaces have been analysed against the criteria within TM52 and TM59. A stepped approach was utilised following the cooling hierarchy. Measures were incorporated into the models and building design until internal conditions became acceptable. Bedrooms and other non-residential areas considered to comply with Policy 5.9 of the London Plan and Part L Criterion 3 of the Building Regulations and with CIBSE TM59 and TM52.

BE SEEN

The proposed development is committed to comply with the 'be seen' requirements at each stage. For each post planning stages as-built and in-use requirements will be completed. For compliance with planning stage requirements, the following will be completed for the proposed development:

- Production of a TM54 analysis in line with the minimum requirements of the 'Be seen' energy monitoring guidance (Pre-consultation DRAFT April 2020),
- Completion of the GLA's 'be seen' spreadsheet with performance indicators including contextual data, building energy use and Be seen carbon emissions for the entire development as a whole.
- Contribution of operational carbon performance for Module B6 of the separate Whole Life-Cycle Carbon assessment using the findings of the TM54 analysis.
- Provide information on how the building's actual energy performance will be monitored post-construction.

A copy of the 'be seen' spreadsheet and TM54 analysis will be submitted separately.

The building's actual energy performance will be monitored post-construction. The Proposed Development will be provided with Building Management System. This will control and monitor the building systems and services throughout the development, provide feedback of plant, system performance and energy usage of the system. The BMS will analyse this data to enable optimum use of the engineering facilities within the development with minimum of human intervention, and maximum energy efficiency.

6.3. SUMMARY

The proposals for the Proposed Development outlined within this energy strategy are considered to maximise the potential carbon savings which can be achieved on the application site through the provision of:

- A highly efficient building fabric
- Efficient building services plant, including providing high efficiency air handling plant with heat recovery and low specific fan power.
- Low energy LED/fluorescent lighting incorporating daylight and motion controls will be specified throughout.
- Connection to a proposed district heat network.

Overall, the Proposed Development (Detailed Application) is shown to achieve the following carbon reductions after following the Energy Hierarchy of LEAN, CLEAN, GREEN when compared to Part L 2013 using SAP10.0 carbon factors:

- Residential – 80.8%
- Non-residential (2 Berol Yard) – 35.6%
- Non-residential (Berol House Refurbished) – 49.8%
- Non-residential (Berol House Extension) – 49.7%
- **Whole Development – 66.9%**

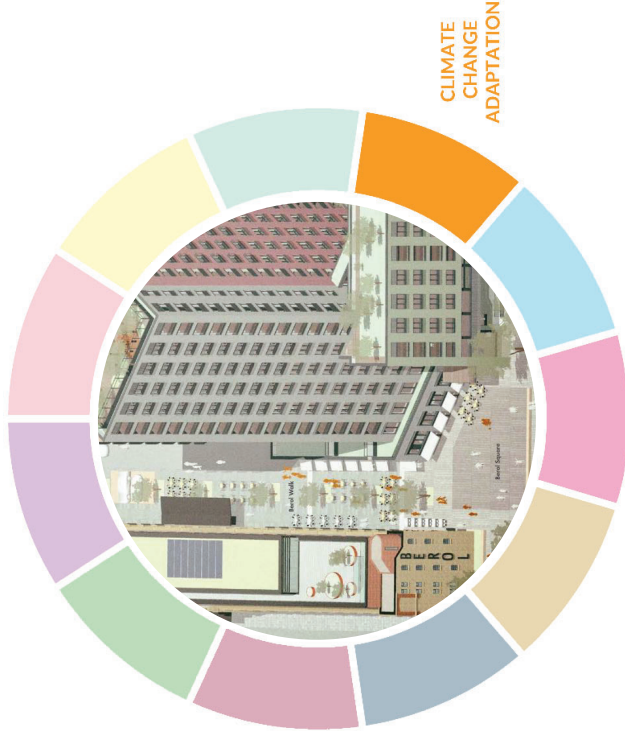
The whole development therefore is shown to substantially exceed the carbon reduction target of 35% set by GLA.

For overheating a stepped approach was utilised following the cooling hierarchy. Measures were incorporated into the models and building design until internal thermal comfort conditions became acceptable.

The proposed development is committed to comply with the 'be seen' requirements at each stage. A copy of the 'be seen' spreadsheet and TM54 analysis will be submitted separately. The building's actual energy performance will be monitored post-construction.

Following the measures and results above the development has demonstrated compliance with Building Regulations Part L, LP2021 Policies SI2, SI3.

7. CLIMATE CHANGE ADAPTATION AND FLOOD RISK



7.1. REQUIREMENTS AND TARGETS

THE LONDON PLAN (MARCH 2021)

POLICY S14 MANAGING HEAT RISK

- Development should minimise adverse impacts on the urban heat island through design, layout, orientation, materials and the incorporation of green infrastructure.
- Through an energy strategy, development should demonstrate how they will reduce internal overheating and reliance on air conditioning systems in accordance with the cooling hierarchy.

S112 FLOOD RISK MANAGEMENT

- Development should ensure that flood risk is minimised and mitigated, and that residual risk is addressed.
- Development proposal adjacent to flood defences will be required to protect the integrity of flood defences and allow access for future maintenance and upgrading.

- Natural flood management methods should be employed in development proposals due to their multiple benefits including increasing flood storage and creating recreational areas and habitat.

POLICY S113 SUSTAINABLE DRAINAGE

- Development proposals should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible in line with the following drainage hierarchy.
- Drainage should be designed and implemented in ways that promote multiple benefits including increased water use efficiency, improve water quality, and enhance biodiversity, urban greening, amenity and recreation.
- Development proposals should aim to get as close to greenfield run-off rates as possible depending on site conditions. The well-established drainage hierarchy set out in this policy helps to reduce the rate and volume of surface water run-off. Rainwater should be managed as close to the top of the hierarchy as possible. There should be a preference for green over grey features, and drainage by gravity over pumped systems. A blue roof is an attenuation tank at roof or podium level; the combination of a blue and green roof is particularly beneficial as the attenuated water is used to irrigate the green roof.

POLICY GG6 INCREASING EFFICIENCY AND RESILIENCE

- Ensure buildings and infrastructure are designed to adapt to a changing climate, making efficient use of water, reducing impacts from natural hazards like flooding and heatwaves, while mitigating against and avoiding contributing to the urban heat island effect.

POLICY D4 HOUSING QUALITY AND STANDARDS

- The design of development should provide sufficient daylight and sunlight to new and surrounding housing that is appropriate for its context, whilst avoiding overheating, minimising overshadowing and maximising the usability of outside amenity space.

HARINGEY DEVELOPMENT MANAGEMENT PLAN (APRIL 2013)

POLICY SP5: WATER MANAGEMENT AND FLOODING

SUSTAINABLE DESIGN

- All development must ensure that it is not vulnerable to surface water, sewer and groundwater flooding

HARINGEY'S DEVELOPMENT MANAGEMENT DPD

POLICY DM24: MANAGING AND REDUCING FLOOD RISK

- The Council will ensure that all proposals for new development avoid and reduce the risk of flooding to future occupants and do not increase the risk of flooding.

7.2. DESIGN APPRAISAL

MANAGING HEAT RISK

URBAN HEAT ISLAND

The following proposed measures will help reduce external overheating and provide benefits in terms of balancing the microclimate:

- All services will be of high efficiency and will aim to avoid expelling waste heat into the atmosphere.

- To contribute to the adaptation and reduction of the effects of climate change, the Proposed Development will include appropriate landscaping layout and elements. Refer to section 12 or specific consultant reports for further details.

OVERHEATING

For overheating a stepped approach was utilised following the cooling hierarchy. Measures were incorporated into the models and building design until internal thermal comfort conditions became acceptable.

GREEN INFRASTRUCTURE

URBAN GREENING & TREES

The proposed ground cover, which currently provides the site with a 0.32 Urban Greening Factor (UGF), will provide some protection from both heat and UV radiation by evapotranspiration.

FLOOD RISK

SURFACE WATER FLOODING & SUSTAINABLE DRAINAGE

A Flood Risk Assessment has been prepared by WSP (November 2022) for the proposed development as part of the planning application. A summary of the findings and strategy is provided below:

The site is considered to be in Flood Zone 2, see Figure 7-1 – land and property assessed as having between 1 in 100 and 1 in 1,000 annual probability of river and sea flooding in any given year.

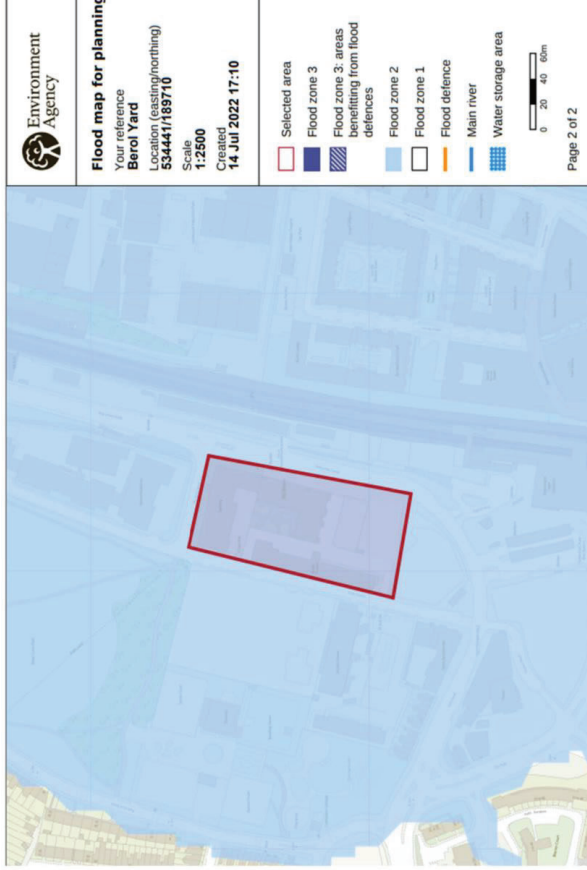


Figure 7-1 - Site flood map

The strategy has been developed to comply with LB Haringey policies incorporating Sustainable Drainage Systems (SuDS) features in the form of blue and green roofs and tree pits combined with underground geo-cellular attenuation tanks. The Site's surface water is to be attenuated and discharged to an existing Thames Water surface water sewer within Ashley Road. Due to maximum geo-cellular storage level of 7.840m AOD, only 11mm of depth is left for attenuation. Therefore, attenuation by gravity is not possible in the paved areas and there is no other option than a pumped system. This is further explained in the Flood Risk Assessment.

Regarding the Foul Water Drainage Strategy, it proposes a connection to the existing Thames Water Foul Water oval 686mm sewer crossing the Site on the eastern area for the 2 Berol Yard building, likely to involve Thames Water sewers network improvement and diversion works. For the Berol House, it is proposed to reuse the existing foul water drainage connections.

SUFFICIENT DAYLIGHT AND SUNLIGHT

A Daylight, Sunlight and Overshadowing Report has been prepared by Litchfield's for the Proposed Development as part of the planning application. The assessment has been carried out for daylight and sunlight according to BRE Guidelines (Site Layout Planning for Daylight and Sunlight – A Guide to Good Practice) second (2022) edition.

The sample size included 570 rooms. It was found that daylight and sunlight amenity into most tested rooms is in line with the BRE Guidance. While some rooms fall short of meeting the BRE Guidance, it can still be concluded that the level daylight and sunlight amenity achieved is appropriate for this type of development. The rooms and amenity spaces have been tested in relation to average daylight factor, no sky line and daylight distribution, illuminance and sunlight exposure. The building design has been carried out to maximise the number of rooms with dual aspect, while also balancing the overheating risk by including shading elements and balconies. Overall, the given the character and form of the property and its urban location the daylight and sunlight amenity of the proposed development is considered to be acceptable

An analysis was also carried out to assess the effects of the proposed development on the neighbouring properties. It was concluded that the results are in line with area expectations. Whilst some localised transgressions do occur it was concluded that they are predominantly driven by the limitations placed by the use of projecting and recessed balconies on the tested neighbouring buildings. It is acknowledged by the NPPF that some level of transgression is unavoidable in urban areas.

7.3. SUMMARY

The Proposed Development has ensured that it has reduced its external heat rejection to the atmosphere; has incorporated planting wherever viable; and it has reduced its reliance on air conditioning systems to combat overheating by using solar control glazing, mechanical heat recovery ventilation and reducing internal heat gains as far as feasible.

Moreover, the Proposed Development is located within Flood Zone 2 and will implement the necessary steps to mitigate flood risk by incorporating LB Haringey policies.

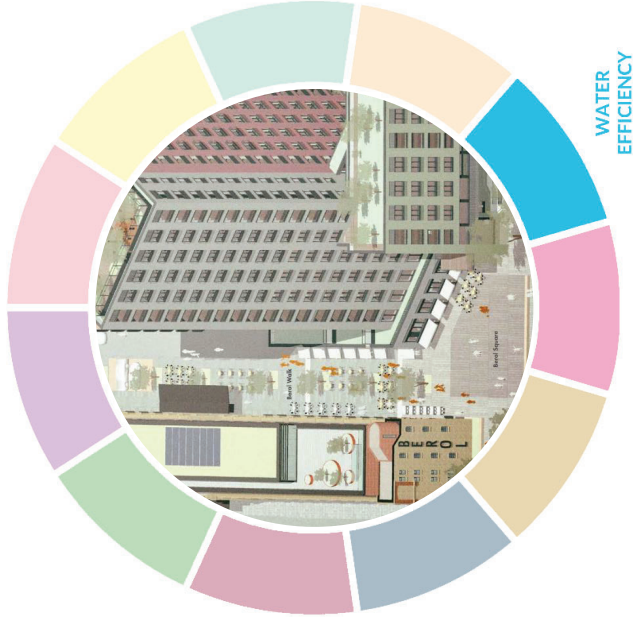
The daylight and sunlight assessment for the Proposed Development highlights that daylight and sunlight amenity into most tested rooms is in line with the BRE Guidance. While some rooms fall short of meeting



the BRE Guidance, it can still be concluded that the level daylight and sunlight amenity achieved is appropriate for this type of development

The measures incorporated into the design are in compliance with LP2021 Policies SI4, SI12, SI13, GG5.

8. WATER EFFICIENCY



8.1. REQUIREMENTS AND TARGETS

THE LONDON PLAN (MARCH 2021)

POLICY S15 WATER INFRASTRUCTURE

- Commercial development should achieve at least the BREEAM Excellent standard for the Wat 01 or equivalent (12.5% improvement over defined baseline performance standard)
- Development should seek to improve the water environment and ensure that adequate wastewater infrastructure capacity is provided.

8.2. DESIGN APPRAISAL

The Proposed Development will be designed to minimise water use and impact on urban drainage. The Proposed Development will be designed to minimise water use through:

WATER CONSERVATION

The Proposed Development will employ design measures regarding water conservation and will have reduced mains water demand over typical performance. Proposed water saving features includes:

- Sanitary fittings will be specified such that a reduction over a notional building consumption is at least 12.5% for the non-residential elements.
- Sanitary fittings in the residential element will be specified such that they will not consume over 105 l/person/day.
- The non-residential elements are currently targeting 40% reduction in water consumption from the baseline, corresponding the following performance levels:
 - W.C's: ≤3.75L effective flush volume
 - Hand Wash Basin Taps: ≤5L/min flow rate
 - Kitchenette Taps: ≤6L/min flow rate

A consumption target of 'Excellent' in Wat 01 is targeted, equating to 1 or more of 5 credits.

MANAGING WATER USE

To ensure ongoing sustainability performance during building operation, water use will be appropriately and effectively managed. Water meters will be linked to a central Building Management System which will enable monitoring and evaluation of water usage by the building management team.

LEAK DETECTION AND PREVENTION

Systems will be specified to detect a major water leak on the mains supply both within the building and between the building and the utilities water meter.

WATER USE DURING CONSTRUCTION

Water consumption targets will be set by the principal contractor for the construction site and usage will be monitored in accordance with BREEAM Man 03 Monitoring of construction site impacts requirements.

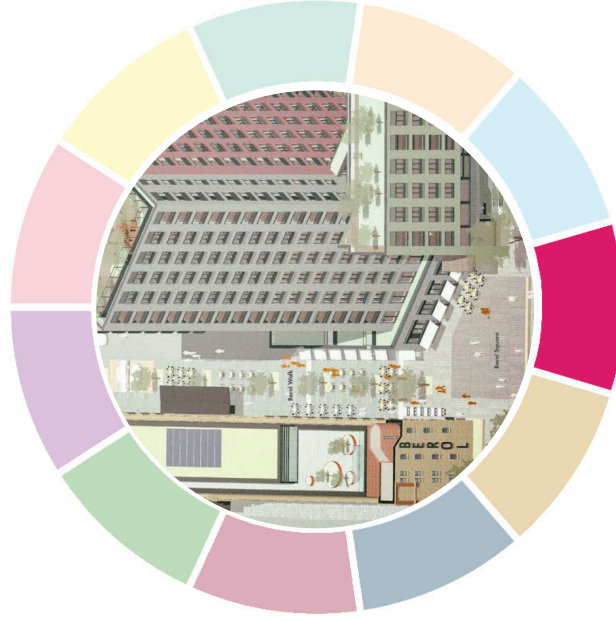
WATER RECYCLING

Where feasible, rainwater harvesting system at the site will be provided. This system will be further progressed in the later design stage. The recycled water shall be used for irrigation of the landscaped areas.

8.3. SUMMARY

The Proposed Development has ensured the site has maximised the opportunities for incorporation of water saving measures which include the use of water saving fixtures and fittings, optimised water management through leak detection and reduced water flow rates in compliance with LP2021 Policy S15. The consumption target of 'Excellent' in Wat 01 has been targeted and most attainable water credits in the BREEAM assessment of the non-residential elements are targeted (3 out of 5 credits).

9. MATERIALS



MATERIALS

9.1. REQUIREMENTS AND TARGETS

THE LONDON PLAN (MARCH 2021)

POLICY S17 REDUCING WASTE AND SUPPORTING THE CIRCULAR ECONOMY

- Resource conservation, waste reduction, increases in material re-use and recycling, and reductions in waste going for disposal will be achieved by the Mayor, waste planning authorities and industry working in collaboration to:
 - Promote a more circular economy that improves resource efficiency and innovation to keep products and materials at their highest use for as long as possible

9.2. DESIGN APPRAISAL

An initial circular economy strategy has been developed for The Proposed Development. The following aspects have been addressed as part of the proposed design:

REUSE & RECYCLED CONTENT

The materials used in the Proposed Development will be derived from recycled and reused content where possible. This can be made up of demolition material from construction sites and/or specification of materials with recycled content. It is difficult to state exactly what percentage of reused materials will be utilised or what level of recycled content will be possible at this stage in the design, however, this will be progressed with the designers and contractors via materials efficiency workshops at each RIBA stage.

ENVIRONMENTAL IMPACT

Material efficiency is a priority for the Design Team and one of the key considerations during detailed design. Potential measures for reducing the material demand and for designing out waste will be explored by all key design team disciplines at each design stage.

The environmental impact of the proposed materials palette has regard for selecting components that have a low environmental impact. Furthermore, the design team will review the wider environmental impact of the materials considered when choosing between different options via a whole building life cycle assessment (LCA). This will include reviewing Environmental Product Declarations (EPDs) and specifying products with this label where practical.

Insulation materials to be used for the Proposed Development will be specified to have a low or zero Global Warming Potential (GWP) and low Ozone Depletion Potential (ODP).

RESPONSIBLE SOURCING

The responsible sourcing of materials will be a key consideration in the selection of suppliers, and a sustainable procurement strategy will be produced for the Proposed Development prior to construction. Materials from suppliers who participate in responsible sourcing schemes such as the BRE BES 6001:2008 Responsible Sourcing Standard will be prioritised.

All timber specified will be sourced from schemes supported by the Central Point of Expertise for Timber Procurement such as Forest Stewardship Council (FSC) accreditation – which ensures that the harvest of timber and non-timber products maintains the forest's ecology and its long-term viability.

Where viable the design team will specify materials that are grown or made locally. Likewise, the appointed contractor will be asked to prioritise local sourcing of materials.

Natural resource depletion will be minimised throughout the development, and materials such as peat and natural weathered limestone will not be used in the buildings or landscape features.

HEALTHY MATERIALS

Internally, the design and specifications will ensure that environmentally sensitive (non-toxic) building materials are used throughout. Specifically, the design and specification of materials used internally will consider products that contain low levels of or no Volatile Organic Compounds (VOCs).

The selection criteria for external materials will include the specification of low toxicity to humans and the wider environment, especially those that deplete stratospheric ozone.

9.3. SUMMARY

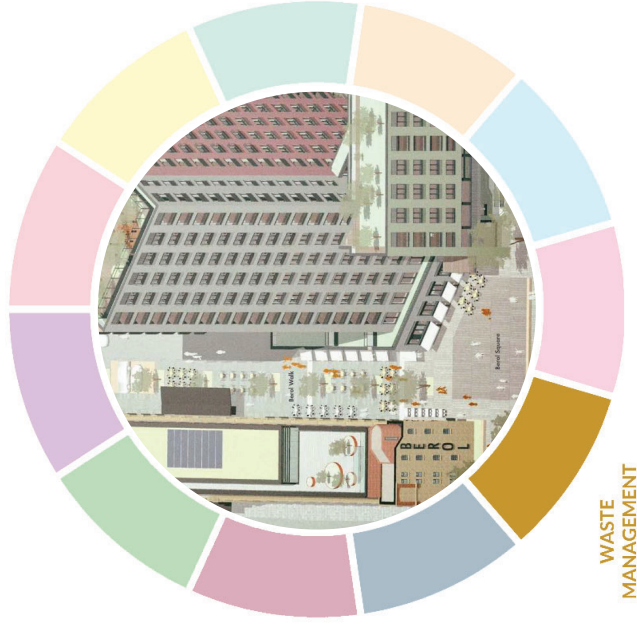
The Proposed Development has ensured, as far as practicable that materials used on site will have a low embodied energy.

The internal materials will be specified to have low toxicity to humans and the environment, to be durable to cater for their level of use and exposure and the Proposed Development will maximise the use of prefabricated or easily dismountable materials.

Additionally, in line with the GLA and RICS guidance, an initial circular economy strategy has been developed as well as a life cycle analysis of the environmental impact of materials in the building. Various design options to reduce overall impact have been considered.

The measures incorporated into the design are in compliance with LP2021 Policies SI2 and SI7.

10. WASTE MANAGEMENT



10.1. REQUIREMENTS AND TARGETS

THE LONDON PLAN (MARCH 2021)

POLICY S17 REDUCING WASTE AND SUPPORTING THE CIRCULAR ECONOMY

- Resource conservation, waste reduction, increases in material re-use and recycling, and reductions in waste going for disposal will be achieved by the Mayor, waste planning authorities and industry working in collaboration to:
 - Promote a more circular economy that improves resource efficiency and innovation to keep products and materials at their highest use for as long as possible
- Encourage waste minimisation and waste prevention through the reuse of materials and using fewer resources in the production and distribution of products
- Ensure that there is zero biodegradable or recyclable waste to landfill by 2026.
- Meet or exceed the targets for each of the following waste and material streams:
 - a) construction and demolition – 95 per cent reuse/recycling/recovery

- b) excavation – 95 per cent beneficial use

- design developments with adequate, flexible, and easily accessible storage space and collection systems that support, as a minimum, the separate collection of dry recyclables (at least card, paper, mixed plastics, metals, glass) and food.

10.2. DESIGN APPRAISAL

CIRCULAR ECONOMY STRATEGY

A Circular Economy Statement has been produced by WSP for the Proposed Development to demonstrate how the design and construction of the development addresses the challenges of the climate emergency by prompting resource efficiency and adopting a circular economy approach that contribute to a sustainable development, as shown in Figure 10-1.

The Proposed Development has followed the Circular Economy Statement Guidance (Updated in November 2022) in the following areas:

- Minimise the quantities of materials used
- Minimise the quantities of other resources used
- Specify and source materials and other resources sustainably
- Design for longevity, adaptability or flexibility and reusability or recoverability
- Design out construction, demolition, excavation and municipal waste arising
- Manage demolition waste
- Manage excavation waste
- Manage construction waste
- Manage municipal waste

The Applicant commits to design the Proposed Development to conserve resources, eliminate waste and manage waste sustainably.

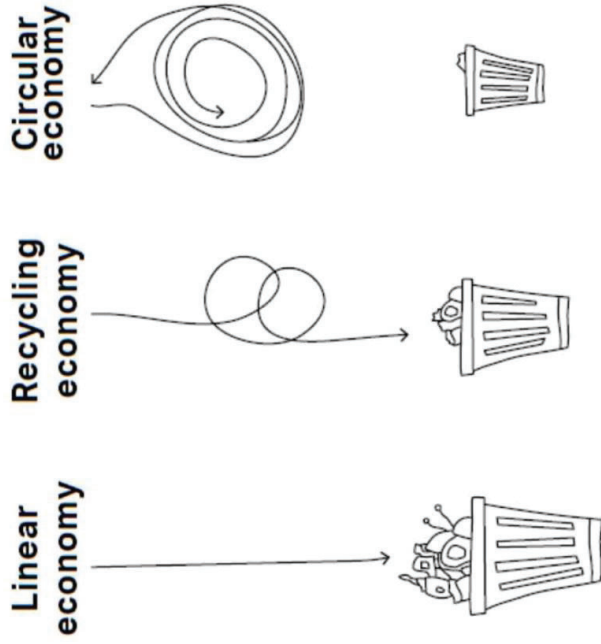


Figure 10-1 - Difference Between Linear Economy vs Circular Economy (Source: London Plan CES Guidance, March 2022)

A Circular Economy strategy will be followed throughout all the design stages of the Project, according to the following implementation strategies:

- Site Waste Management Plan
- Construction Environmental Management Plan
- BREEAM Pre-assessment Excellent targets
- Pre-demolition audit
- Sustainable Procurement Plan
- Operational Waste Management strategy

For full details, please refer to the Circular Economy Statement (November 2022) submitted as part of this Application.

CONSTRUCTION WASTE

The Proposed Development will incorporate best practice waste reduction measures developed in line with the waste hierarchy to reduce, reuse, and recycle. These include:

- Achievement of the recycling, re-use, and responsible disposal of Construction, Demolition and Excavation waste in accordance with the London Plan and BREEAM Wst 01 targets
- Creation of accurate data records on waste arisings and management routes.
- Implementation of a circular economy strategy.

OPERATIONAL WASTE

A Waste Management Strategy has been produced by Berol Quarter Limited to support the planning application of the Proposed Development. The waste strategy has been developed from the relevant policy from the London Plan (2021) and the LB Haringey has been used to set out the expected waste demands for each use and the proposed strategy.

The waste storage has been calculated on the basis of twice weekly collections for commercial waste. LB Haringey will be responsible for once-a-week collections for residential waste, any further collections will need to be carried out using a waste collection contractor to be arranged by the developer's team. The space requirements for waste storage may be reduced if the waste collection strategy is carried out more frequently than considered above. The anticipated swept paths of vehicles for waste collections can be seen in Figure 12-1. Please refer to the Waste Management Strategy for full information.

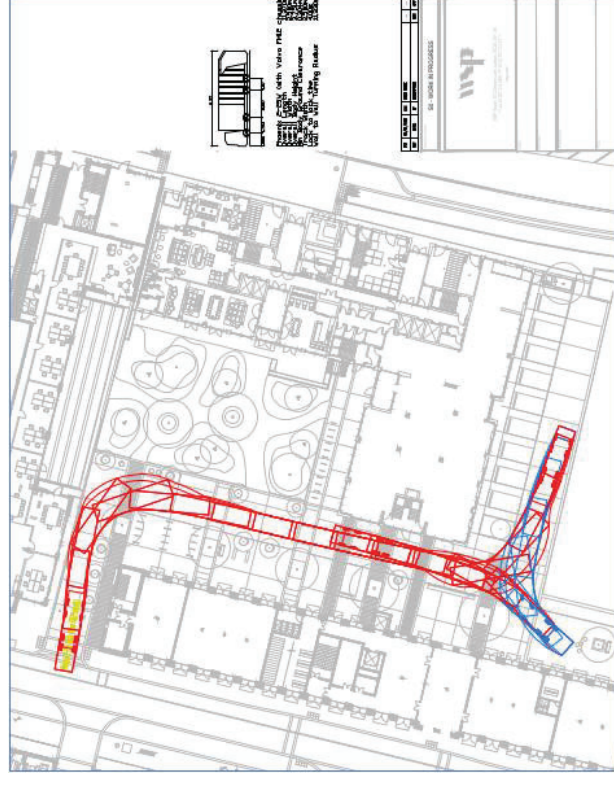


Figure 10-2 - Vehicle swept path for waste collection



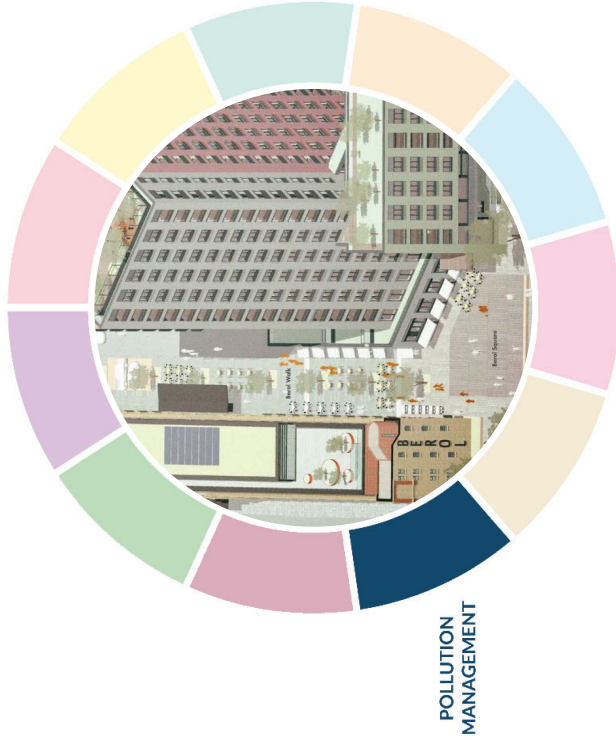
10.3. SUMMARY

The Proposed Development has ensured that both the construction and the operational waste is effectively managed in accordance with national and local policy. Best practice construction waste management will be promoted and implementation of a circular economy strategy.

Moreover, the Proposed Development will provide sufficient internal space and collection bins for the storage of recycled and compostable materials and waste in the development. A collection strategy will be agreed with the LB Haringey.

The measures incorporated into the design are in compliance with LP2021 SI7.

11. POLLUTION MANAGEMENT



11.1. REQUIREMENTS AND TARGETS

THE LONDON PLAN (MARCH 2021)

POLICY SH: IMPROVING AIR QUALITY

- Development should not lead to further deterioration of existing poor air quality, create any new areas that exceed air quality limits and create unacceptable risk of high levels of exposure to poor air quality.
- Major development must be at least air quality neutral and should use design solutions to prevent or minimise increased exposure to existing air pollution and make provision to address local problems of air quality in preference to post-design or retro-fitted mitigation measures. Major development must be submitted with an Air Quality Assessment.
- To reduce the impact on air quality during the construction and demolition phase development proposals must demonstrate how they plan to comply with the Non-Road Mobile Machinery Low Emission Zone and reduce emissions from the demolition and construction of buildings following best practice guidance

POLICY D12 AGENT OF CHANGE

- The Agent of Change principle places the responsibility for mitigating impacts from existing noise and other nuisance-generating activities or uses on the proposed new noise-sensitive development.
- Development should be designed to ensure that established noise and other nuisance-generating uses remain viable and can continue or grow without unreasonable restrictions being placed on them.
- New noise and other nuisance-generating development proposed close to residential and other noise-sensitive uses should put in place measures to mitigate and manage any noise impacts for neighbouring residents and businesses.
- Development proposals should manage noise and other potential nuisances by:
 - ensuring good design mitigates and minimises existing and potential nuisances generated by existing uses and activities located in the area
 - exploring mitigation measures early in the design stage, with necessary and appropriate provisions including ongoing and future management of mitigation measures secured through planning obligations
 - separating new noise-sensitive development where possible from existing noise generating businesses and uses through distance, screening, internal layout, soundproofing, insulation and other acoustic design measures.

POLICY D13 NOISE

- In order to reduce, manage and mitigate noise to improve health and quality of life, residential and other non-aviation development proposals should manage noise by:
 - avoiding significant adverse noise impacts on health and quality of life
 - mitigating and minimising the existing and potential adverse impacts of noise on, from, within, as a result of, or in the vicinity of new development without placing unreasonable restrictions on existing noise-generating uses.
 - improving and enhancing the acoustic environment and promoting appropriate soundscapes
 - separating new noise-sensitive development from major noise sources.
 - where it is not possible to achieve separation of noise-sensitive development and noise sources without undue impact on other sustainable development objectives, then any potential adverse effects should be controlled and mitigated through applying good acoustic design principles.

HARINGEY'S DEVELOPMENT MANAGEMENT PLAN 2026 (2013)

POLICY DM23: ENVIRONMENTAL PROTECTION

- All development proposals should consider the following environmental areas and design should improve or mitigate the impacts to ensure high quality for the occupiers
 - Air Quality
 - Noise and Vibration
 - Light Pollution
 - Contaminated Land
 - Hazardous Substances.

11.1. DESIGN APPRAISAL

AIR QUALITY

An Air Quality assessment has been prepared by WSP (November 2022) with the aim to minimise air pollution for the Proposed Development. Please refer to the report for full details.

CONSTRUCTION PHASE

A qualitative assessment of the potential impacts on local air quality from construction activities has been carried out for this stage of the Proposed Development using the Institute of Air Quality Management Construction Dust guidance methodology. Please refer to the Air Quality assessment prepared by WSP (November 2022) for detailed analysis.

OPERATIONAL PHASE - AIR QUALITY NEUTRAL

The results of the Air Quality Neutral Assessment show that at planning stage, the Proposed Development is compliant with the building and transport emissions benchmarks for NO_x and PM₁₀ for this part of London. Based on the air quality assessment carried out, the development is air quality neutral.

11.2.

WATER POLLUTION

The proposed design minimises water pollution in the following ways:

- SuDS will be employed as part of the emerging drainage design to control surface water drainage. It is predicted there will be zero surface water discharge from the site from the new extension under normal conditions.
- In the event of an extreme storm event, the rainwater that will be discharged in advance would have originated from roofs or pedestrianised areas, therefore in accordance with Ciria 753 the water is considered clean and no treatment is required.

LIGHT POLLUTION

External lighting design has been carried out in accordance with ILP guidance notes for obtrusive light (2011) as per the BREEAM requirements stated in Appendix A. The allows the development to achieve the available one credit under the Pol 04 Reduction of Night Time Light Pollution criteria.

LAND CONTAMINATION

A Geo-Environmental Assessment was been prepared by Delta Simons (June 2018).

The following conclusions were established

- Human Health: Widespread or significant contamination of the Site has not been identified, though asbestos and localised, low level lead and PAHs have been identified in the Made Ground. Based on the available information, potential risks to human health can be mitigated through the development with the provision of hardcover over the majority of the completed development. Certified, imported 'clean' cover soils should be allowed for in any landscaped areas. Groundworkers will need to be aware of and allow for addressing asbestos finds in the ground if/when encountered.

- Controlled Waters: No potential risk to controlled waters has been identified, given the absence of significant potentially mobile contamination sources and distance to controlled water receptors.
- Ground Gas: Ground gas monitoring indicates the Site can be classified as CS1, specific ground gas protection measures are not considered to be required.

Full details can be found in the referred document.

NOISE POLLUTION

A noise assessment was carried out by WSP (November 2022). A 3D noise model was created using the software CadnaA (Dataustik, 2021 MR2) to evaluate the predicted environmental noise levels across the proposed development. Furthermore, a site survey was carried on site. It was found that the noise levels on balconies are considered acceptable, given the advice in BS 8233 above and the location of the site, which is in an urban area. Furthermore, the design has incorporated balconies with a solid parapet to minimise the noise levels within these spaces as far as possible.

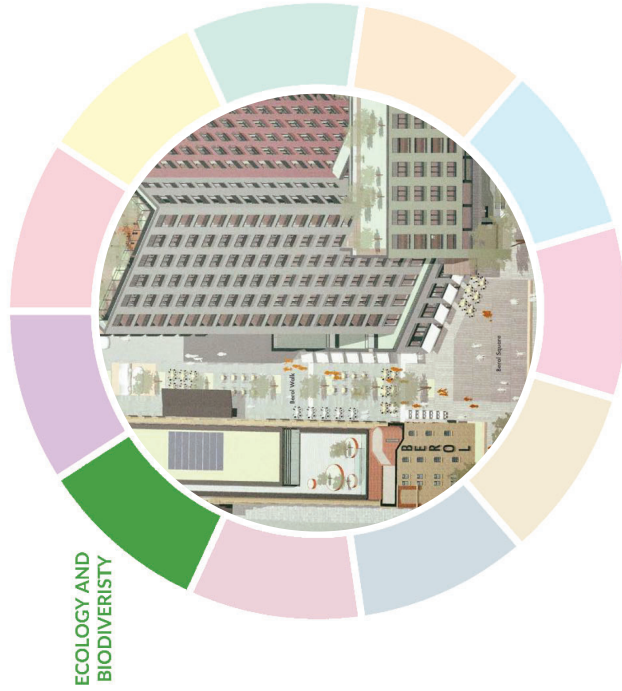
SUMMARY

The Proposed Development will be designed to minimise the noise and vibration impacts on existing and future sensitive receptors during the operational phase of the development. The detailed design should design, select, locate and/or attenuate all building services plant on the site.

Dust and other air pollution will also be minimised during construction, and performance demonstrated through application to the Considerate Contractors Scheme (CCS). Based on the air quality assessment carried out, the development is air quality neutral. External lighting design will achieve the available BREEAM credit under the Pol 04 category relating to light pollution. Additionally, the site land contamination has been assessed and potential risks to human health can be mitigated.

The measures incorporated into the design are in compliance with LP2021 Policies SI1, D12 and D13.

12. ECOLOGY AND BIODIVERSITY



12.1. REQUIREMENTS AND TARGETS

THE LONDON PLAN (MARCH 2021)

POLICY G1 – GREEN INFRASTRUCTURE

- Development proposals should incorporate appropriate elements of green infrastructure that are integrated into London's wider green infrastructure network

POLICY G5 – URBAN GREENING

- Major development proposals should contribute to the greening of London by including urban greening as a fundamental element of site and building design, and by incorporating measures such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable drainage.
- Boroughs should develop an Urban Greening Factor (UGF) to identify the appropriate amount of urban greening required in new developments.
 - In the interim, the Mayor recommends a target score of 0.4 for developments that are predominately residential, and a target score of 0.3 for predominately commercial development.

POLICY G6 - BIODIVERSITY AND ACCESS TO NATURE

- Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain. This should be informed by the best available ecological information and addressed from the start of the development process.

POLICY G7 - TREES AND WOODLAND

- London's urban forest and woodlands should be protected and maintained, and new trees and woodlands should be planted in appropriate locations in order to increase the extent of London's urban forest – the area of London under the canopy of trees.
- Development proposals should ensure that, wherever possible, existing trees of value are retained
 - The planting of additional trees should generally be included in new developments – particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

HARINGEY'S LOCAL PLAN

SP13: OPEN SPACE AND BIODIVERSITY

- New development shall protect and improve Haringey's parks and open spaces

HARINGEY'S DEVELOPMENT MANAGEMENT PLAN

POLICY DM20: OPEN SPACE AND GREEN GRID

- Development that protects and enhances Haringey's open spaces will be supported.
- The Council will require all development providing new or replacement open space, wherever possible, to connect to the All London Green Grid. Protection and enhancement of this network will make a positive contribution to Haringey and its communities, in addition to providing social, recreational and ecological benefits.

12.2. DESIGN APPRAISAL

A Preliminary Ecological Appraisal (PEA) was developed for a previous planning application at the Proposed Development site and showed no issues.

LANDSCAPING AND URBAN GREENING OPPORTUNITIES

Please refer to the Landscape Strategy submitted as part of the Design and Access Statement.

URBAN GREENING FACTOR

The Urban Greening Factor (UGF) has been calculated by Chuchman Thornhill Finch. The proposed ground cover, which currently provides the site with a 0.32 UGF, see Figure 12-1, will provide some protection from both heat and UV radiation by evapotranspiration. While the UGF falls slightly short of a UGF of 0.4 which is the London Plan target for a predominantly residential development, every effort has been made to ensure that suitable spaces on site have been utilised for surface covers that increase the UGF and supports biodiversity on site. An illustrative landscape plan can be seen in Figure 12-2.

Urban Greening Factor Calculator			
Surface Cover Type	Factor	Area (m²)	Contribution
Intensive green roof or vegetation over structure. Substrate minimum settled depth of 150mm.	0.8	364	291.2
Standard trees planted in connected tree pits with a minimum soil volume equivalent to at least two thirds of the projected canopy area of the mature tree.	0.8	476	380.8
Extensive green roof with substrate of minimum settled depth of 80mm (or 60mm beneath vegetation blanket) – meets the requirements of GH Code 2014.	0.7	936	655.2
Flower-rich perennial planting.	0.7	19	13.3
Standard trees planted in pits with soil volumes less than two thirds of the projected canopy area of the mature tree.	0.6	420	252
Water features (chlorinated) or unplanted detention basins.	0.2		0
Permeable paving.	0.1	458	45.8
Sealed surfaces (e.g. concrete, asphalt, waterproofing, stone).	0	2170	0
Total contribution			1638.3
Total site area (m²)		5078	
Urban Greening Factor			0.322627019

Figure 12-1 - UGF Calculation

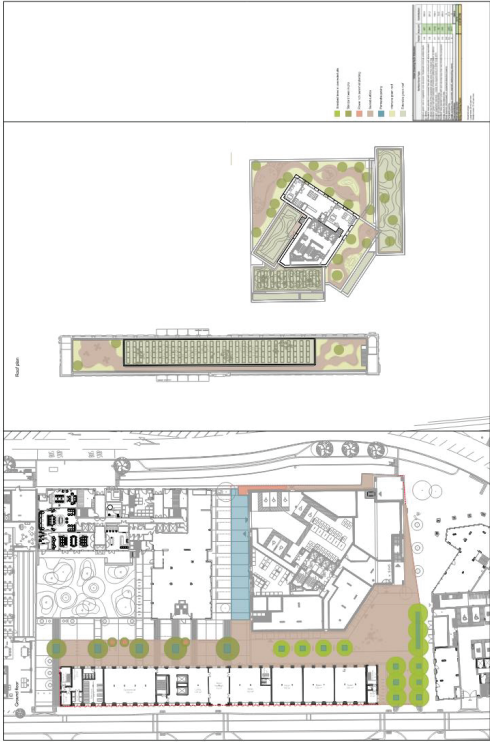


Figure 12-2 – Indicative landscape plan

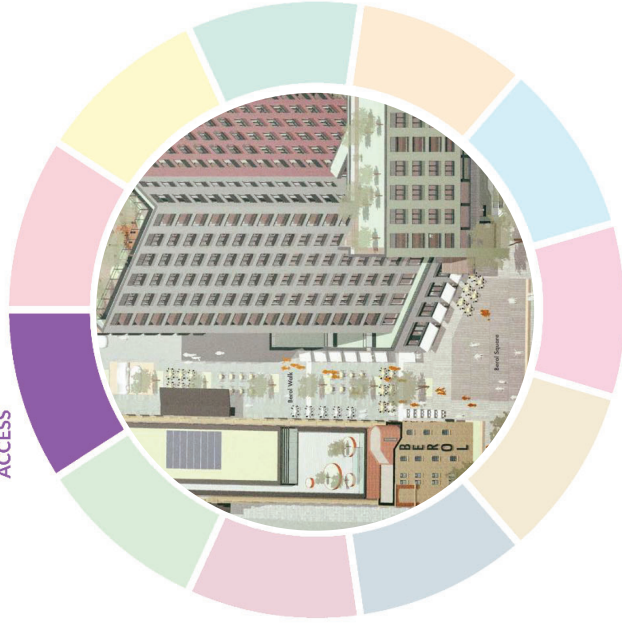
The landscape plan has been developed to support Haringey's Local Plan policy SP13 and Development management plant policy DM20. The proposed landscaping will improve the open space on site and hereby positively contribute to Haringey and its communities, in addition to providing social, recreational and ecological benefits.

12.3. SUMMARY

The measures incorporated into the design are in compliance with LP2021 Policies G1, G6 and G7 and have strived to maximise green infrastructure to achieve a UGF as high as possible to comply with Policy G5. Measures are also in compliance with Haringey's Local Plan policy SP13 and Development management plant policy DM20

13. SUSTAINABLE TRANSPORT & ACCESS

SUSTAINABLE
TRANSPORT AND
ACCESS



13.1. REQUIREMENTS AND TARGETS

THE LONDON PLAN (MARCH 2021)

POLICY T5 CYCLING

- All new development in the city must provide convenient and accessible cycle parking in line with minimum standards.
- Regarding long stay cycle parking, **1 space per 1 bed/studio flat, 1.5 space per 2 bed flat, 2 spaces for all other dwellings** must be provided dwellings.
- Regarding short-stay cycle parking (visitors/customers), this must be convenient and readily accessible. **2 space per 5-40 dwellings, thereafter: 1 space per 40 dwellings** must be provided.

POLICY T6 CAR PARKING

- Parking should be restricted in line with existing and future public transport accessibility and connectivity.
- Car-free development should be targeted in places that are well-connected.
- Appropriate provision should also be made for Blue Badge holders.

THE MAYOR'S TRANSPORT STRATEGY (MARCH 2018):

The Mayors Transport Strategy (MTS) notes that transport has a role to play in delivering good growth that satisfies the following principles:

- Good access to public transport;
- High-density, mixed use developments;
- People choose to walk and cycle;
- Car-free and car-lite places;
- Inclusive, accessible design;
- Carbon-free travel; and
- Efficient freight.

The policies of the MTS seek to tackle the challenges through:

- "Making London a city where people choose to walk and cycle more often by improving street environments and promoting the benefits of active travel;
- Aiming for no one to be killed in or by a London bus by 2030, and for all deaths and serious injuries from road collisions to be eliminated from London's streets by 2041;
- Prioritising space efficient modes of transport to tackle congestion and improve the efficiency of streets for the movement of people and goods, with the aim of reducing overall traffic levels by 10-15% by 2041;
- Seeking to make London's transport network zero emission by 2050; and
- Using the Healthy Streets Approach to deliver coordinated improvements to public transport and streets to provide an attractive whole journey experience that will facilitate mode shift away from the car."

13.2. DESIGN APPRAISAL

A separate Transport Assessment and Travel Plan have been prepared by WSP (November 2022) to accompany the planning submission for the Proposed Development and should be referred to in the first instance on information relating to transportation and accessibility, a summary is provided below:

PUBLIC TRANSPORT ACCESS

PTAL

TfL's web-based calculator has been utilised to determine the site's existing Public Transport Accessibility Levels (PTALs). The PTAL methodology has been adopted by the GLA and TfL and gives the site a rating of 6a (Excellent).

PUBLIC TRANSPORT

The Site is located within close proximity to Tottenham Hale public transport interchange (bus, rail and underground stations).

PEDESTRIAN ACCESS

The Site's central location means that most essential amenities are available in the local vicinity and can be accessed on foot. Within the 30-minute walk catchment area, future residents, visitors or employees will be able to walk to a number of key areas including Bruce Grove and South Tottenham.

CYCLISTS ACCESS, CYCLE STORAGE AND FACILITIES

The Proposed Development benefits from a number of cycle routes within close proximity to the Site providing links to various destinations and further cycle facilities. Ashley Road currently provides an on-road cycle route along its entirety from its junction with Watermead Way to its northern end. The route connects to off road cycle routes to the north and south of Ashley Road. The off-road cycle way to the north allows further connection to National Cycle Route 1 and off-road cycle ways along Hale Road connect towards facilities in the A10. Cycle parking provision will be provided in accordance with London Plan 2021 as set out in the police section of this report. The provision will be:

- 376 long stay spaces for future residents;
- 52 long stay spaces for future employees of the commercial (retail / office) units; and
- 54 short stay spaces for visitors, within the public realm

CAR & MOTORCYCLE PARKING PROVISION

The Proposed Development will include:

- 7 accessible blue badge car parking spaces within building envelope (one for retail and six for residential) at 2 Berol Yard
- 1 accessible blue badge car parking space at Berol House

SERVICING

A dedicated strategy and report has been developed for servicing by WSP (November 2022).

13.3. SUMMARY

The Proposed Development will provide compliant and appropriate pedestrian and cycle access, cycle spaces and servicing.

The separate Transport Assessment and Travel Plan outlines the opportunities for the use of sustainable travel options available near the site.

The measures incorporated into the design are in compliance with LP2021 Policies T5 and T6.

14. CONCLUSION

Considering the principles of sustainability early in the design and planning process is a positive step to ensuring that the Proposed Development is sustainable in terms of construction, operation, the local community, the environment and its future occupation.

A review of national, regional and local planning policies was undertaken, with emphasis on the 2021 National Planning Policy Framework (NPPF), the London Plan (March 2021), the Mayor's Sustainable Design and Construction SPG (2014) and Haringey Local Policies.

The Site was found to respond to the issues raised in the policy documents in the following areas as shown in Table 14-1:

Table 14-1 Summary of Proposed Measures for the development

KEY SUSTAINABILITY AREA	PROPOSED MEASURES
Environmental Rating Methods (refer to Section 5 for full details)	A BREEAM* Pre-assessment has been carried out by an accredited BREEAM Assessor/ AP during RIBA Stage 2. The non-residential elements of the Proposed Development are expected to achieve as a minimum a BREEAM 'Very Good' rating. The attached BREEAM Pre-assessment shows how this target is proposed to be achieved. * BREEAM is a third-party sustainability certification tool for project teams to utilise to demonstrate performance beyond current minimum legal requirements. Refer to section 5 and Appendix A for further detail.

KEY SUSTAINABILITY AREA	PROPOSED MEASURES
Energy & CO ₂ Emissions (refer to Section 6 for full details)	The proposals for the Proposed Development outlined within this energy strategy are considered to maximise the potential carbon savings which can be achieved on the application site through the provision of: ■ A highly efficient building fabric ■ Efficient building services plant, including providing high efficiency air handling plant with heat recovery and low specific fan power for the non-residential areas. ■ 100% low energy lighting and maximised use of LED and low energy fixtures. ■ District heat network connection. ■ Roof mounted PV panels. Overall, the Proposed Development is shown to achieve the following carbon reductions after following the Energy Hierarchy of LEAN, CLEAN, GREEN when compared to Part L 2013 using SAP10.0 carbon factors: ■ Residential – 80.8% ■ Non-residential (2 Berol Yard) – 35.6% ■ Non-residential (Berol House Refurbished) – 49.8% ■ Non-residential (Berol House Extension) – 49.7% ■ Whole Development – 66.9% The figures above are the reduction in carbon emissions compared to each respective baseline. The development meets and substantially exceeds the carbon reduction target of 35% over 2013 Building Regulations set by GLA. Following the measures and results above the development has demonstrated compliance with Building Regulations Part L and London Plan 2021 Policies SI2, as well as Haringey's Development DPD Policies SP0 and SP4.
Climate Change Adaptation (refer to Section 7 for full details)	The Proposed Development has ensured that it has reduced its external heat rejection to the atmosphere; has incorporated planting wherever viable; and it has reduced its reliance on air conditioning systems to combat overheating by using solar control glazing, mechanical heat recovery ventilation and reducing internal heat gains as far as feasible. Moreover, as the Proposed Development is located within Flood Zone 2, sufficient measures to mitigate flood risk have been implemented. These include SuDS and geo-cellular tanks. The daylight and sunlight assessment for the Proposed Development highlights that daylight and sunlight amenity into most tested rooms is in line with the BRE Guidance. While some rooms fall short of meeting the BRE Guidance, it can still be concluded that the level daylight and sunlight amenity achieved is appropriate for this type of development. The measures incorporated into the design are in compliance with London Plan 2021 Policies SI4, SI12, SI13, GG5, with Haringey Local Plan SP5 and Development Management DPD DM24.

KEY SUSTAINABILITY AREA	PROPOSED MEASURES
Water Efficiency (refer to Section 8 for full details)	The Proposed Development has ensured the site has maximised the opportunities for incorporation of water saving measures which include the use of water saving fixtures and fittings, optimised water management through leak detection and reduced water flow rates in compliance with LP2021 Policy S15. The consumption target of 'Excellent' in Wat 01 has been targeted and most attainable water credits in the BREEAM assessment. The Proposed Development has ensured, as far as practicable that materials used on site will have a low embodied energy, some of the key elements of the building envelope will achieve a rating of A+ to D in the BRE's 'The Green Guide' to specification and all the timber used on site will be sustainably sourced from accredited FSC or PEFC sources.
Materials (refer to Section 9 for full details)	The internal materials will be specified to have low toxicity to humans and the environment, to be durable to cater for their level of use and exposure and the Proposed Development will maximise the use of prefabricated or easily dismantlable materials. Additionally, in line with the GLA and RICS guidance, an initial circular economy strategy has been developed as well as a life cycle analysis of the environmental impact of materials in the building. Various design options to reduce overall impact have been considered. The measures incorporated into the design are in compliance with LP2021 Policies S12 and S17.
Waste Management (refer to Section 10 for full details)	The Proposed Development has ensured that both the construction and the operational waste is effectively managed in accordance with national and local policy. A Circular Economy Statement has been submitted for the Proposed Development and demonstrates how the design and construction of the development addresses the challenges of the climate emergency by prompting resource efficiency and adopting a circular economy approach that contribute to a sustainable development. The Applicant commits to design the Proposed Development to conserve resources, eliminate waste and manage waste sustainably. A Circular Economy strategy will be followed throughout all the design stages of the Project, according to the following implementation strategies: ■ Site Waste Management Plan ■ Construction Environmental Management Plan ■ BREEAM Pre-assessment Very Good targeted ■ Pre-demolition audit ■ Sustainable Procurement Plan ■ Operational Waste Management strategy The measures incorporated into the design are in compliance with LP2021 S17.

KEY SUSTAINABILITY AREA	PROPOSED MEASURES
Pollution Management (refer to Section 11 for full details)	The Proposed Development will be designed to minimise the noise and vibration impacts on existing and future sensitive receptors. During the operational phase of the development dust and other air pollution will be minimised, and performance will be demonstrated through application to the Considerate Contractors Scheme (CCS). The results of the Air Quality Neutral Assessment show that at full planning stage, the Proposed Development is compliant with the building and transport emissions benchmarks for NOx and PM10 for this part of London. The measures incorporated into the design are in compliance with LP2021 Policies S11, D12 and D13.
Ecology & Biodiversity (refer to Section 12 for full details)	Every effort will be taken to create opportunities for attracting biodiversity and habitat to improve the Proposed Development's ecological value through the inclusion of areas of groundcover planting on the pedestrian level. The site is currently achieving an Urban Greening Factor of 0.32 The measures incorporated into the design are in compliance with LP2021 Policies G1, G6 and G7 and have strived to maximise green infrastructure to achieve a UGF as high as possible to comply with Policy G5.
Sustainable Transport & Access (refer to Section 13 for full details)	The Proposed Development will provide compliant and appropriate pedestrian and cycle access, cycle spaces and servicing access. The site is located very near Tottenham Hale station, which provides great public transport links. The separate Travel Plan and Outline Delivery and Servicing Plan will encourage and maximise the use of sustainable travel options available near the site, as well as provide the required level of parking for cars and cycles. The measures incorporated into the design are in compliance with LP2021 Policies T5 and T6.

The Proposed Development has endeavoured to ensure that social, economic and environmental issues are dealt with in an integrated and equal manner. The sustainability of the design, construction and proposed community structure of the development has been assessed as well as considering its contribution to sustainable development within the local area. As a result, the Proposed Development is deemed to positively exceed the policies assessed in detail through this report.



Appendix A

BREEAM CREDIT STRATEGY (NRG CONSULTANTS)



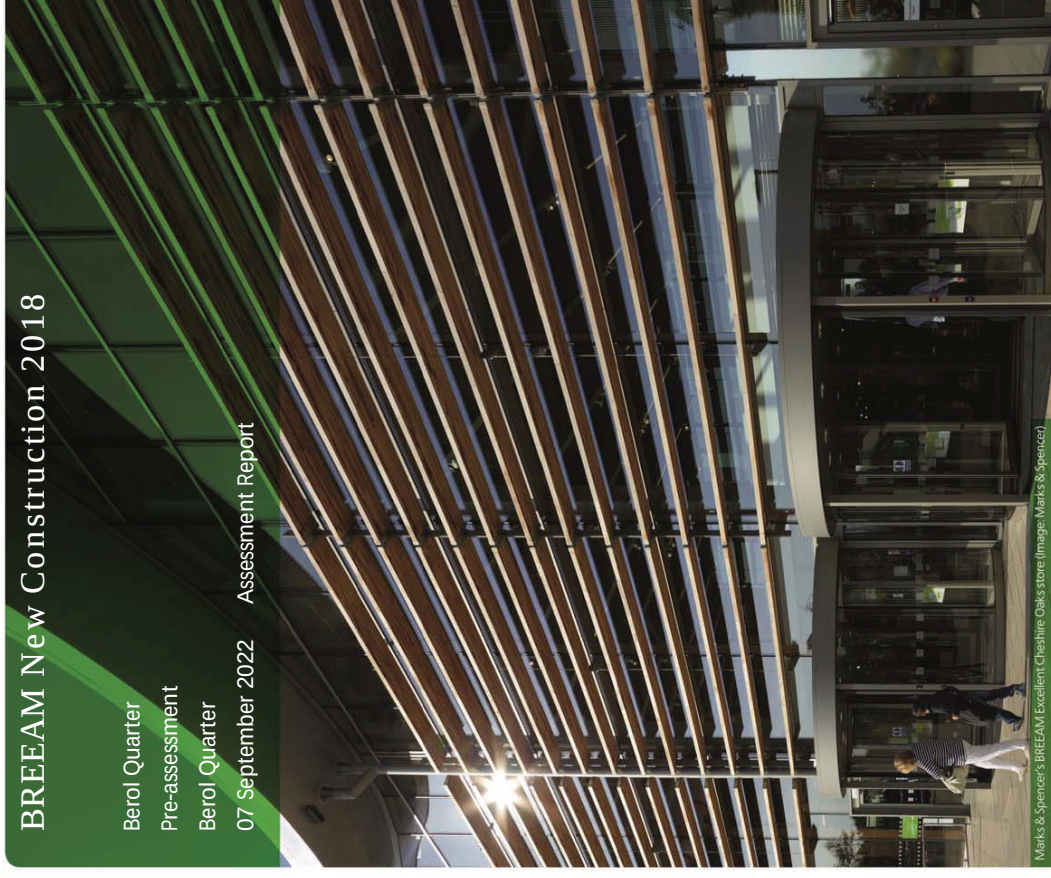
BREEAM New Construction 2018

Berol Quarter

Pre-assessment

Berol Quarter

07 September 2022 Assessment Report



Marks & Spencer's BREEAM Excellent Cheshire Oaks store (Image: Marks & Spencer)

Assessment references

Registration number:	PP2017	Date created:	7/9/2022
Created by:	Ryan Thrower		

Site details

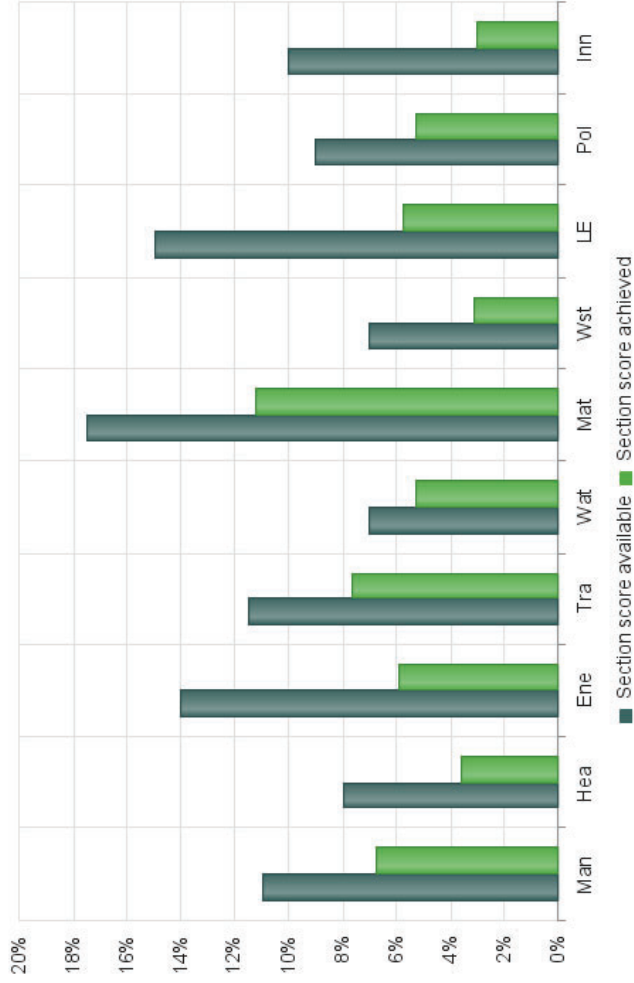
Site name:	Berol Quarter
Address:	2 Berol Yard
Town:	London
County:	Greater London
Post code:	N17
Country:	United Kingdom

Certificate details

The certificate will have the name of the architect (if entered above) and the name of the developer (from above).	
Any other names to appear on the certificate are listed below:	
Name	Label

BREEAM Rating									
	Credits available	Credits achieved	Credits targeted	% Credits achieved	Weighting	Category score	Target score		
Man	18.0	11.0	0.0	61.11%	11.00%	6.72%	0.00%		
Hea	11.0	5.0	0.0	45.45%	8.00%	3.63%	0.00%		
Ene	19.0	8.0	0.0	42.11%	14.00%	5.89%	0.00%		
Tra	12.0	8.0	0.0	66.67%	11.50%	7.66%	0.00%		
Wat	8.0	6.0	0.0	75.00%	7.00%	5.25%	0.00%		
Mat	14.0	9.0	0.0	64.29%	17.50%	11.25%	0.00%		
Wst	9.0	4.0	0.0	44.44%	7.00%	3.11%	0.00%		
LE	13.0	5.0	0.0	38.46%	15.00%	5.76%	0.00%		
Pol	12.0	7.0	0.0	58.33%	9.00%	5.25%	0.00%		
Inn	10.0	3.0	0.0	30.00%	10.00%	3.00%	0.00%		
Total	126.0	66.0	0.0	52.38%	-	57.55%	0.00%		
Rating	-	-	-	-	-	★★★★☆ Very Good	Unclass		

Performance by environmental category



Indicator scores



More information (<https://www.breeam.com/news/new-breeam-indicators-to-be-added-to-breeam/>) about the BREEAM indicator scores

Issue scores

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

Management		
Man 01 Project Brief and design	Man 02 Life cycle cost and service life planning	
2 / 4	1 / 4	
Man 03 Responsible construction practices	Man 04 Commissioning and handover	
5 / 6 X: 0 / 1	3 / 4	
Man 05 Aftercare		
N/A		

Health and Wellbeing		
Hea 01 Visual comfort	Hea 02 Indoor air quality	
2 / 4 X: 0 / 1	0 / 1	
Hea 04 Thermal comfort	Hea 05 Acoustic performance	
0 / 2	0 / 1	
Hea 06 Security	Hea 07 Safe and Healthy Surroundings	
1 / 1 X: 1 / 1	2 / 2	

Energy		
Ene 01 Reduction of energy use and carbon emissions	Ene 02 Energy monitoring	
4 / 13 X: 2 / 5	2 / 2	

Ene 03 External lighting 1 / 1	Ene 04 Low carbon design 1 / 3
Ene 05 Energy efficient cold storage N/A	Ene 06 Energy efficient transportation systems N/A
Ene 07 Energy efficient laboratory systems N/A	Ene 08 Energy efficient equipment N/A
Transport	
Tra 01 Transport assessment and travel plan 2 / 2	Tra 02 Sustainable transport measures 6 / 10
Water	
Wat 01 Water consumption 3 / 5 X: 0 / 1	Wat 02 Water monitoring 1 / 1
Wat 03 Water leak detection 2 / 2	Wat 04 Water efficient equipment N/A
Materials	
Mat 01 Life cycle impacts 4 / 7 X: 0 / 3	Mat 02 Environmental impacts from construction products 1 / 1

Mat 03 Responsible sourcing	Mat 05 Designing for durability and resilience
4 / 4 X: 0 / 1	0 / 1
Mat 06 Material efficiency	
0 / 1	
Waste	
Wst 01 Construction waste management	Wst 02 Use of recycled and sustainably sourced aggregates
3 / 4 X: 0 / 1	0 / 1 X: 0 / 1
Wst 03 Operational waste	Wst 04 Speculative finishes (Offices only)
1 / 1	N/A
Wst 05 Adaptation to climate change	Wst 06 Design for disassembly and adaptability
0 / 1 X: 0 / 1	0 / 2
Land use and ecology	
LE 01 Site selection	LE 02 Ecological risks and opportunities
1 / 2	1 / 2 X: 0 / 1
LE 03 Managing impacts on ecology	LE 04 Ecological change and enhancement
2 / 3	1 / 4 X: 0 / 1

LE 05 Long term ecology
management and
maintenance

0 / 2

Pollution

Pol 01 Impact of refrigerants Pol 02 Local air quality

0 / 3

2 / 2

Pol 03 Flood risk
management and reducing
surface water run-off

3 / 5

Pol 04 Reduction of Night
Time Light Pollution

1 / 1

Pol 05 Noise attenuation

1 / 1

Innovation

Inn 01 Innovation

0 / 0

X: 0 / 10

Initial details

2 Berol Yard

Technical manual issue number : Issue 3.0

Project scope : Shell and core

Building type (main description) : Retail

Sub-group : Shop or shopping centre

Assessment stage : Design (interim)

Building floor area (GIA) : 408.9 m²

Building floor area (NIFA) : 358 m²

Is the building designed to be untreated? : No

Building services - heating system type : Air system

Building services - cooling system type : Air-conditioning

Does the building have external areas within the boundary of the assessed development? :
Yes

Are commercial or industrial-sized refrigeration and storage systems specified? : No

Are building user lifts present? : No

Are building user escalators or moving walks present? : No

Are there any water demands present other than those assessed in Wat 01? : No

Are there statutory requirements, or other issues outside of the control of the project, that impact the ability to provide outdoor space : No

Are there any systems specified that contribute to the unregulated energy load? : No

Are the Post-occupancy stage credits targeted in Ene 01 issue? : No

Are laboratories present? : No

Are there fume cupboard(s) and/or other containment devices present? : No

Category assessment Management (Man)

Man 01 Project Brief and design		
To optimise final building design through recognising and encouraging an integrated design process and robust stakeholder engagement.		
Assessment criteria		
Stakeholder consultation (interested parties) :		Yes
Project delivery planning :		Yes
Prerequisite: Have the client and the contractor formally agreed performance targets? :		No
Credits awarded : 2		

Man 02 Life cycle cost and service life planning		
To promote the business case for sustainable buildings and to deliver whole life value by encouraging the use of life cycle costing to improve design, specification, through-life maintenance and operation.		
Assessment criteria		
Elemental LCC :		
Component level LCC options appraisal :		
Capital cost reporting :		Yes
Capital cost of the project :		1000 Â£k/m ²
Credits awarded : 1		

Man 03 Responsible construction practices		
To recognise and encourage construction sites which are managed in an environmentally and socially considerate, responsible and accountable manner.		
Assessment criteria		
Prerequisite: Are all timber and timber-based products used during the construction process of the project 'legally harvested and traded timber'? :		Yes
Environmental management :		Yes

Prerequisite: Have the client and the contractor formally agreed performance targets? :	No
Responsible construction management :	2
Monitoring of construction site impacts :	Yes
Utility consumption :	Yes
Transport of construction materials and waste :	Yes
Exemplary level criteria - Responsible construction management :	No
Key Performance Indicators: Construction site energy use	
Energy consumption (total) - site processes :	100 kWh
Energy consumption (intensity) - site processes :	100 kWh/project value
Key Performance Indicators: Construction site greenhouse gas emissions	
Process greenhouse gas emissions (total) - site processes :	100 KgCO ₂ eq
Carbon dioxide emissions (intensity) - site processes :	100 KgCO ₂ eq/project value
Credits awarded : 5	

Man 04 Commissioning and handover	
To encourage a properly planned handover and commissioning process that reflects the needs of the building occupants.	
Assessment criteria	
Commissioning testing schedule and responsibilities :	Yes
Commissioning - design and preparation :	Yes
Testing and inspecting building fabric :	No
Handover - have a technical and a non-technical building user guide been developed prior to handover? :	Yes
Handover - have a technical and a non-technical training schedule been prepared around handover? :	Yes
Credits awarded : 3	

Man 05 Aftercare

To ensure the building operates in accordance with the design intent and operational demands, through providing aftercare to the building owner and occupants during the first year of occupation.

Assessment criteria - N/A

Health and Wellbeing (Hea)

Hea 01 Visual comfort

To encourage best practice in visual performance and comfort by ensuring daylighting, artificial lighting and occupant controls are considered.

Assessment criteria

Daylighting (building type dependent) :	1
View Out :	No
External lighting for Shell and core, and Shell only assessments :	Yes
Exemplary level criteria - Daylighting :	

Credits awarded : 2

Hea 02 Indoor air quality

To encourage and support healthy internal environments with good indoor air quality.

Assessment criteria

Pre requisite: Indoor air quality (IAQ) plan :	No
Ventilation :	No

Credits awarded : 0

Hea 04 Thermal comfort

To ensure the building is capable of providing an appropriate level of thermal comfort.

Assessment criteria

Thermal modelling :	No
Design for future thermal comfort :	No

Key Performance Indicators

PMV and PPD Indices :

Credits awarded : 0

Hea 05 Acoustic performance

To ensure the building is capable of providing an appropriate acoustic environment to provide comfort for building users.

Assessment criteria

Criteria performance requirements or SQA bespoke requirements? : Criteria performance requirements

Indoor ambient noise level :

No

Credits awarded : 0

Hea 06 Security

To encourage the planning and implementation of effective measures that provide an appropriate level of security to the building and site.

Assessment criteria

Security of site and building :

Yes

Exemplary level criteria :

Yes

Credits awarded : 1

Exemplary credits awarded : 1

Hea 07 Safe and Healthy Surroundings

To encourage the provision of safe access around the site and outdoor space that enhances the wellbeing of building users. .

Assessment criteria

Safe Access :

Yes

Outside Space :

Yes

Credits awarded : 2

Energy (Ene)

Ene 01 Reduction of energy use and carbon emissions	
To minimise operational energy demand, primary energy consumption and CO2 emissions.	
Energy performance	
Country :	England
Can a .inp file be uploaded? :	Yes
Upload building '_brukl.inp' file :	Offices---BREEAM_b
Is space heating provided by a district (network) heating? :	No
Is hot water provided by a district (network) heating? :	No
Towards carbon negative (exemplary credits)	
Zero net CO ₂ -eq emissions :	No
Energy performance - Building score	
Methodology used :	Alternative
Heating and cooling demand energy performance ratio (EPRdem) :	0.0
Primary consumption energy performance ratio (EPRpc) :	0.247
Total BREEAM credits achieved :	4.0
CO ₂ -eq energy performance ratio (EPRco2-eq) :	0.238
Overall building energy performance ratio (EPRnc) :	0.485
% improvement BER/TER :	53.8 %
Prediction of operational energy consumption	
Has a design workshop focusing on operational energy performance been carried out? :	No
Post-occupancy stage (exemplary credits)	
Maximum credits achieved in Ene 02 Energy monitoring? :	Yes
The client or building occupier commits funds to pay for the post-occupancy stage? :	Yes
The energy model is submitted to BRE and retained by the building owner? :	Yes

Credits awarded : 4

Exemplary credits awarded : 2

Ene 02 Energy monitoring

To encourage the installation of energy sub-metering that facilitates the monitoring of operational energy consumption. To enable managers and consultants post-handover to compare actual performance with targets in order to inform ongoing management and help in reducing the performance gap.

Assessment criteria

Sub-metering of end use categories : Yes

Sub-metering of high energy load and tenancy areas : Yes

Credits awarded : 2

Ene 03 External lighting

To reduce energy consumption through the specification of energy efficient light fittings for external areas of the development.

Assessment criteria

External lighting has been designed out? : No

Is external lighting specified in accordance with the relevant criteria? : Yes

Credits awarded : 1

Ene 04 Low carbon design

To encourage the adoption of design measures, which reduce building energy consumption and associated carbon emissions and minimise reliance on active building services systems.

Assessment criteria

Has the first credit within Hea 04 been achieved? : No

Passive design analysis : No

Free cooling : No

Low and zero carbon technologies : Yes

KPI

Total on-site and/or near-site LZC energy generation :

Expected energy consumption and CO₂-eq emissions reduction resulting from passive design measures :

Expected energy consumption and CO₂-eq emissions reduction resulting from passive design measures as a percentage :

Expected reduction in CO₂-eq emissions resulting from the LZC technologies :

Expected reduction in CO₂-eq emissions resulting from the LZC technologies as a percentage :

Credits awarded

: 1

Ene 05 Energy efficient cold storage

To encourage the installation of energy efficient refrigeration systems, in order to reduce operational greenhouse gas emissions resulting from the system's energy use.

Assessment criteria - N/A

Ene 06 Energy efficient transportation systems

To encourage the specification of energy efficient transport systems within buildings.

Assessment criteria - N/A

Ene 07 Energy efficient laboratory systems

To encourage laboratory areas that are designed to minimise their operational energy consumption and associated CO₂ emission

Assessment criteria - N/A

Ene 08 Energy efficient equipment

To encourage installation of energy efficient equipment to ensure optimum performance and energy savings in operation

Assessment criteria - N/A

Transport (Tra)

Tra 01 Transport assessment and travel plan	
To reward awareness of existing local transport and identify improvements to make it more sustainable.	
Assessment criteria	
Travel plan :	Yes
Credits awarded : 2	

Tra 02 Sustainable transport measures	
To maximise the potential for local public, private and active transport through provision of sustainable transport measures appropriate to the site.	
Assessment criteria	
Prerequisite :	Yes
Location type (based on existing AI) :	25 ≤ AI < 40 (urban centres)
Number of points achieved overall :	4
Credits awarded : 6	

Water (Wat)

Wat 01 Water consumption

To reduce the consumption of potable water for sanitary use in new buildings through the use of water efficient components and water recycling systems.

Assessment criteria

Are all the components specified and installed by the tenant not the developer? :

Yes

Please select the calculation procedure used :

Standard approach

Credits awarded :

3

Exemplary performance :

No

Key Performance Indicators

Standard approach data: :

Water Consumption from building micro-components :

Water demand met via greywater/rainwater sources :

Total net water consumption :

Improvement on baseline performance :

Key Performance Indicator - use of freshwater resource: :

Total net Water Consumption :

Default building occupancy :

Credits awarded : 3

Wat 02 Water monitoring

To reduce the consumption of potable water in new buildings through the effective management and monitoring of water consumption.

Assessment criteria

Water meter on the mains water supply to each building :

Yes

Sub-metering/monitoring equipment on supply to plant/building areas :

Yes

Pulsed output or other open protocol communication output and BMS connection :		Yes
Credits awarded : 1		
Wat 03 Water leak detection		
To reduce the consumption of potable water in new buildings through minimising wastage due to water leaks.		
Assessment criteria		
Leak detection system :		Yes
Flow control devices :		Yes
Credits awarded : 2		
Wat 04 Water efficient equipment		
To reduce water consumption for uses not assessed under Wat 01 by encouraging specification of water efficient equipment.		
Assessment criteria - N/A		

Materials (Mat)

Mat 01 Life cycle impacts

To reduce the burden on the environment from construction products by recognising and encouraging measures to optimise construction product consumption efficiency and the selection of products with a low environmental impact (including embodied carbon), over the life cycle of the building.

Assessment criteria

Total Mat 01 credits achieved - taken from the Mat 01/02 Results 4

Submission Tool :

Total Exemplary credits achieved - taken from the Mat 01/02 Results 0

Submission Tool :

Credits awarded : 4

Mat 02 Environmental impacts from construction products

To encourage availability of robust and comparable data on the impacts of construction products through the provision of EPD.

Assessment criteria

Mat 02 credit achieved - Taken from the Mat 01/02 Results Submission Tool. : 1

Credits awarded : 1

Mat 03 Responsible sourcing

To facilitate the selection of products that involve lower levels of negative environmental, economic and social impact across their supply chain including extraction, processing and manufacture.

Assessment criteria

Prerequisite: All timber and timber based products are 'Legally harvested and traded timber' : Yes

Has the enabling sustainable procurement credit been achieved? : Yes

Mat 03 minimum scope level :

plus Substructure and hard landscaping / Internal Finishes

Percentage of available for percentage of RSM points achieved :

30 %

Credits awarded : 4

Mat 05 Designing for durability and resilience

To reduce the need to repair and replace materials resulting from damage to exposed elements of the building and landscape.

Assessment criteria

Protecting vulnerable parts of the building from damage and exposed parts No of the building from material degradation :

Credits awarded : 0

Mat 06 Material efficiency

To avoid unnecessary materials use arising from over specification without compromising structural stability, durability or the service life of the building.

Assessment criteria

Material optimisation measures investigated and implemented at all relevant stages : No

Credits awarded : 0

Waste (Wst)

Wst 01 Construction waste management

To reduce construction waste by encouraging reuse, recovery and best practice waste management practices to minimise waste going to landfill.

Assessment criteria

Is demolition occurring under the developer's ownership for the purpose of No enabling the assessed development? :

Yes

Compliant Resource Management Plan :

Have waste materials been sorted into separate key waste groups? :

Yes

Exemplary level criteria :

KPI

Measure/units for the data being reported :

tonnes

Non-hazardous construction waste (excluding demolition/excavation) - fill in to award 'Construction resource efficiency' credits :

Total non-hazardous construction waste generated :

4.5 tonnes/100m2

Non-hazardous non-demolition construction waste diverted from landfill - fill in to award diversion from landfill credit :

90 %

Total non-hazardous non-demolition construction waste diverted from landfill :

90 %

Non-hazardous demolition waste diverted from landfill - fill in to award diversion from landfill credit :

Total non-hazardous demolition waste generated :

Total non-hazardous demolition waste to disposal :

Non-hazardous excavation waste diverted from landfill - fill in to award credit :

90 %

Material for reuse :

Material for recycling :

Material for energy recovery :

Hazardous waste to disposal :

Credits awarded : 3

Wst 02 Use of recycled and sustainably sourced aggregates

To encourage the use of more sustainably sourced aggregates, encourage reuse where appropriate and avoid waste and pollution arising from disposal of demolition and other forms of waste.

Assessment criteria

Is demolition occurring under the developer's ownership for the purpose of No enabling the assessed development? :
Projects Sustainable Aggregate points :

KPI

Total quantity of aggregate :

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

Credits awarded : 0

Wst 03 Operational waste

To encourage the recycling of operational waste through the provision of dedicated storage facilities and space.

Assessment criteria

Compliant recycling and non-recyclable waste storage allocated : Yes

Static waste compactor(s) or baler(s) : N/A

Vessel(s) for composting suitable organic waste and water outlet : N/A

Credits awarded : 1

Wst 04 Speculative finishes (Offices only)

To minimise the wastage associated with the installation of floor and ceiling finishes in lettable areas in speculative buildings where tenants have not been involved in their selection.

Assessment criteria - N/A

Wst 05 Adaptation to climate change

To minimise the future need of carrying out works to adapt the building to take account of more extreme weather changes resulting from climate change and changing weather

patterns.

Assessment criteria
Resilience of structure, fabric, building services and renewables installationNo
:
Credits awarded : 0

Wst 06 Design for disassembly and adaptability
To avoid unnecessary materials use, cost and disruption arising from the need for future adaptation works as a result of changing functional demands and to maximise the ability to reclaim and reuse materials at final demolition in line with the principles of a circular economy.
Assessment criteria
Design for disassembly and functional adaptability - recommendations : No
Credits awarded : 0

Land use and ecology (LE)

LE 01 Site selection			
To encourage the use of previously occupied or contaminated land and avoid land which has not been previously disturbed.			
Assessment criteria			
Percentage of proposed development's footprint on previously occupied land :	100 %		
Contaminated land :	No		
Credits awarded : 1			

LE 02 Ecological risks and opportunities			
To determine the existing ecological value associated with the site and surrounding areas, and the risks and opportunities for ecological protection and enhancement.			
Assessment criteria			
Assessment route selection :	Foundation		
Prerequisite - Statutory obligations :	Yes		
Survey and Evaluation :	Yes		
Determining ecological outcomes :	Yes		
Exemplary level - Wider site sustainability :	No		
Credits awarded : 1			

LE 03 Managing impacts on ecology			
To avoid, or limit as far as possible, negative ecological impacts associated with the site and surrounding areas resulting from the project.			
Assessment criteria			
Assessment route :	Foundation		
Prerequisite - Ecological risks and opportunities :	Yes		
Planning and measures on-site :	Yes		

Managing negative impacts :	Yes
Credits awarded : 2	
LE 04 Ecological change and enhancement	
To enhance ecological value of the area associated with the site in support of local, regional and national priorities.	
Assessment criteria	
Assessment route :	Foundation
Prerequisite - Managing negative impacts on ecology :	Yes
Change and enhancement of ecology (Foundation route only) :	Yes
Credits awarded : 1	
LE 05 Long term ecology management and maintenance	
To secure ongoing monitoring, management and maintenance of the site and its habitats and ecological features, to ensure intended outcomes are realised for the long term.	
Assessment criteria	
Assessment route :	Foundation
At least one credit achieved in LE 04 :	Yes
Prerequisite - Statutory obligations, planning and site implementation :	No
Credits awarded : 0	

Pollution (Pol)

Pol 01 Impact of refrigerants To reduce the level of greenhouse gas emissions arising from the leakage of refrigerants from building systems.	
Assessment criteria Refrigerant containing systems installed in the assessed building? : Yes Prerequisite: All systems (with electric compressors) comply with BSÂ EN 378:2016 (parts 2 and 3) and (where applicable) Institute of Refrigeration Ammonia Refrigeration Systems code of practice? : Yes Total Direct Effect Life Cycle CO2eq (DELC). Emissions from the system : kgCO2eq/kW 9999 Global Warming Potential (GWP) of the specified refrigerant(s) 10 or less? No	
Leak detection Are all the systems hermetically sealed? : No BREEAM compliant automatic refrigerant leak detection system installed and able to manage the remaining refrigerant charge : No	
Credits awarded : 0	

Pol 02 Local air quality To contribute to a reduction in local air pollution through the use of low emission combustion appliances in the building.	
Assessment criteria Is the project required to connect to a District Heating system, and it supplies all heating and hot water demands to the building? : No How many credits have been achieved? : 2	
Credits awarded : 2	

Pol 03 Flood risk management and reducing surface water run-off To avoid, reduce and delay the discharge of rainfall to public sewers and watercourses, thereby minimising the risk and impact of localised flooding on and off-site, watercourse pollution and other environmental damage.	
Assessment criteria	

Prerequisite: Has an appropriate consultant demonstrated and confirmed the development's compliance with all sought credits? :	Yes
Has a site-specific flood risk assessment been conducted? :	Yes
Annual probability of flooding :	Low
Has the pre-requisite for the Surface Water Run-Off credits been achieved? :	Yes
Has the Surface Water Run-Off - Rate credit been achieved? :	Yes
Has the Surface Water Run-Off - Volume credit been achieved? :	No
Minimising watercourse pollution :	No

Credits awarded : 3

Pol 04 Reduction of Night Time Light Pollution

To ensure that external lighting is concentrated in the appropriate areas and that upward lighting is minimised, reducing unnecessary light pollution, energy consumption and nuisance to neighbouring properties.

Assessment criteria

External lighting has been designed out? :	No
Does external lighting meet all relevant criteria? :	Yes

Credits awarded : 1

Pol 05 Noise attenuation

To reduce the likelihood of noise arising from fixed installations on the new development affecting nearby noise-sensitive buildings.

Assessment criteria

Noise-sensitive areas/buildings within 800m radius of the development :	Yes
Is the site compliant with all relevant criteria? :	Yes

Credits awarded : 1

Innovation (Inn)

Inn 01 Innovation

To support innovation within the construction industry through the recognition of sustainability related benefits which are not rewarded by standard BREEAM issues.

Assessment criteria

Number of 'approved' innovation credits achieved? : 0

Credits awarded : 0



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