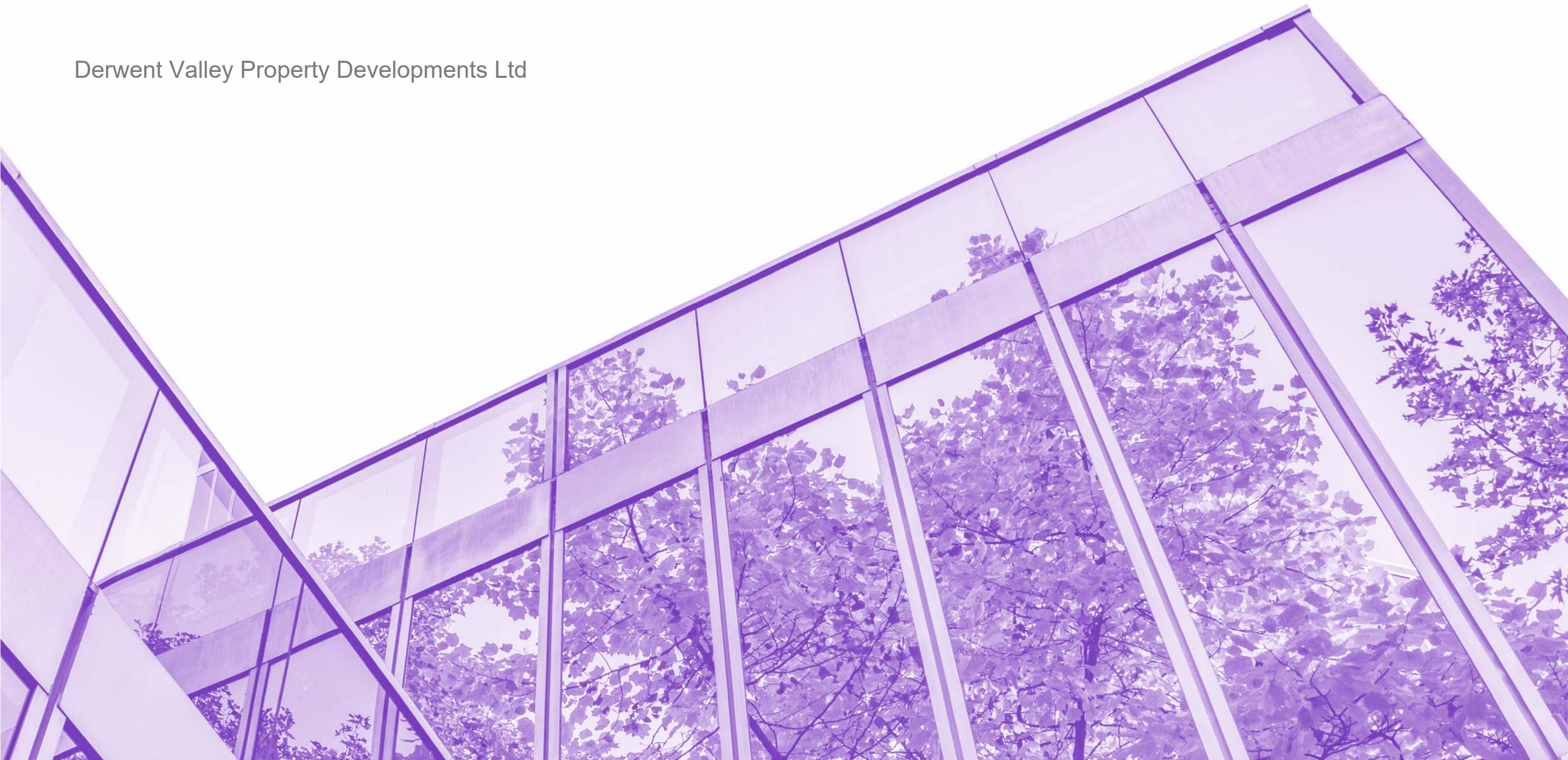
Sustainability Statement – Outline Application

The Network Building, 95-100 Tottenham Court Road

Derwent Valley Property Developments Ltd



Client	Derwent Valley Property Developments Ltd.		
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Report production	Oliver Morris		
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Figure 1-1 Proposed image of the proposed Network Building, viewed from Whitfield Street entrance

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1.0 Executive Summary

1.1 Network Building Sustainability Statement

This statement has been prepared on behalf of Derwent Valley Property Developments Limited by TFT in support of the outline application for The Network Building at 95-100 Tottenham Court Road. The Sustainability Statement appraises and reports on the environmental and social performance of the proposed development against local, London-wide and national sustainability policies.

This outline Sustainability Statement sets out:

- A description of the existing site and proposed outline application;
- A brief overview of key planning policy;
- Overarching sustainability principles for the development.

1.2 Site Description

The application site occupies the southern half of the block bounded by Tottenham Court Road on the east, Whitfield Street to the west and Howland Street to the south. The existing building is a six-storey office building with retail units at ground level.

The site is located within the Central London Activities Zone, and the Tottenham Court Road side of the building is within a Central London Frontage. The site is also within the Fitzrovia Area Action Plan (2014) (FAAP). The majority of the site (the eastern end) is located within a LVMF protected view 2B (Parliament Hill to Westminster). The existing building is not listed nor is the site in a conversation area.

1.3 Proposed Development

Derwent Valley Property Developments Limited is submitting an outline application for the demolition of the existing building a construction of a new building to provide for a maximum of 17,275sqm (GIA) of E class use floorspace with details of access, scale and landscaping and other works incidental to the application. Two reserve matters applications are to be submitted alongside the outline application consisting of:

1. The erection of an office building (E Class), comprising one basement, ground floor and eight upper floors and associated cycle parking, servicing and all necessary enabling works.
2. The erection of a life science building (E Class) comprising one basement level, ground floor and seven upper floors and associated cycle parking, servicing and all necessary enabling works.

The proposed development will be a “car-free” development with a blue badge bay for disabled users provided in the service yard to Cypress Place alongside accessible cycle parking storage and associated facilities accessed via Whitfield Street.

1.4 Policy Context

The proposed application is considered to deliver a positive contribution to the key principles of environmental, economic, and social sustainability. Alongside drivers to deliver against LBC and the Greater London Authority policy requirements, the applicant has challenged the project team to deliver against several industry leading sustainability aspirations in regard to carbon, building performance and design and construction principles. The proposed application meets and exceeds the majority of planning policy requirements across all the themes of sustainable development in the current and draft New London Plan.

1.5 Sustainability Aspirations

The proposed application has been assessed against relevant sustainability criteria with a focus on; Certification; Energy and Carbon; Embodied Carbon; Climate Resilience; Circular Economy; Biodiversity; Transport; Water; Community and Wellbeing.

2.0 Introduction

2.1 The Applicant

The Applicant is Derwent Valley Property Developments Limited (hereafter referred to as 'The Applicant') which has appointed TFT to assess the sustainability performance of the proposed application against relevant sustainability planning policy.

2.2 Purpose

This statement has been prepared on behalf of Derwent Valley Property Limited by TFT. The Sustainability Statement appraises and reports on the environmental and social performance of the proposed outline application against local, London wide and national sustainability policy.

This Sustainability Statement sets out:

- A description of the existing site and proposed outline application;
- A brief overview of key planning policy, (with full details provided at Appendices A and B);
- Overarching sustainability principles for the development.

This Sustainability Statement forms part of a suite of documents that accompanies the planning application, and should be read in conjunction with the following documents that provide detailed evidential inputs:

- Design & Access Statement;
- Energy Statement;
- Transport Assessment and Travel Plan;
- Delivery and Servicing Strategy;
- Framework Construction Logistics Plan;
- Construction Environmental Management Plan (CEMP);
- Surface Drainage Statement;
- Security Needs Assessment;
- Air Quality Assessment;
- Noise Attenuation Report;
- Statement of Community Involvement;
- Preliminary Ecological Appraisal and;
- BREEAM Pre-assessment report.

2.3 Site Description

The application site occupies the southern half of the block bounded by Tottenham Court Road on the east, Whitfield Street to the west and Howland Street to the south. The site is bisected by Cypress Place, a secondary access road primarily used as an access road for servicing the Network Building and 88 Whitfield Street, which travels from Maple Street in the North, to Howland Street in the South, via a single storey under-croft to the Network Building and the adjoining Qube Building, with a central open yard to the rear of each building.

The existing building comprises of Basement (currently used as car parking), Ground Floor and 5 upper storeys, with strong massing articulation across Howland and Whitfield Street elevations. The existing adjoining residential building is comprised of Ground floor and 7 upper floors, including seven residential units, as shown in Figure 2-1

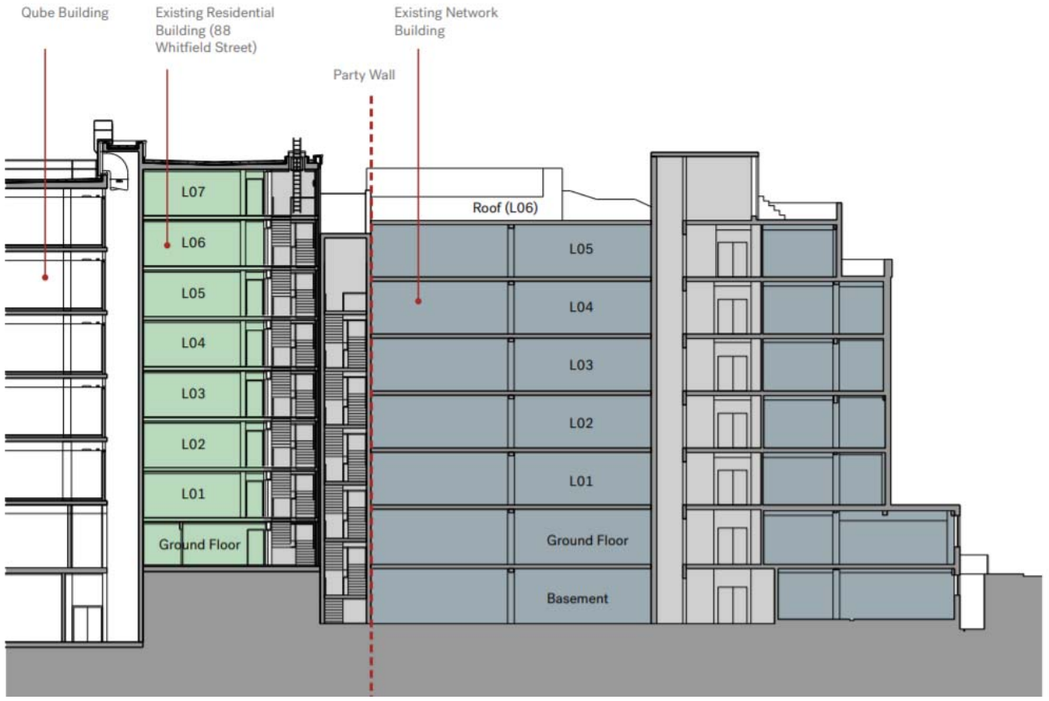

Figure 2-1-North-South Section through Qube, Existing Residential and Network Building

The site is very well connected to various modes of public transport. The two closest London Underground stations (Warren Street and Goodge Street) are under five minutes' walking distance, with major Underground and National Railway connections within ten minutes' walk, like Euston Station and Tottenham Court Road. - Figure 2-2 (opposite) confirms the site's location is relation to the surrounding area and public transport nodes.

- Figure 2-2- Site location of The Network Building

2.4 Proposed Development

The Applicant is submitting an outline application for the demolition of the existing building and the construction of a new building to provide a maximum of 17,275sqm (GIA) of E class use floorspace with details of access, scale and landscaping and other works incidental to the application. Two reserve matter applications to be submitted alongside the outline application consisting of:

1. The erection of an office building (E Class), comprising one basement, ground floor and eight upper floors and associated cycle parking, servicing and all necessary enabling works.
2. The erection of a life science building (E Class) comprising one basement level, ground floor and seven upper floors and associated cycle parking, servicing and all necessary enabling works.

The proposed development will be a “car-free” development with zero car parking spaces. Cycle parking facilities are to be provided which are detailed within the reserved matters applications.

2.5 Sustainability Vision

The Applicant is part of Derwent London PLC group which sets itself apart from other businesses by considering sustainability as intrinsic for delivering and managing developments. They recognise that their activities are responsible, both directly and indirectly, for a variety of environmental, social and economic benefits and impacts. They are committed to maximising the positive impacts their business has on the environment and local communities through the continuous improvement of their performance and through the responsible design, delivery and operation of their assets.

The Applicant has a suite of documents and tools to assist project teams to embed sustainability into the design and management of their assets, and they report sustainability performance within their Annual Sustainability Report[1]. Their approach, from direction, to action, to communication is illustrated opposite in Figure 2-3.

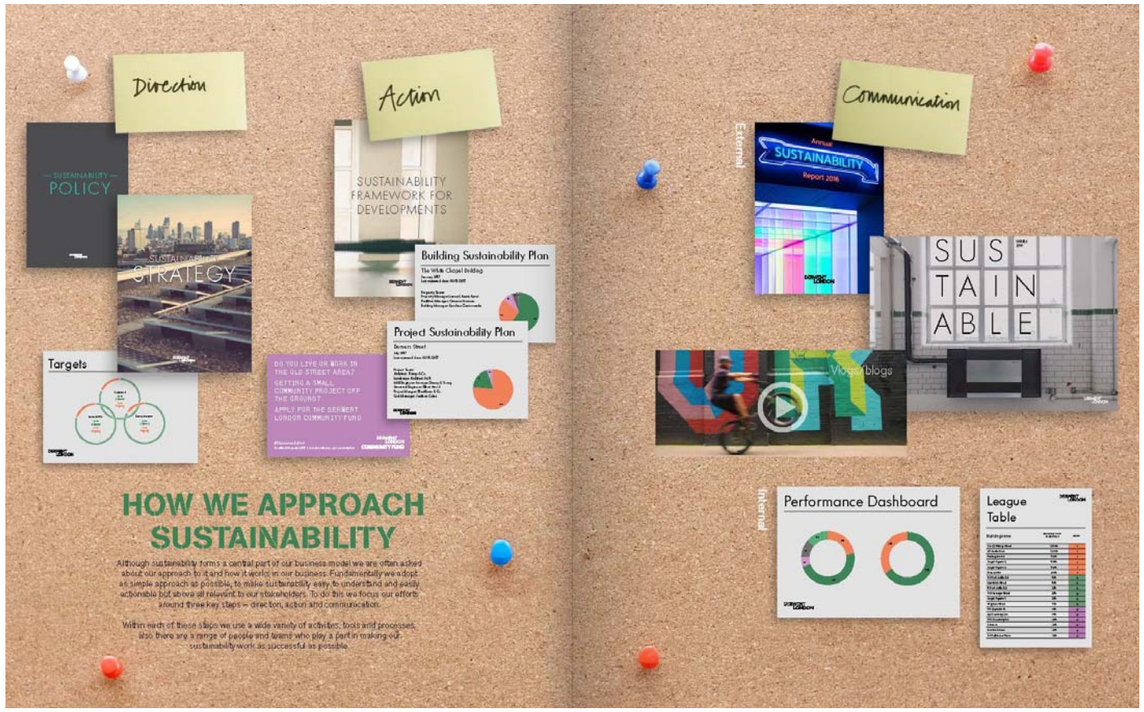

Figure 2-3: The Applicant’s approach to Sustainability as outlined in their annual sustainability report

The Applicant has four key long-term priorities for ensuring spaces are designed, delivered and operated responsibly, these are:

- Designing and Delivering Buildings Responsibly
- Managing their Assets Responsibly:
- Creating Value of in the Community
- Engaging and Developing their Employees.

To cascade their long-term priorities and objectives effectively into their development program, The Applicant has developed their Sustainability Framework for Developments[2]. The Framework sets out the activities and processes required to manage the sustainability performance of new build and refurbishment development projects, outlining roles and responsibilities from the outset, to ensure sustainability is considered and implemented at every stage of the design and delivery of the project. The Applicant’s

[1] Derwent Responsibility Report (2019)
https://www.derwentlondon.com/uploads/downloads/Responsibility/Derwent_London_Responsibility_Report_2020_1.3.pdf

[2] Derwent Framework for Developments
https://www.derwentlondon.com/uploads/downloads/Responsibility/Derwent_London_Sustainability_Framework_Developments_2017.pdf

approach to sustainability, and development projects in particular, is highlighted in their Sustainability Map illustrated below in Figure 2-4:

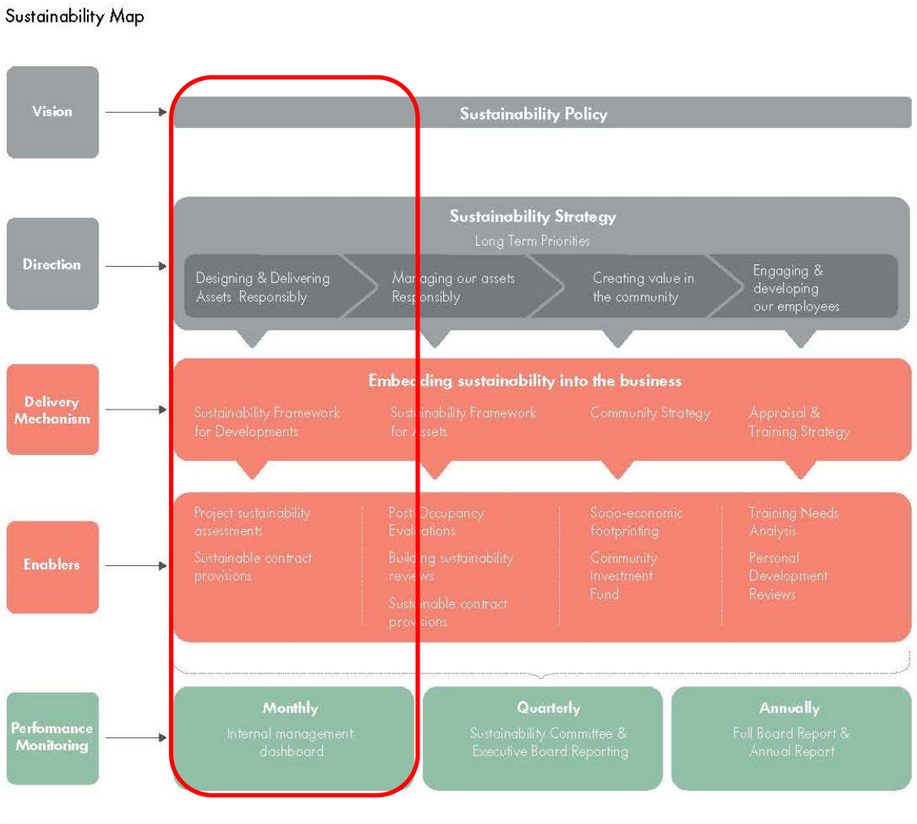

Figure 2-4 The Applicant's Sustainability Map from their Sustainability Framework for Developments and their Sustainability Strategy[2]

2.6 Net Zero Carbon

The Applicant has an interest in delivering low impact assets and is active in the process for measuring the embodied carbon impacts of their buildings to reduce environmental impacts as much as possible. In February 2020 The Applicant made a public commitment to achieve Net Zero Carbon by 2030 through driving down energy demand and optimising building energy intensity across its managed portfolio, investing in renewable energy and offsetting any residual emissions that cannot be eliminated.

Over the last few years, The Applicant's action on carbon and sustainability has meant that the business has already signed up to Science Based Targets Initiative (SBTi), has joined the Renewable Energy 100 (RE100), is one of the Mayor of London's 11 Business Climate Leaders, is signatory to the Better Building Partnership's (BBP) Climate Commitment and is committed to its Design for Performance (DfP) initiative. It is also the only UK REIT to launch a Green Revolving Credit Facility.

The Applicant has a rigorous approach to energy and carbon at the design, construction and operational stages of a building. All new developments are specified with all electric heating and cooling systems, utilise Design for Performance, are supplied with renewable energy, and performance is disclosed in annual reports. It also sets operational energy intensity targets for its investment portfolio.

Embodied carbon assessments must also be aligned with, and deliver compatible data for, The Applicant's existing carbon processes which includes regular embodied carbon reporting of its assets which informs the selection of materials, products and suppliers throughout the project and on future projects.

To drive and embed these sustainability principles within their developments, The Applicant has appointed TFT as the sustainability coordinators for the proposed development. In this role TFT work collaboratively with The Applicant and the project team to achieve a holistic approach to sustainable development.

2.7 United Nations' Sustainable Development Goals

Adopted in September 2015 and officially enforced on 1 January 2016, the UN Sustainable Development Goals[3] aspire to 'end poverty, protect the planet and ensure prosperity for all'. To achieve this a collaborative effort between government, the private sector and society is paramount. These goals build on the success of the Millennium Development Goals[4] (MDGs) and cover 17 primary focus areas, from global societal ambitions such as 'no poverty', 'quality education', 'clean water and sanitation' and 'climate action', to built environment considerations such as 'affordable and clean energy', 'industry, innovation and infrastructure', 'sustainable cities and communities' and 'responsible consumption and production'. Figure 2-5 outlines the United Nations' Sustainable Development Goals (SDGs).

[3] United Nations Sustainable Development Goals http://www.un.org/sustainabledevelopment/sustainable-development-goals/

[4] United Nations Millennium development goals http://www.un.org/millenniumgoals/

Figure 2-5: United Nations Sustainable Development Goals

Construction and real estate have a significant opportunity to contribute towards many of these pillars to promote prosperity and equity, while protecting the planet's resources. To achieve these, development projects must consider not just localised impacts but the wider, global landscape in which development life cycles from material extraction, transport and manufacturing, to end of life deconstruction and re-use play an important role. In addition to environmental SDGs, there are a number of social and governance goals that can be positively influenced by development projects. These are achieved by the design and use of the asset, through procurement and the supply chain initiatives, and resulting from community programmes associated with the project, which in combination promote prosperity while protecting the planets resources.

The infographic at Figure 2-6 produced by the World Green Building Council (2016)[5] illustrates the specific SDGs that are most positively impacted by sustainable buildings. The increasing movement of businesses, organisations, and investment funds to invest in sustainable design alternatives to previous 'business as usual models' creates jobs and generates opportunities for developers across sectors, such as affordable housing, circular economy models and energy efficiency improvements.

This outline and supplementary RM applications will demonstrate how the proposed scheme contributes to these goals, aligns with national and local policy, and follows the SDG principles to create a healthier, fairer, and sustainable local and global community.

Figure 2-6- How Green Buildings within the Built Environment Supports the UN Sustainable Development Goals

[5] World Green Building Council - http://www.worldgbc.org/news-media/green-building-improving-lives-billions-helping-achieve-un-sustainable-development-goals

3.0 Legislation and Planning Policy

This section summarises the key legislative requirements, and the current policy requirements of the Camden Local Plan (CLP), the Greater London Authority (GLA) and wider national legislation where required. It provides the legislative and regulatory planning context against which this outline Sustainability Statement appraises the proposed application.

3.1 Legislation

The following statutory regulations relating to sustainable development and carbon efficiency have been considered as part of the planning submission for the Network Building at 95-100 Tottenham Court Road, key relevant legislative instruments include:

- Energy Act 2011[6]
- Environmental Protection Act 1990[7]
- Air Quality Standards Regulations 2007[8]
- Floods and Water Management Act 2010[9]
- The Natural Environment and Rural Communities Act 2006[10]
- Wildlife and Countryside Act 1981[11]
- Building Regulations Approved Document Part L Conservation of Heat & Power[12]
- Control of Pollution Act 1974[13]
- Clean Neighbourhoods and Environment Act 2005[14]
- The Waste (England and Wales) Regulations 2011[15]
- The Volatile Organic Compounds in Paints, Varnishes and Vehicle Refinishing Products (Amendment) Regulations 2010[16].
- Climate Change Act 2008 (2050 Target Amendment) Order 2019[17].

3.2 National Planning Policy Framework (Feb 2019)

The National Planning Policy Framework (NPPF) 2019 [18] sets out the government's approach to promoting sustainable development in England through the planning system. The delivery of sustainable development lies at the heart of the NPPF, which is confirmed by the ministerial foreword to the document noting 'the purpose of planning is to help achieve sustainable development', and 'sustainable development is about positive growth – making economic, environmental and social progress for this and future generations'.

It recognises the proactive role planning authorities should adopt towards meeting the objectives and provisions of the Climate Change Act 2008 by shaping places to secure a low carbon future and minimising vulnerability to climate change over the long term through the implementation of adaptation and mitigation

[6] Energy Act (2011), Chapter 16: http://www.legislation.gov.uk/ukpga/2011/16/pdfs/ukpga_20110016_en.pdf

[7] Environmental Protection Act (1990), Chapter 43: http://www.legislation.gov.uk/ukpga/1990/43/pdfs/ukpga_19900043_en.pdf

[8] The Air Quality Standards Regulations (February 2007) https://www.legislation.gov.uk/uksi/2007/64/pdfs/uksi_20070064_en.pdf

[9] Flood and Water Management Act (2010), Chapter 29 : https://www.legislation.gov.uk/ukpga/2010/29/pdfs/ukpga_20100029_en.pdf

[10] Natural Environment and Rural Communities Act (2006), Chapter 16: http://www.legislation.gov.uk/ukpga/2006/16/pdfs/ukpga_20060016_en.pdf

[11] Wildlife and Countryside Act (1981), Chapter 69: http://www.legislation.gov.uk/ukpga/1981/69/pdfs/ukpga_19810069_en.pdf

[12] The Building Regulation (October 2010): Conservation of fuel and Power – Approved Document L2B: https://www.labc.co.uk/sites/default/files/content/br_pdf_ad_l2b_2015.pdf

[13] Control of Pollution Act 1974 http://www.legislation.gov.uk/ukpga/1974/40/contents

[14] Clean Neighbourhoods and Environment Act 2005 http://www.legislation.gov.uk/ukpga/2005/16/contents

[15] The Waste (England and Wales) Regulations 2011 http://www.legislation.gov.uk/uksi/2011/988/regulation/12/made

[16] The Volatile Organic Compounds in Paints, Varnishes and Vehicle Refinishing Products (Amendment) Regulations 2010

[17] Climate Change Act 2008 (2050 Target Amendment) Order 2019 https://www.legislation.gov.uk/ukdsi/2019/9780111187654

[18] National Planning Policy Framework 2019 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPPF_Feb_2019_revised.pdf

measures such as Green Infrastructure. The NPPF also encourages local planning authorities to ensure good design, the viability of town centres, the delivery of a wide choice of high quality homes, promote sustainable transport, deliver high quality communications infrastructure, ensure the conservation and enhancement of the natural and historic environment, the sustainable use of natural resources, and promotes healthy communities.

3.3 The Mayor's London Plan (March 2016)

The London Plan sets out the overall strategic plan for London, providing an integrated economic, environmental, transport and social framework for the development of London over the next 20–25 years. The Plan brings together the geographic and locational (although not site specific) aspects of the Mayor's other strategies – including those dealing with Transport, Economic Development, Housing, Culture, and a range of social issues such as children and young people, health inequalities and food, as well as a range of environmental issues such as climate change (adaptation and mitigation), air quality, noise and waste.

In particular, the London Plan includes a range of policies, primarily in Chapters 5 and 7 that deal with matters relating to sustainable design and construction. The appraisal of the environmental performance and sustainable design of the Proposed Development is based on a review against both relevant London Plan policies, with cross reference made to relevant local planning policy. The full list of London Plan policies against which the Proposed Development has been analysed can be found in Table 3-1 below:

London Plan	Proposed Development Compliance
Policy 2.18 Green Infrastructure	✓
Policy 5.2 Minimising carbon dioxide emissions	✓
Policy 5.3 Sustainable design and construction	✓
Policy 5.10 Urban Greening	✓
Policy 5.11 Green roofs and development site environ	✓
Policy 5.13 Sustainable drainage	✓
Policy 5.16 Waste Net Self Sufficiency	✓
Policy 5.17 Waste Capacity	✓
Policy 5.18 Construction, excavation and demolition waste	✓
Policy 5.21 Contaminated land	✓
Policy 6.10 Walking	✓
Policy 6.13 Parking	✓
Policy 6.14 Freight	✓
Policy 7.1 Lifetime Neighbourhoods	✓
Policy 7.5 Public Realm	✓
Policy 7.14 Improving air quality	✓
Policy 7.15 Reducing and managing noise, improving and enhancing the acoustic environment and promoting appropriate soundscapes	✓
Policy 7.19 Biodiversity and access to nature	✓
Policy 8.2 Planning obligations	✓

Table 3-1- Compliance of Proposed Development with the London Plan sustainable development policies

3.4 The Mayor's Draft New London Plan

The draft New London Plan was published for consultation on 1st December 2017 outlining the ambitions of the new Mayor of London with a priority to provide affordable homes whilst protecting the Greenbelt and investing in Green Infrastructure. On 13th August 2018, the Mayor published a version of the draft Plan that includes minor suggested changes. These suggested changes have been prepared following a review of consultation responses, and consist of clarifications, corrections and factual updates to the draft Plan that informed the Examination in Public (EiP). The EiP was carried out from January to May 2019 and an Intend to Publish version of the draft London Plan was published in December 2019[19]. In March 2020, the Secretary of State issued Directions requiring amendments to the Plan prior to adoption. The Mayor is currently considering how to proceed with the draft Plan as amended.

The project team has considered the proposed application in the context of the latest draft new London Plan with the amendments. The Network Building responds positively to many of the aspirations, and the Mayor's long-term vision, as detailed in this Sustainability Statement. The policies displayed in Table 3-2 will be discussed in the context of this outline Sustainability Statement for the Network Building:

Draft New London Plan (emerging) Sustainable Development Polices	Proposed Development Compliance
Policy GG1 Building strong and inclusive communities	✓
Policy GG2 Making the best use of land	✓
Policy GG3 Creating a healthy city	✓
Policy GG5 Growing a good economy	✓
Policy GG6 Increasing efficiency and resilience	✓
Policy D5 Inclusive design	✓
Policy D8 Public realm	✓

[19] Draft New London Plan - Intend to Publish version, December 2019
https://www.london.gov.uk/sites/default/files/intend_to_publish_-_clean.pdf

Draft New London Plan (emerging) Sustainable Development Polices	Proposed Development Compliance
Policy D11 Safety, security and resilience to emergency	✓
Policy D13 Agent of Change	✓
Policy D14 Noise	✓
Policy S1 Developing London's social infrastructure	✓
Policy G1 Green infrastructure	✓
Policy G5 Urban greening	✗
Policy G6 Biodiversity and access to nature	✓
Policy G7 Trees and woodlands	✓
Policy SI1 Improving air quality	✓
Policy SI2 Minimising greenhouse gas emissions:	
• Be Lean – non-domestic	✓
• Be Clean	✓
• Be Green	✓
• WLC	✓
• Zero-carbon target (≥35% beyond the Part L baseline)	✓
Policy SI3 Energy infrastructure	✓
Policy SI4 Managing heat risk	✓
Policy SI5 Water infrastructure	✓
Policy SI6 Digital connectivity infrastructure	✓
Policy SI7 Reducing waste and supporting the circular economy	✓
Policy SI 8 Waste capacity and net waste self- sufficiency	✓
Policy SI10 Aggregates	✓
Policy SI12 Flood risk management	✓
Policy SI13 Sustainable drainage	✓
Policy T1 Strategic approach to transport	✓
Policy T2 Healthy Streets	✓
Policy T3 Transport capacity, connectivity and safeguarding	✓
Policy T4 Assessing and mitigating transport impacts	✓
Policy T5 Cycling	✓
Policy T6 Car parking	✓
Policy T7 Deliveries, servicing and construction	✓

Table 3-2- Compliance of Proposed Development with draft New London Plan sustainable development policies

3.5 The Mayor's Sustainable Design and Construction Supplementary Planning Guidance (Apr 2014)

The Mayor's Sustainable Design and Construction Supplementary Planning Guidance (referred to hereafter as 'the SPG') provides detailed guidance on how to implement The London Plan policies. The Proposed Development is classed as a 'major development' and is referable to the Mayor. The SPG sets standards for new development that are referable to the Mayor and the Greater London Authority (GLA).

The role of the SPG is to set clear targets and highlight efficient ways to reach these. Setting clear sustainability and performance targets helps shape the brief to which the design team will respond. The SPG sets out a number of 'priority' and 'best practice' standards that should be addressed by major new developments. All the 'priority' targets should be addressed by major development proposals whilst the SPG strongly encourages the 'best practice' ambitions to be adopted. The SPG recognises that implementing the guidance provided will enable the fullest contribution to sustainable design and construction by a development. The approaches should be adapted to the specific characteristics of the development.

3.6 Camden Local Plan (July 2017)

The London Borough of Camden's (LBC) CLP adopted in July 2017[20], sets out the Council's vision, strategy, objectives and policies to cover the period from 2016 to 2031. It provides guidance on how to deliver the following objectives that address the biggest challenges for the borough: create the conditions for harnessing the benefits of economic growth, reduce inequality and secure sustainable neighbourhoods.

The policies displayed in Table 3-3 will be discussed in the context of this outline Sustainability Statement for the Network Building:

Camden Local Plan Polices	Proposed Development Compliance
Policy C1 Health and wellbeing	✓
Policy C5 Safety and security	✓
Policy C6 Access for all	✓
Policy A1 Managing the impact of development	✓
Policy A3 Biodiversity	✓
Policy A4 Noise and vibration	✓
Policy D1 Design	✓
Policy CC1 Climate change mitigation	✓
Policy CC2 Adapting to climate change	✓
Policy CC3 Water and flooding	✓
Policy CC4 Air quality	✓

[20] Camden Local Plan (July 2017): https://www.camden.gov.uk/documents/20142/4820180/Local+Plan.pdf/ce6e992a-91f9-3a60-720c-70290fab78a6

Camden Local Plan Polices	Proposed Development Compliance
Policy CC5 Waste	✓
Policy T1 Prioritising walking, cycling and public transport	✓
Policy T2 Parking and car-free development	✓
Policy T3 Transport infrastructure	✓
Policy T4 Sustainable movement of goods and materials	✓

Table 3-3- Compliance of Proposed Development with CLP sustainable development policies

3.7 Camden Supplementary Planning Guidance (2018-2019)

The Local Plan includes supporting policies known as Supplementary Planning Guidance (SPG), which are defined as Camden Planning Guidance (CPG). These have been updated and adopted between 2018 and 2019 and have been outlined below in Table 3-4.

Camden Supplementary Planning Guidance	Proposed Development Compliance
CPG: Air quality[21]	✓
CPG: Amenity[22]	✓
CPG: Biodiversity[23]	✓
CPG: Design[24]	✓
CPG: Digital Infrastructure[25]	✓
CPG: Energy efficiency and adaptation[26]	✓
CPG: Planning for health and wellbeing[27]	✓
CPG: Transport[28]	✓
CPG: Trees[29]	✓
CPG: Water and flooding[30]	✓

Table 3-4- Compliance of Proposed Development with CGP sustainable development policies

3.8 Site Wide Sustainability Principles

The proposed application has incorporated sustainable design and construction principles from the outset, ensuring alignment with the Greater London Authority and Local Planning requirements and demonstrating best practice across the breadth of sustainability. The following sections detail the sustainability measures and considerations applied across the site. Where there are specific sustainable commitments made as part of the design development for either the B1 office or Lab enabled scheme these have been detailed in the respective reserved matters applications that sit alongside this document.

[21] CPG: Air quality: https://www.camden.gov.uk/documents/20142/4823269/Air+Quality+CPG+-+March+2019.pdf/6af88798-1d48-6c27-a238-b6b832c8ac46

[22] CPG: Amenity: https://www.camden.gov.uk/documents/20142/4823269/Amenity+CPG+Adopted+March+2018.pdf/ae2f2cbd-62a7-38b8-7be5-e92547bb66d3

[23] CPG: Biodiversity: https://www.camden.gov.uk/documents/20142/4823269/Biodiversity+CPG+March+2018.pdf/daf83dad-d68d-6964-99b4-aef65d639304

[24] CPG: Design: https://www.camden.gov.uk/documents/20142/4823269/Design+March+2019.pdf/ae6cf83c-5077-f930-cf77-846d3f6018eb

[25] CPG: Digital Infrastructure: https://www.camden.gov.uk/documents/20142/4823269/Digital+Infrastructure+CPG+March+2018.pdf/217ea6f8-19b1-8bd7-b630-54905911303e

[26] CPG: Energy efficiency and adaptation https://www.camden.gov.uk/documents/20142/4823269/Energy+Efficiency+and+Adaptation+CPG+-+March+2019.pdf/6732a28c-2c90-7101-c11e-3372e29e032d

[27] CPG: Planning for health and wellbeing https://www.camden.gov.uk/documents/20142/4823269/Planning+for+health+and+wellbeing+CPG+March+2018.pdf/6c953782-0a0b-13d1-3097-2383237e7054

[28] CPG: Transport https://www.camden.gov.uk/documents/20142/4823269/Transport+CPG+March+2019.pdf/6755f92a-5059-b1df-9c12-ffc02366c581

[29] CPG: Trees https://www.camden.gov.uk/documents/20142/4823269/Trees+CPG+March+2019.pdf/985e3c70-d9a5-6ded-a5a3-3c84616f254d

[30] CPG: Water and flooding https://www.camden.gov.uk/documents/20142/4823269/Water+and+Flooding+CPG+-+March+2019.pdf/c7633c7d-2b93-cb52-ee01-717fa0416e84

4.0 Sustainability Certifications

4.1 Background

There are a range of potential certifications that seek to demonstrate a building's sustainability credentials at design stage. The Building Research Establishment's Environmental Assessment Method (BREEAM) is the UK's first and most widely used holistic sustainability rating scheme for the built environment and has contributed to the emerging focus in the UK on sustainability in building design, construction and use. BREEAM is now an international standard that is locally adapted, operated and applied through a network of international operators, assessors and industry professionals. Through its application and use BREEAM helps clients measure and reduce the environmental impacts of their buildings and in doing so creates higher value, lower risk assets.

4.2 Policy Requirement

As per LBC's sustainable development planning policy requirements CS13 and DP22 the Proposed Development is required to undertake a BREEAM pre-assessment to confirm the viability of targeting and delivering an Excellent rating with at least 60% scored within the energy sections.

4.3 BREEAM 2018

The proposals will demonstrate compliance against the latest BREEAM 2018 standards to target an Excellent rating with at least 60% of energy credits and 3 BREEAM water efficiency credits via water efficient sanitaryware fittings and plumbing. The Proposed Development balances performance across the 9 credit section categories and highlight the ethos to incorporate design and construction best practice principles and efforts to align with LBC policy.

Pre-assessment reports have been prepared for each RMA based on early design stage engagement to demonstrate a strategy for achieving an Excellent rating.

4.4 Policy Alignment

The BREEAM preassessment aligns with the requirements of the following statutory policies:

Policy Document	Policies
Camden Local Plan	C1 – Health and Wellbeing
	A3 – Biodiversity
	CC1 – Climate Change Mitigation
	CC2 – Adaptation to Climate Change
	CC3 – Water and Flooding
	CC4 – Air Quality
	CC5 – Waste
Camden Supplementary Plan	CPG – Air Quality
	CPG: Energy efficiency and adaptation
	CPG: Planning for health and wellbeing
	CPG: Transport
	CPG: Water and flooding
London Plan (2018)	Policy 5.2 – Minimising carbon dioxide emissions
	Policy 5.3 – Sustainable design and construction
Draft New London Plan (2019)	SI 2: Minimising Green House Gas Emissions
	SI 5 Water Infrastructure

5.0 Energy and Carbon Emissions

5.1 Introduction

The Climate Change Act 2008, last updated in 2019, sets legally binding greenhouse gas emission reduction targets for the UK to deliver a net zero carbon economy by 2050 (with an interim target of 26% by 2020) and has positioned the UK on a transition to a low-carbon economy.

Within London, the GLA has set emissions targets for all major developments (defined as over 10 residential units and/or over 1,000 m^2 floor area). Following policy amendments adopted on 1st October 2016, all major developments must achieve a 35% regulated carbon reduction over minimum Building Regulations 2013.

The Mayor of London has committed to working with the construction industry to achieve a zero-carbon city by 2050, given 40% of London's greenhouse gas emissions come from workplaces. As one of 19 cities to initially sign up to the 'net zero carbon' pledge by 2050, there is an increasing shift from property developers and construction companies to prioritise low carbon design. In the draft New London Plan, Policy SI2 - minimising greenhouse gas emissions, states that "major development should be net zero-carbon".

5.2 Policy Requirement

As per the LBC and GLA sustainable development planning requirements, this section sets out the following information for the outline application:

- Energy demand of the building including
  - energy efficiency measures (air tightness, energy efficient plant and light installations) and demand management measures (passive ventilation and solar shading)
  - low and zero carbon technologies (district heating, combined heat and power, air source heat pumps, photovoltaic cells, solar cells, ground source heat pumps) calculations of carbon emissions savings
- Whole life carbon assessment of the building including:
  - LCA methodology
  - Embodied carbon data.

Additional drivers for reducing GHG emissions include:

- The department for Business, Energy and Industrial Strategy (BEIS Construction 2025 Industrial Strategy calls for "50% lower emissions" from our built environment.
- The Royal Institution of Chartered Surveyors (RICS): have produced a Professional Statement mandating a whole life approach to reducing carbon emissions in the built environment.
- Chartered Institution of Building Services Engineers (CIBSE) TM54 Guidance and methodology provides a framework for more detailed assessment of operational energy consumption with a view to increase efficiency and reduce the performance gap.
- The industry body Better Buildings Partnership (BBP) has launched the 'Design for Performance' (DfP) initiative to tackle the performance gap and reduce operational energy consumption for major office developments. Grosvenor are one of eleven DfP Pioneer Partners[31] applying the DfP methodology to the Site to ensure exemplar operational energy performance.

Working groups and initiatives including the London Energy Transformation Initiative (LETI) and the RIBA 2030 challenge call on industry to transition to a low carbon economy through innovative design and leadership

[31] BBP DfP Pioneer Partners - https://www.betterbuildingspartnership.co.uk/our-priorities/design-performance/project-partners

5.3 GLA Energy Hierarchy

Considerations have been looked at holistically, both the operational energy and its associated carbon performance. The London Plan energy hierarchy has been followed for the proposed development (as detailed in Figure 5-1-1, see below) resulting in a highly thermally efficient design due to the fabric first approach alongside high specification MEP systems and lighting and optioneered renewable energy solutions. Individual Energy Statements have been prepared outlining each RMA proposed design strategy for reducing regulated carbon emissions in line with local and GLA requirements.

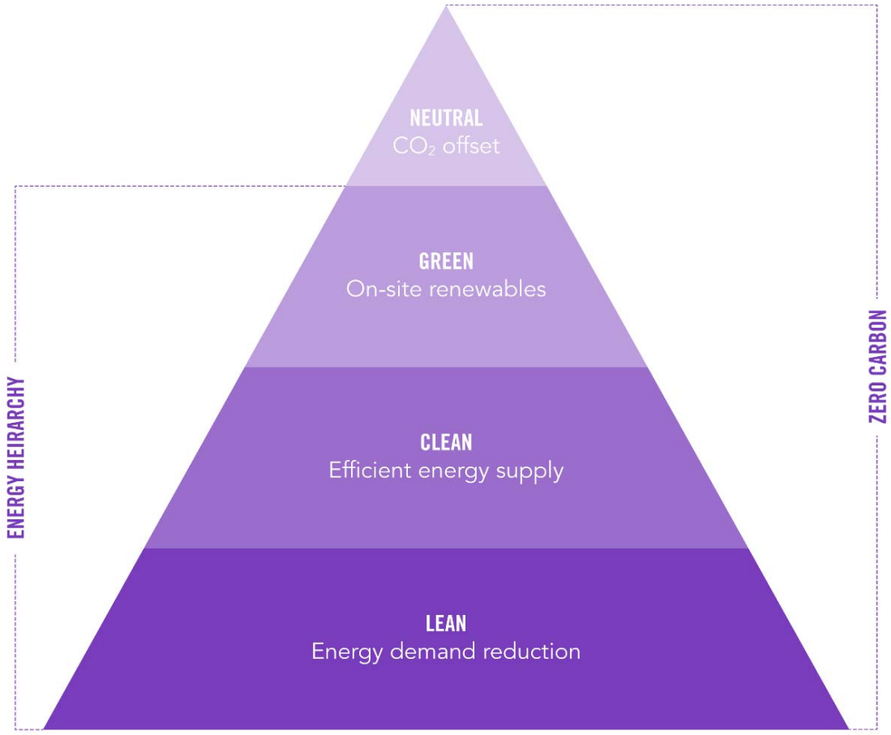

Figure 5-1 – London Plan Energy Hierarchy.

5.4 Seen – Energy Monitoring and Verification

In accordance with the London Plan Policy 5.2, developments should make the fullest contribution to minimising carbon dioxide emissions and should meet the 35% reduction targets on site unless clearly demonstrated that this cannot be met. Where 35% targets are not achievable on site, a cash in lieu contribution is required to the local authority to secure the delivery of carbon dioxide savings elsewhere.

The Mayor's Environment Strategy and the draft New London Plan also place an increasing emphasis on new non-domestic buildings to reduce regulated carbon emissions to deliver zero carbon developments.

The Proposed Development acknowledges that the New London Plan is expected to extend the zero-carbon standard to non-domestic buildings in the near future. In line with the emerging London Plan, the Proposed Development's operational performance will be reported for a minimum of 5 years to ensure the actual operational performance will be in line with the GLA's zero carbon target:

- Building energy use (gas, electricity)
- Renewable energy generation
- Report on details of the building's energy storage equipment
- Performance of heating and cooling generation plant
- Carbon emissions and any carbon offsetting contributions.

5.5 Monitoring Energy Use During Construction Phases

During the construction phase the demolition and main contractor, and its supply chain shall employ best practice in both reducing energy consumption and sourcing energy from more sustainable sources. The requirement to set energy consumption targets and monitoring energy use including all utilities (electricity and natural gas), and liquid fuels on site alongside life cycle analyses for materials/processes will be included within the contractor's tender documentation for delivery whilst on site.

5.6 Embodied Carbon

Associated construction emissions over the lifetime of the building has been calculated through a life cycle assessment (LCA), in combination with the operational energy figures to provide whole life carbon performance over the scheme's design life. WLC assessments have been undertaken for both RM, drawing upon the initial pre-app WLC assessment which was undertaken to establish the most appropriate design strategy for reducing carbon across the scheme's design life. Below outlines the methodology applied to both RMA and principles applied to reduce WLC emissions.

5.6.1 Methodology

The LCA was commenced at the beginning of the concept design stage (RIBA Stage 2), following the setting of the project brief and initial project team discussions to ensure early project team engagement and collaboration. This is the preferred LCA approach as it offers the most flexibility and availability of carbon reduction opportunities, and at their most cost-effective to implement.

Boundary: A cradle-to-grave system boundary LCA has been undertaken to inform the design team of the material impacts of design choices arising through the building's entire lifespan. The LCA has been undertaken in line with the London Plan guidance and the Royal Institute of Chartered Surveyors (RICS) Professional Statement methodology on undertaking WLC assessments.

Reference period: A typical 60-year reference period has been used, in line with the RICS Professional Statement and a is a standard design life for office buildings.

Software: OneClick LCA is an industry-leading, online, WLC assessment software. OneClick is compliant with BREEAM (New Construction 2014 and 2018) and can achieve up to ten Mat01 credits under the latest certification standard. The tool is also third-party verified for European and international LCA standards EN 15978, ISO 21931-1, ISO 21929-1 and for input data for ISO 14040/44 and EN 15804 standards.

Specification of materials with high recycled contents have been included within the project brief alongside optimising low embodied carbon solutions with Environmental Product Declarations (EPD) to provide material transparency. Targets for WLC have not yet been adopted into planning requirements, however Table 5-1 (below) from the draft New London Plan provides benchmark data which can be used as an indicator of WLC performance for the Network Building.

For more details of the WLC considerations please refer to the RMA Sustainability Statements.

Sector	Modules	WLC benchmark kg CO_2e/m^2 GIA	Aspirational WLC benchmark kg CO_2e/m^2 GIA
Offices	A1-A5	900 to 1000	550 to 600
	B-C (excluding B6 & B7)	400 to 500	250 to 300

Table 5-1 WLC benchmarks for offices, draft New London Plan

5.7 Policy Alignment

The proposed whole life carbon strategy and energy monitoring through construction addresses the requirements of the following planning policy and LBC objectives:

Policy Document	Policies
London Plan (2018)	Policy 5.2 Minimising carbon dioxide emissions
	Policy 5.3 Sustainable design and construction
	Policy 8.2 Planning obligations
Draft New London Plan (2019)	SI 2: Minimising Green House Gas Emissions
	SI 5 Water Infrastructure
London Borough of Camden	CC1 – Climate Change Mitigation
	CC2 – Adaptation to Climate Change
	CC4 - Air Quality
	CPG: Design
	CPG: Energy efficiency and adaptation

6.0 Climate Change Resilience

6.1 Background

The Paris Agreement's central aim is to strengthen the global response to the threat of climate change and the ability of countries to deal with the impacts of climate change[32]. The Met Office's annual State of the UK Climate report 2019[33] confirms that the UK's summers are becoming hotter with 2018 as the seventh warmest year for the UK since the 1880s, and the most recent decade (2009–2018) has been on average 0.3°C warmer than the 1981–2010 average and 0.9°C warmer than 1961–1990. UK winters are becoming warmer and wetter, with six of the 10 wettest years for the UK since the 1800s have occurred since 1998.

The intensity and frequency of extreme weather has significant consequences on our built environment and these risks need to be actively managed. With one or more types of extreme and diverse weather events occurring annually in the UK, buildings, infrastructure and urban landscape need to adapt to tolerate current and future predicted changes in the UK climate to minimise insurance premiums; disruption to business continuity and operation; and risks to health, well-being and productivity.

In support of a resilient London, developments need to be able to cope with long term climatic changes and associated extreme weather events, to reduce potential adverse impacts from typical climate resilience issues such as flooding, increased solar gain, and urban heat island (UHI) effect, but more widely to issues such as disruption to energy security, increased wind speeds, unusual subsidence and more, and the associated risks these extreme issues bring for maintenance, insurance, tenancy voids from uncomfortable and unhappy tenants.

6.2 Policy Requirements

Camden identify the challenge of future climate change as a core strategic policy CC2 and CPG Water and Flooding. As a borough located centrally it suffers disproportionately from the effect of London's urban heat island (UHI), exacerbated by the 24-hour nature of this part of the City. The New London Plan also identifies London's UHI as a factor that developments must consider, under Policy G5 Urban greening and Policy SI4 Managing heat risk.

6.3 Climate Change Adaptation and Mitigation

An assessment against the main impacts of climate change have been undertaken to determine the proposed application's resilience to future climate which is predicated to be several degrees hotter and with significantly more precipitation. The design team have engaged at the early design stage to consider overheating risks and mitigation measures, also minimising the requirement for active cooling.

Hazard description	Hazard Assessment	Risk Estimation	Action to Mitigate
Temperature increases (hotter summers)	Internal temperature gains	MEDIUM	Thermal modelling has been undertaken to determine the likelihood of the hazard occurring so that appropriate mitigation measures can be identified
	Loss of soil moisture leading to subsidence/soil shrinkage, ground movement/cracks	LOW	Geotechnical investigation to confirm ground conditions and manage the risk accordingly

[32] United Nations Framework Convention on Climate Change http://unfccc.int/paris_agreement/items/9485.php

[33] Met Office, State of the UK Climate Annual Report 2019, https://rmets.onlinelibrary.wiley.com/doi/full/10.1002/joc.6213

Hazard description	Hazard Assessment	Risk Estimation	Action to Mitigate
	Building services efficiencies/demands. Renewable energy generation	MEDIUM	Cooling and heating designs have been sized with additional capacity.
	Urban Heat Island effect – proximity of other buildings and the resultant micro-climate	LOW	Extensive greening and high reflective surfaces to create albedo effect

Table 6-1– temperature increase climate hazards

6.4 Urban Greening and Urban Heat Island (UHI) Effect

A well-known effect of urbanisation is the warming of the local climate relative to surrounding rural areas, creating a phenomenon known as the 'urban heat island' (UHI). UHI intensity varies across a city and over time, but temperature differences may reach as much as 9°C in the UK and is on average 2.8°C hotter for London. This change will contribute to an increasing number of heat-related deaths with predictions that these will increase by approximately 257% by 2050. There is a need to combat the impacts of the UHI, especially considering UK climatic projections, increasing urban temperatures and associated heat-related mortality. Vegetation can be very effective at providing cooling mechanisms including evaporative cooling and evapotranspiration, reflectance and shading that mitigate the UHI effects by reducing the amount of heat energy absorbed.

In addition to climate regulation, urban greening can contribute to our natural environment and London's natural capital by increasing biodiversity and offering benefits such as supporting pollinators and recreation.

The proposed application includes a range of green infrastructure measures such as areas of soft landscaping and a combination of extensive and intensive green roof areas however this does not meet the minimum requirements of the emerging plan G5. For more details see Section 4.7.

6.5 Flooding and Drainage

All sources of flooding have been identified in a Surface Drainage Statement and the drainage hierarchy has been followed to ensure that surface water run off rates are reduced as much as possible. As a result of the design proposals a circa 55% betterment in surface water runoff has been targeted for a 1 in 100-year (+ 40% climate change) return period as detailed in Table 6-2.

Return Period	Existing Runoff Rate (l/s)	Proposed Runoff Rate (l/s)	Percentage Improvement (%)
1 in 1 year	19.4	8.8	54%
1 in 30 years	47.5	21.6	55%
1 in 100 years	61.9	28.1	55%
1 in 100 year + 40% Climate Change	N/A	37.4	>55%

Table 6-2– Surface drainage runoff rate

This aligns with Camden's local policy to reduce surface water run off by 50% in lieu of confirming greenfield equivalent run off rates.

The existing site is located within Flood Zone 1 and is considered to be at low risk of flooding from fluvial and tidal sources. The development site area is less than 1 hectare in plan area, and not located in an area identified by the LBC as a Local Flood Risk Zone. As a result, in accordance with Paragraph 103 footnote 20 of the NPPF, a site-specific flood risk assessment is not required for planning.

6.6 Policy Alignment

The proposed climate resilience strategy aligns with the requirements of the following planning policy and LBC objectives:

Policy Document	Policies
London Plan (2018)	Policy 2.18 Green Infrastructure
	Policy 5.3 Sustainable design and construction Policy 5.9: Overheating and cooling
	Policy 5.11: Green roofs and development site environs
	Policy 5.13 Sustainable drainage
	Policy 5.11: Green roofs and development site environs
Draft New London Plan (2019)	GG6 Increasing efficiency and resilience
	Policy G1 Green infrastructure
	Policy D11 Safety, security and resilience to emergency
	Policy SI 4 Managing heat risk
	Policy SI 5 Water infrastructure
	Policy SI 12 Flood risk management

	Policy SI 13 Sustainable drainage
London Borough of Camden	Policy A1 Managing the impact of development
	Policy D1 Design
	Policy CC1 Climate change mitigation
	Policy CC2 Adapting to climate change
	Policy CC5 Waste
	CPG: Design
	CPG: Energy efficiency and adaptation

7.0 Circular Economy

To reduce the environmental impacts of the proposals, whilst also maintaining and improving the architectural quality and character, the design team has considered the principles of materials optimisation and opportunities to contribute to a circular economy in construction from the outset. Below sets out principles that have been applied across the site in demonstration of resource efficiency and material optimisation considerations in line with current and emerging London Plan and LBC requirements. Separate Circular Economy Statements have been prepared for each RMA to satisfy emerging London Plan Policy SI 7, for details of how specific circularity principles has considered for these applications, refer directly to these statements.

7.1 Material Efficiency

Figure 7-1 (opposite) shows the materials efficiency concepts that are under consideration and the synergies with several other sustainability aspects such as sustainable procurement, climate change adaptation (see section 6.0) and embodied carbon (see section 5.6).

Where feasible and/or possible, the design team will prioritise materials that:

- Have a low embodied carbon, including those that can be re-used intact or recycled at the end of their useful life.
- Can be sustainably sourced: 100% of timber and timber products should be sourced from accredited Forest Stewardship Council (FSC) or Programme for the Endorsement of forestry Certification (PEFC) source; non-timber materials should be BES6001 (min very good) where possible or ISO14001 certified.
- Are durable to cater for their level of use and exposure.
- Will not release toxins into the internal and external environment, including those that deplete the Earth's stratospheric ozone layer.

The selection and procurement of sustainable, ethical and healthy materials will be explored in detail with the Main Contractor and their procurement team and is a sustainability target for the design team.

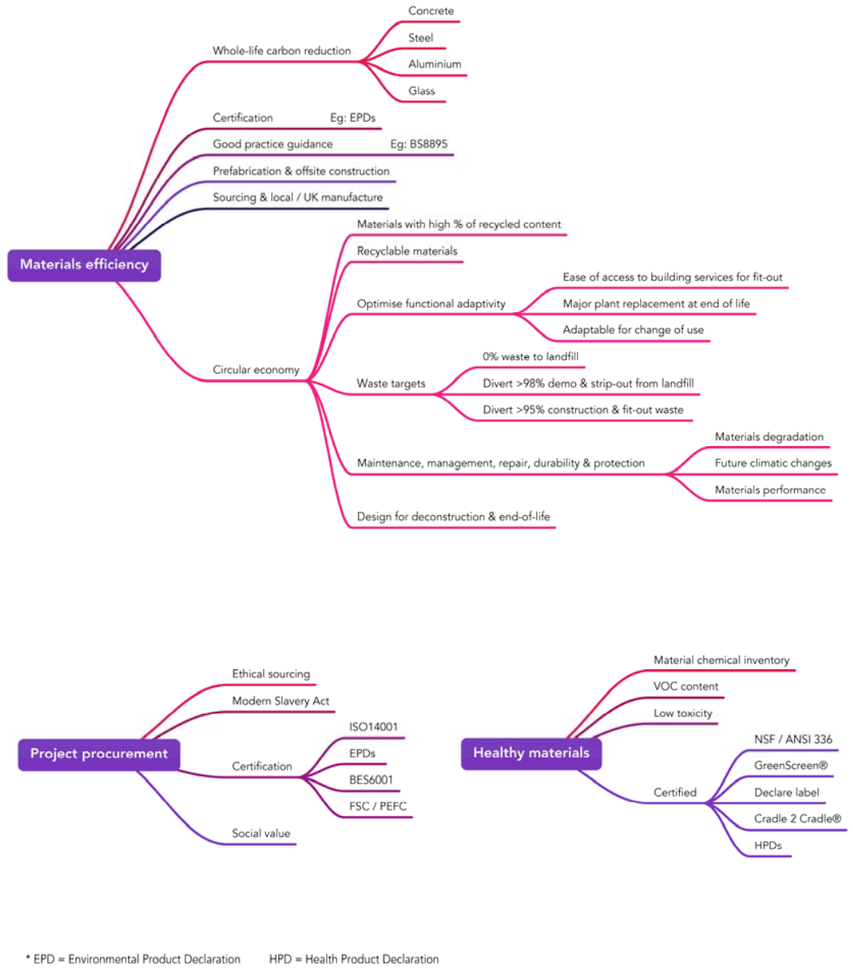

Figure 7-1 - Material Efficiency Ideas Under Consideration

7.2 Healthy Materials

The Applicant seeks to create a high quality, healthy internal environment for those working and visiting the proposed development with these key principles included within their long-term organizational level objectives. Materials selection and procurement therefore will be informed by the increasing availability of materials certified for transparency of ingredients and health, where feasible, including but not limited to materials and products that:

- Meet testing and emissions standards for low or zero VOC as defined by BREEAM, LEED and/or WELL
- Meet the toxic materials reduction standards set by the WELL standard[34]
- Are Declare™ label[35] certified
- Are Cradle to Cradle Certified™ Products[36]
- Listed on the mindful Materials™ data hub[37], a materials library that lists materials certified for environmental performance and/or health under several best practice schemes including ANSI/BIFMA, ASTM International, Carbon Trust, ECOLOGO, ENERGY STAR Certified, Environmental Claims Validation, EPD, FloorScore®, Green Squared, Greenguard, Health Product Declaration® (HPD), SCS etc.

7.3 Construction Phase

Materials management is a key component of Derwent's Supply Chain Sustainability Standard. Where possible materials will be procured locally with a preference for small and medium sized enterprises (SMEs) and encouragement of social enterprises to support local employment, equality and training.

7.4 Management and Procurement

To align with the project brief and ensure appropriate procurement suppliers will be required to have a robust environmental management policy in place appropriate to the nature and scale of their business. The Main Contractor will be expected to have a certified environmental management system (EMS) in place accredited in ISO 14001 or EMAS (Eco-Management and Audit Scheme) and will be required to support the development in achieving environmental performance targets.

The proposed application seeks to maximise the use of material arising from the demolition phase and a pre-demolition audit has been undertaken to highlight the following:

- Identification and quantification of the key materials where present on the project.
- Potential applications and any related issues for the reuse and recycling of the key materials in accordance with the waste hierarchy and in support of circularity
- Identification and use of online reuse platforms that support reuse of materials in their highest value
- Identification of local reprocesses or recyclers for recycling of materials
- Identification of overall recycling rate for all key materials
- Identification of reuse targets where appropriate
- Identification of overall landfill diversion rate for all key materials

The pre-demolition audit undertaken on the existing building will inform the demolition contractor of resources that could be repurposed in their current form to retain their highest value, including but not limited to timber doors, hardwood timber flooring, composite decking, internal glazed partitions and doors, kitchen and kitchenette facilities, cycle racks, and safe boxes. Any materials that cannot be reused or reclaimed will be recycled, a minimum diversion from landfill target of 95% has been set for demolition waste.

7.5 Policy Alignment

This Circular Economy Statement aligns with the below planning requirements

Policy Document	Policies
London Plan	Policy 5.16 Waste Net Self Sufficiency
	Policy 5.17 Waste Capacity
	Policy 5.18 Construction, excavation and demolition waste
	Policy 5.3 Sustainable design and construction
Draft New London Plan	Policy SI 7 Reducing waste and supporting the circular economy (Partial)
	Policy SI 8 Waste capacity and net waste self- sufficiency
London Borough of Camden	Policy A1 Managing the impact of development
	Policy D1 Design
	Policy CC2 Adapting to climate change

[34] International WELL Building Institute. The WELL Standard. https://www.wellcertified.com/

[35] Declare – the nutrition label for buildings. https://living-future.org/declare/

[36] Cradle to Cradle Certified Products Registry http://www.c2ccertified.org/products/registry

[37] Mindful Materials data hub http://www.mindfulmaterials.com/ and Origin Materials Data Hub https://origin.build/#/

	Policy CC5 Waste
	CPG: Design

8.0 Land use, Biodiversity and Urban Greening

8.1 Background

London has limited land reserves, so it is important to make efficient use of the land contained within the site boundary. Within London, particularly Central London, open space and green space is also limited, with most green space originating from historic church sites and their curtilage which is converted to small pocket gardens. Developments which can make significant contributions to the increase in open green space are encouraged by the LBC and the GLA. Green infrastructure features can be challenging to achieve with urban environments, as their purpose is to link habitats for flora and fauna to network across an area. However, within urban settings, effective provision can be made for insects, particularly pollinating insects, and birds through mindful planting schemes and adequate roosting habitat.

8.2 Policy Requirements

The adopted and emerging policy points to urban greening and ecological enhancement being a high priority for new London developments. The draft New London Plan includes progressive policies for public realm, open space, green infrastructure, urban greening, biodiversity and access to nature with the Camden CPG Biodiversity[23] requiring a Preliminary Ecological Assessment to determine baseline conditions and evaluate the importance of any ecological features present with the site.

8.3 Land use, site layout and building design

The proposed development occupies 100% previously developed land. To optimise land use efficiency, in accordance with The London Plan, the scale and massing have been carefully considered taking into account daylight, views, and existing noise sources.

The amount of productive floor space has increased significantly given the number of floors and massing, allowing higher densities which are appropriate for the location. The existing building provided 8,241 sqm of B1 office. The Proposed Development provides a provision of up to 17,725m² GIA of Class E.

8.4 Urban Greening and Green Infrastructure (GI)

The proposed application has optimised the use of land by increasing scale and massing and consequently the productive floorspace. A preliminary ecological appraisal has been undertaken confirming the site does not form part of any statutory or non-statutory nature conservation area. It is recommended that site works are undertaken outside of the nesting bird season where possible or that a nesting check is undertaken prior to any site works to align with national and regional planning policy. There is an impressive area dedicated to urban greening, comprising ground floor planting, a variety of green roof provision (both extensive and intensive), supporting the provision of species rich species to provide net biodiversity gain. The result is a striking green space which offers a diverse range of local ornamental plant species which supports a greater population of local pollinating insects and birds. Compared to the existing site which had no urban greening, there has been substantial increase in biodiversity levels.

8.5 Urban Greening Factor

The Urban Greening Factor (UGF) is a tool that evaluates and quantifies the amount and quality of urban greening that a scheme provides to inform decisions about appropriate levels of greening in a new development. The draft New London Plan introduces the Urban Greening Factor (UGF) metric to assist in determining the appropriate provision of urban greening for new developments. It aims to increase green cover and be considered at the beginning of the design and planning stage. The UGF policy suggests a target score of 0.3 for commercial developments. Table 8-1 below details the proposed ecological enhancement across the site and targeted Urban Greening Factor (UGF) which is consistent across both RM applications.

	Extensive Green Roof - 80mm	Intensive Green Roof - 150mm	Intensive Green Roof - 300mm	Rain Garden / Soft Planting
UGF (Urban Greening Factor)	**0.7**	**0.8**	**0.8**	**0.7**
Roof terrace	145.m²	.m²	208.m²	.m²

Level 08	147.1m²	19.3m²	.m²	.m²
Level GRD	.m²	.m²	.m²	270.m²
Totals (**with UGF applied**)	***204.5***	***15.4***	***166.4***	***189***
Urban Greening Contribution	***0.079***	***0.006***	***0.065***	***0.074***
Total	***0.22***			

Table 8-1- GLA and LBC UGF calculations for the Proposed Development

Due to limited available roof space and the required balance of plant space, photovoltaic panels for energy efficiency and extensive greening there is a departure of the scheme from the 0.3 Urban Greening Factor required under G5 of the draft New London Plan however the proposals demonstrate the effort by the project team to enhance site ecology as much as viable in contribution to urban greening.

8.6 Policy Alignment

The Proposed Development makes a significant contribution and complies with the following policies:

Policy Document	Policies
London Plan	Policy 2.18 Green Infrastructure
	Policy 5.3 Sustainable design and construction
	Policy 5.10 Urban Greening
	Policy 5.11 Green roofs and development site environ
	Policy 5.13 Sustainable drainage
	Policy 7.19 Biodiversity and access to nature
	Policy 7.5 Public Realm
Draft New London Plan	Policy G1 Green infrastructure
London Borough of Camden	Policy A3 Biodiversity
	Policy A3 Biodiversity
	Policy CC1 Climate change mitigation
	CPG: Air quality
	CPG: Biodiversity
	CPG: Trees

9.0 Transport

This section sets out how the Proposed Development responds to sustainable transport in order to encourage visitors and occupants to use lower carbon methods of travel including walking, cycling and public transport and avoid the use of private car travel. The approach to servicing and logistics is also relevant and requires consideration in the context of reducing journeys, congestion and idling.

9.1 Background

Low carbon transport is a key focus for a healthy city. Fewer fossil fuel vehicles on the road, and a reduced reliance on car travel, will benefit the local community by reducing congestion and improving air quality and moving London towards becoming a zero-carbon city. The London Environment Strategy[38] aims for London to be a zero-carbon city by 2050 with clean transport being a priority area of focus. Greater uptake of low carbon transport that requires physical activity, such as walking and cycling, also has an impact on public health and should be encouraged and fostered. Encouraging walkability and cycling reduces reliance on private cars but also alleviates pressure on the public transport system, particularly at peak times, both of which contribute to congestion, reduced air quality and increased noise pollution.

9.2 Policy Requirements

LBC's Local Plan (2017) and supplementary Planning Guidance details the council objective to provide additional pedestrian facilities to accommodate the expected population increase through to 2031 and encourage sustainable, healthy transport measures to combat air quality. The Strategy sets out the aspirations to significantly increase the number of people cycling to / from and within LBC and provide access to jobs, training, education, support services, shopping, friends and relatives, leisure and participation in community.

9.3 Accessibility and Public Transport

The Proposed Development is located in a highly accessible area of central London benefitting from a wide variety of public transport services. The site is situated within 800m (10 minutes walk) of Euston Station, which provides access to West Midlands Trains and Avanti West Coast Trains. Euston is also served by London Overground and Underground services. Please the OPA workplace travel plan prepared by Caneparo Associates for more details.

As a result of the sites location a PTAL rating of 6b which the highest attainable has been confirmed, demonstrating an excellent level of accessibility to public transport. Extensive cycle storage access in accordance with the GLA's draft New London Plan is proposed alongside showers to 1:10 cycle spaces and associated changing facilities. The proposed application also aims to increase walking and cycling through improved provision of services and information to building users.

9.4 Walkability

Journeys to be made by foot or cycle are facilitated by the site's central location and the consequent proximity to the surrounding area and mixed land-uses. The high volumes of pedestrians on footways around the building, however, provides a very busy environment for pedestrians adjacent to the site and additional pedestrian flow will need to be carefully accommodated to help retain the pedestrian movement on the footways).

Pedestrian facilities in the vicinity of the site are excellent, with footways of adequate width provided on both sides of all surrounding roads on key desire lines. Footway widths vary along the site frontage, from between 1.8m on Whitfield Street to 3.2m – 4.7m on Howland Street. Due to the arterial nature of Tottenham Court Road, the route provides particularly wide footways approximately 5m adjacent to the Proposed Development.

[38] London Environment Strategy, GLA. https://www.london.gov.uk/sites/default/files/london_environment_strategy_0.pdf

Signalised crossings are provided at the Howland Street and Maple Street junction with Tottenham Court Road which provide appropriately coloured tactile paving and dropped kerbs. Informal crossings in the area are also provided with dropped kerbs / raised tables and tactile paving. To encourage walking a Travel Plan Coordinator (TPC) will highlight the benefits of walking by:

- Providing employees with information and advice concerning safe pedestrian routes to/ from the site
- Providing employees with changing facilities and facilities for storage of wet clothes, umbrellas etc
- Organisation of social cycling and walking events, e.g. lunch time or after work walks
- Health benefits of walking to be promoted e.g. '10,000 steps a day campaign'.

This demonstrates alignment with LBC and current and emerging London Plan policy encouraging the use of public transport and a building design that ensures the health and wellbeing of employees.

9.5 Cycling

The site will provide safe a secure cycle storage at basement level with dedicated cycle access on Whitefield Street to the cycle storage via an appropriately size lift or cycle channel. The number of cycle parking will be in accordance with the Draft London Plan minimum requirements for different building Class uses. For details of specific cycle parking arrangements please refer to both RMA. In addition to cycle storage a minimum of 26 showers and 280 lockers with changing facilities will be provided at basement level for employee use.

With regards short stay cycle parking, the proposal envisages provision within the public realm where it will be easily accessible to all users and placed within a convenient distance of the building entrances. It is acknowledged that the surrounding footways comprise the adopted highway, therefore a discussion with LBC will be required to identify suitable locations for short-stay cycle parking provision in order to achieve these objectives. For more details of the proposed cycling provision please refer to the workplace travel plan and transport assessment prepared by Caneparo Associates for the OPA.

9.6 Car Parking

The Proposed Development will be "car free" as a way of promoting and incentivising more sustainable and lower carbon means of transport with a proposed blue badge holder parking bay for site inclusivity and accessibility.

9.7 Servicing and Logistics

Servicing activity will be undertaken from Cypress Place with two loading bays provided within a 'servicing zone' located immediately adjacent to the northern façade of the building. A 'goods in' entrance will be provided adjacent to the servicing zero for ease of access to and from the building.

Servicing and waste collection vehicles will access the site via Cypress Place from Maple Street, as per the existing situation. Given the proposals include the termination of the southern section of Cypress Place, vehicles would then turn and exit Cypress Place onto Maple Street.

Headroom to / from Cypress Place is currently restricted to 12 feet at the north and south end. This height restriction will be retained in the proposals. This will limit servicing vehicles to a 7.5T Box Van (8m) although we have been informed that a large waste vehicle currently uses Cypress Place and access for this vehicle has therefore been retained.

Deliveries will primarily be by bicycle, motorcycle, and small vehicles on account of the type of goods typically delivered, such as couriered documents, postal mail, and stationery. Where larger vehicles are required, these will comprise transit and panel vans, up to 7.5T box vans.

If it is robustly assumed that each servicing vehicle will undertake loading activity for up to 15minutes on average. The loading bays will be managed on a time-booking system and each vehicle will be allocated a 30-minute time-slot, therefore based on servicing between 07:00 and19:00, the servicing zone can accommodate 48 vehicles per day. Allowing exclusive use of the servicing zone for one hour per day for waste collection, the capacity of the servicing zone would be 44 vehicles per day, which is sufficient capacity for the development proposed.

Specific delivery, servicing and logistics strategy has been developed accordingly for the office and life science Class E options, please refer to each RMA Sustainability Statement for details.

9.8 Travel Plan

A Workplace Travel Plan (hereafter referred to as 'Travel Plan' has been produced in support of demonstrating compliance with local LBC policy and the Transport for London's (TFL's) new guidance regarding the effects of developments on both people as well as the local transport network. The overriding objective of the Travel Plan is to engage with and encourage employees to use more sustainable ways of travelling to / from the site through more effective promotion of walking and cycling whilst also:

- To increase staff awareness of the advantages and availability of sustainable / active modes of public transport.
- To promote the health and fitness benefits of active travel to all staff; and
- To introduce a package of physical and management measures that will facilitate staff travel by active modes.

Various forms of suitable communication would be used to advise and inform visitors about the travel options and other facilities. Visitors to the Proposed Development would be provided with information (noticeboards and information on invitations) on how to reach the site by sustainable modes and outlining the health benefits so that they can make an informed decision. This guidance would highlight the commitment to

sustainable transport modes. In addition, information on key schemes such as ‘bicycle user groups’ will be discussed and encouraged with individual tenants to help achieve the targeted modal shift.

Travel Plans are normally monitored on a one, three and five-year cycle. It is proposed that this monitoring would be an ongoing process throughout the lifecycle of the Proposed Development, demonstrating the commitment to long term, low carbon transport

9.9 Policy Alignment

The Proposed Development’s consideration to sustainable delivery and servicing strategy, walkability and cycle provision and travel plan arrangements address the following LBC and London Plan Policy:

Policy Document	Policies
London Plan	Policy 6.10 Walking
	Policy 6.13 Parking
	Policy 6.14 Freight
	Policy 7.1 Lifetime neighbourhoods
Draft New London Plan	Policy T1 Strategic approach to transport
	Policy T2 Healthy Streets
	Policy T3 Transport capacity, connectivity and safeguarding
	Policy T4 Assessing and mitigating transport impacts
	Policy T5 Cycling
	Policy T6 Car parking
	Policy T6.5 Non-residential disabled persons parking
	Policy T7 Deliveries, servicing and construction
London Borough of Camden	Policy C1 Health and wellbeing
	Policy C5 Safety and security
	Policy C6 Access for all
	Policy D1 Design
	Policy CC4 Air quality
	Policy T1 Prioritising walking, cycling and public transport
	Policy T2 Parking and car-free development
	Policy T3 Transport infrastructure
	Policy T4 Sustainable movement of goods and materials

10.0 Pollution Management

This section sets out the risks posed by the Proposed Development's design, construction and operation to the following aspects of pollution:

- impacts on land contamination;
- external air quality, including dust, particulates and nitrous oxide emissions;
- external noise and vibration; and
- impact on night-time light pollution

10.1 Policy Requirements

Air quality within London is becoming an increasing concern for residents and businesses alike with many of the worst air quality areas within the country located within the capital. Media coverage, governmental attention and increasing research into the effects of poor air quality have led to a number of emerging policies looking to minimise air quality impacts from the construction and transport industry. Alongside the European Air Quality Directives[39] and Local Air Quality Management[40] there are several local air quality strategy specific to London and the LBC which include:

- Clearing the air: The Mayor's Air Quality Strategy (2010)[41];
- London' Environment Strategy 2018[42] ;
- GLA (2014) The Control of Dust and Emissions from Construction and Demolition SPG[43]; and
- Camden Air Quality CPG[21]

10.2 Land Contamination

A preliminary qualitative risk assessment has been undertaken by Card Geotechnics Ltd (CGL) in accordance with the Environment Agencies Contaminated Land Report (CRL, 2014). Table 10-1 summarises the risks identified and mitigation measures to alleviate these risks.

Source/ Medium	*Receptor*	*Potential Exposure Route*	*Consequence*	*Probability*	*Risk Rating*	*Comments*
Organic / inorganic contaminants such as heavy metals and PAH within underlying Made Ground / natural ground.	Future site users	Direct/indirect ingestion of soil and dust, inhalation of vapours and asbestos fibres and dermal contact.	Medium	Low Likelihood	Moderate/Low	Potential for shallow soils to be impacted with contaminants associated with on-site and nearby off-site sources. However, as the entire footprint of the site will be hardstanding, proposed across this will act as a barrier between source and receptor.
	Construction workers		Medium	Likely	Moderate	Potential for shallow soils to be impacted with contaminants associated with on-site and nearby off-site sources. However, risk would likely be mitigated by use of appropriate PPE and mitigation measures.
	Off-site receptors		Medium	Unlikely	Low	
	Buildings and structures	Direct contact with underground structures and services.	Mild	Likely	Moderate/Low	Buried concrete to be designed as appropriate for ground conditions. Potential for contamination within Made Ground where new services will be laid.
	Limited Shallow Groundwater Body (Lynch hill Gravel)	Leaching of soil contaminants to the shallow groundwater	Medium	Low Likelihood	Moderate/Low	Potential for leaching of contaminants to the shallow groundwater.

[39] European Air Quality Directive 2008/50/EC (2008) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:02008L0050-20150918

[40] DEFRA (1995) Local Air Quality Management (LAQM) - https://laqm.defra.gov.uk/

[41] Mayor of London (2010) Clearing the air - https://www.london.gov.uk/sites/default/files/Air_Quality_Strategy_v3.pdf

[42] Mayor of London (2018) Environmental Strategy https://www.london.gov.uk/sites/default/files/london_environment_strategy_0.pdf

[43] GLA (2014), The Control of Dust and Emissions from Construction and Demolition SPG: https://www.london.gov.uk/what-we-do/planning/implementing-london-plan/supplementary-planning-guidance/control-dust-and

Source/ Medium	Receptor	Potential Exposure Route	Consequence	Probability	Risk Rating	Comments
		body within the Lynch Hill Gravels				
	Vegetation	Root uptake.	Mild	Unlikely	Very Low	No landscaping areas are proposed at basement / ground level.
Organic/ inorganic contaminants within shallow groundwater	Future site users and off-site receptors	Direct/indirect ingestion of contaminated groundwater	Medium	Unlikely	Low	Potential risks for groundworkers may be likely; however, these will be mitigated by site practices and PPE.
	Construction workers		Medium	Low Likelihood	Moderate/Low	The entire footprint of the proposed scheme will be hardstanding; hence, the potential impact on future site users is unlikely.
	Buildings and structures	Direct contact with underground services and structures	Mild	Likely	Moderate/Low	London Clay Formation expected to be present (sulfates). Buried concrete to be designed as appropriate for ground conditions. Potential contamination due to Made Ground (if present).
	Principal Aquifer (Upper Chalk) and Secondary Aquifer (Lambeth Group)	Vertical migration of contaminants	Mild	Unlikely	Very Low	Proposed foundations are unlikely to encounter the Upper Chalk or Lambeth Group formations. Vertical migration protected by the overlying low permeability London Clay Formation.
	Local surface water bodies	Lateral migration of contaminants	Mild	Unlikely	Very Low	No surface water bodies in close proximity to the site.
Off-site sources (petrol stations, electrical substations/cables, etc)	Future site users Construction workers Groundwater On-site buildings and structures	Migration of contaminants from off-site sources onto underlying site	Medium	Low Likelihood	Moderate/Low	Potential for contaminants from surrounding area to enter the site via water and windblown dust. Risk to construction workers can be mitigated by use of PPE and dampening down if working in dry conditions.
Explosive / asphyxiating gases / vapours from Made Ground	Internal building spaces & future occupiers	Migration of gases and vapours through the surface via permeable soils and drainage & services	Severe	Unlikely	Moderate/Low	Potential for ground gas associated with organic Made Ground, and volatile vapours from hydrocarbon spills from previous garage use as well as petrol stations in the vicinity.

Table 10-1 - Preliminary Qualitative Risk Assessment

10.3 Air Quality

The proposed application adopts several measures to minimise detrimental air quality impacts of the development and contribute to improving local air quality. The scheme proposes an all-electric solution for heating and domestic hot water, with ASHP technology to provide space and hot water heating to remove NOx emissions associated with gas boilers to contribute to improving local air quality. A workplace travel plan has been produced to promote the use of public transport, cycling and walking which minimises the 'air quality impact' of the development. Extensive soft landscaping proposals with a focus on species providing air quality benefits will also be prioritized.

An air quality assessment has been undertaken to assess the proposed development's impacts on air quality and confirm the scheme aligns with National, LBC and London Plan policy.

10.3.1 Operation

The proposed development will be provided with heat and hot water via heat recovery from 4-pipe chillers, supplemented by electric Air Source Heat Pumps (ASHPs); there are no significant emissions to air associated with either of these technologies. The proposals for the development do, however, include the installation of two diesel generators for emergency purposes; a 1,253 kW input generator, herein referred to as the "Tenants' generator", and a 552 kW input generator, herein referred to as the "Landlord's generator". The emissions from these generators could impact upon air quality at existing properties. The proposals also include a diesel-fired sprinkler pump. The main air pollutants of concern related to diesel-fired plant are nitrogen dioxide PM10 and PM2.5.

Considering associated traffic emissions the proposed application does not include additional car parking spaces and as such is considered air quality neutral for transport emissions. As the development will be powered by grid electricity alongside space heating and DHW there will not be any detrimental air quality impacts associated with the proposed development's building emissions.

An aftercare strategy will be developed ensuring appropriate operational activities to maintain good indoor air quality whilst signage prohibiting smoking outside of the Site will also be provided. An indoor air quality plan will be prepared detailing procedures for minimising indoor air pollution during occupation of the building which will also align with BREEAM air quality requirements. This will include procedures for implementing third party testing and commitments for maintaining indoor air quality (i.e. maintenance and cleaning of HVAC systems, ductwork and filters).

In addition, the proposed development adopts several measures to reduce local air quality impacts. A site-specific travel plan has been produced to promote the use of public transport, cycling and walking which minimises the 'air quality impact' of the development.

The overall operational air quality effects of the proposed development are judged to be 'not significant'. This conclusion is based on the proposals having an insignificant effect on local air quality.

10.3.2 Construction

A site-specific indoor air quality (IAQ) plan will be developed post-planning to identify best practice measures during demolition, preparation and construction works. All practicable measures to reduce dust and air pollution will be undertaken during construction whilst procedures such as pre-flush out of mechanical ventilation building services to remove contaminant sources will be included within the contractor's commissioning requirements.

During the construction phase, it is anticipated that no more than 40 Heavy Duty Vehicles (HDVs)will access the site on any given day; this is the maximum number of heavy vehicles accessing the site. In reality, taking into consideration the size of the site, for the majority of the construction phase, the daily number of vehicles is expected to be lower. Since the peak period will not last for a prolonged period of time, it is not considered necessary to assess the impacts of traffic emissions during the construction phase, since when averaged across the year, the annual average daily flows are likely to be below 25 HDVs (equivalent to 9,125 HDVs per year).

Construction dust: Dust will arise from vehicles travelling over unpaved ground, the handling and storage of dusty materials, and from the cutting of concrete during construction site activities. A summary of the detailed assessment undertaken by Air Quality Consultants confirming the dust risk and impact on human health is provided below in Table 10-2:

Source	Dust Soiling	Human Health
Demolition	Low Risk	Negligible
Earthworks	Low Risk	Negligible
Construction	Low Risk	Negligible
Trackout	Medium Risk	Low Risk

Table 10-2- Summary of Risk of Impacts Without Mitigation

10.3.3 Mitigation at Construction Stage

Measures to mitigate dust emissions will be required during the construction phase of the development, the following good design and best practice measures have been adopted for the development:

- Adopt the GLA's SPG on 'the control of dust and emissions during construction and demolition (2014) representing best practice
- provision of pedestrian and cycle access to the Proposed Development, including improved public realm areas around the site as part of the network of proposed pedestrian walkways, as well as the provision of cycle storage facilities in line with the minimum requirements of the draft New London Plan
- provision of 1 blue badge holder parking space only;
- provision of a detailed Travel Plan;
- provision of a Delivery and Servicing Plan; and
- reduction of the servicing activity currently taking place on-street through the provision of an appropriately sized off-street loading bays.

The mitigation measures shall be written into a dust management plan (DMP). The DMP may be integrated into a Code of Construction Practice or the Construction Environmental Management Plan (CEMP), and may require monitoring.

The proposed development is also consistent with Policy CC4 of the Local Plan, as it will have an insignificant effect on air quality for existing sensitive receptors in the vicinity. The proposed development is better than air quality neutral and is thus also compliant with Policy 7.14 of the London Plan.

10.3.4 Noise and Vibration

In accordance with the London Plan and CLP, the development will be required to minimise and contain noise and vibration, provide an acceptable noise and vibration climate for occupant wellbeing, and minimise exposure to vibration and external noise sources.

The following key acoustic issues have been assessed:

- Construction noise and vibration impacts on the nearby noise sensitive premises;
- The control of noise egress from building services plant on nearby sensitive properties; and
- The control of noise egress from operations of the building (i.e. deliveries) on nearby sensitive properties.

10.3.5 Operation

A plant noise assessment been undertaken by Hann Tucker Acoustics outlining how the development will meet the requirements of NPPF, BS4142: 2014 and to minimise the possibility of noise nuisance to neighbours. Building services plant noise has been assessed confirming that current design, with highlighted mitigation, can achieve local council requirements for external noise. Please refer to Hann Tucker's plant noise assessment for further details.

Relevant BREEAM criteria is relation to noise attenuation is being targeted confirming that new sources of noise pollution do not result in a difference of greater than +5dB during the day (07:00 to 23:00) and +3dB at night (23:00 to 07:00) compared to background noise levels. It is likely that associated planning conditions in respect to noise pollution will be more onerous than BREEAM requirements however it will be important to ensure relevant criteria is satisfied to confirm a BREEAM Excellent.

10.3.6 Construction

Temporary increased noise levels during the construction phase are likely to arise from on-site plant, HGV vehicle movements and demolition / construction activities e.g. breaking out, crushing, cutting etc. These will be controlled and monitored throughout the demolition and construction works.

Potential impacts in many areas are largely dependent on attention to management control (e.g. use of noise attenuated plant), which will be under the control of the Main Contractor who will be required, by tender requirements, to adhere to management controls and measures.

The contractor will be required to register with the Considerate Constructions Scheme and as part of meeting The Applicant's Project Sustainability Plan and will target exemplary performance. This will include consideration to protecting the environment with specific focus on minimising the impact of vibration and noise and air pollution.

10.4 Light Pollution

Light pollution is defined as any light emitting from artificial sources into spaces where it is unwanted, such as spillage of light from office or commercial buildings onto residential accommodation, where this would cause nuisance to the occupants. The ILP Guidance Notes provide suggested lighting level values to ascertain the acceptability of lighting levels of light pollution.

External light pollution will be eliminated through effective design or the removal of unnecessary external lighting. In accordance with BREEAM, the external lighting strategy has been designed in compliance with guidance in the Institute of Lighting Professionals (ILP) guidance notes for the reduction of obtrusive light that requires:

- Limits to the average upward light ratio of the luminaires, to restrict sky glow.
- Limiting illuminance at the windows of nearby properties for which light trespass might be an issue.
- Limiting the intensity of each light source in potentially obtrusive directions beyond the site boundaries.
- Limiting the average luminance of the building if it is floodlit.

All external lighting (except for safety and security lighting) can be automatically switched off between 23:00 and 07:00. If safety or security lighting is provided and will be used between 23:00 and 07:00, this part of the lighting system complies with the lower levels of lighting recommended during these hours in ILP's guidance/

10.5 Policy Alignment

The Proposed Development makes a significant contribution and complies with to the following policies:

Policy Document	Policies
London Plan	Policy 5.3 Sustainable design and construction
	Policy 7.14 Improving air quality
	Policy 7.15 Reducing and managing noise, improving and enhancing the acoustic environment and promoting appropriate soundscapes
	Policy 5.21 Contaminated land
Draft New London Plan	Policy SI 1 Improving air quality
	Policy DM 15.3 Low and zero carbon technologies
London Borough of Camden	Policy C1 Health and wellbeing
	Policy C5 Safety and security
	Policy A1 Managing the impact of development
	Policy A4 Noise and vibration
	CPG: Air quality

11.0 Community & Wellbeing

This section sets out the response of the Proposed Development to include the local community in the design process as well as considerations around how the design may impact upon their health and wellbeing. Mitigation of health impacts and suggestions towards enhancement of permanent and temporary visitors' health is also addressed. This encompasses the processes with regards to stakeholder engagement, accessible and inclusive design, health impact assessment and a future wellbeing certification.

11.1 Policy Requirements

The LBC and the GLA's adopted and emerging plans have strategic policies centred on the wellbeing of its population and communities beyond simply ensuring mitigation of adverse health impacts. Developments that support and promote community cohesion and wellbeing through provision of spaces that promote a healthy lifestyle are future-facing priorities across local, regional and national planning policy.

The council has a number of policies which cover the aspects of communities, health and wellbeing ensuring that developments:

- Positively contribute to creating high quality, active, safe and accessible places;
- Secure the successful and inclusive economy;
- Demonstrate consideration to Camden's strategic priority areas as outlined in the Joint Health and Wellbeing Strategy[44]
- Demonstrate consideration to health and wellbeing Camden Planning Policy Guidance July 2020 (draft)[27]

Camden Council's Statement of Community Involvement in Planning (adopted in July 2016) makes clear that: *'we strongly encourage all applicants to consult any neighbours who may be affected by their proposals before they submit a planning application. We encourage other groups such as local conservative area Advisory Committee (CAACs) and any other interest groups to be consulted. It is especially important to undertake consultation on a wider scale for major or potentially controversial proposals.*

The London Plan's Policy 7.1 Lifetime Neighbourhoods focuses on providing new developments which interface well with the surroundings to improve social and community infrastructure such as through green spaces and access to shops, commercial services and public transport. Developments should work towards fostering community diversity, inclusion and cohesion and contributing to people's sense of place, safety and security The design of new buildings and the spaces they create should help reinforce or enhance the character, legibility, permeability, and accessibility of the neighbourhood and should meet the needs of the community at all stages of people's lives.

11.2 Stakeholder consultation

As a major development a Statement of Community Involvement has been undertaken by Concillo on behalf of the applicant who has undertaken a proactive programme of stakeholder engagement and consultation in support of the application. Local Authority and Statutory Consultee Engagement has been carried out with Camden and the GLA, as well as and other stakeholders including Bloomsbury Conservation Area Advisory Committee, Fitzrovia Neighborhood Association, Charlotte Street Association, The Fitzrovia Partnership BID and local residents. This process demonstrates the pre-submission engagement in preparation for the submission of the application and will inform future dissemination of information to local residents and groups invested in the development of the site.

Due to the inability to hold a traditional public exhibition, the Applicant has held the public consultation entirely online. A consultation website for the project was created that held all the information that would have been provided at a public exhibition, which also gave stakeholders the opportunity to provide feedback and ask

[44] Camden Council (Mar 2019) - https://www.camden.gov.uk/documents/20142/1006758/Joint+Health+and+Wellbeing+Strategy.pdf/9de25fe9-c138-caae-33de-7fc1e3ce1f25

questions to the project team as would be the case at a face to face public exhibition. The website. https://yoursay.online/network-building-and-tottenham-mews will be kept live to ensure continued feedback and dissemination of project information to the public.

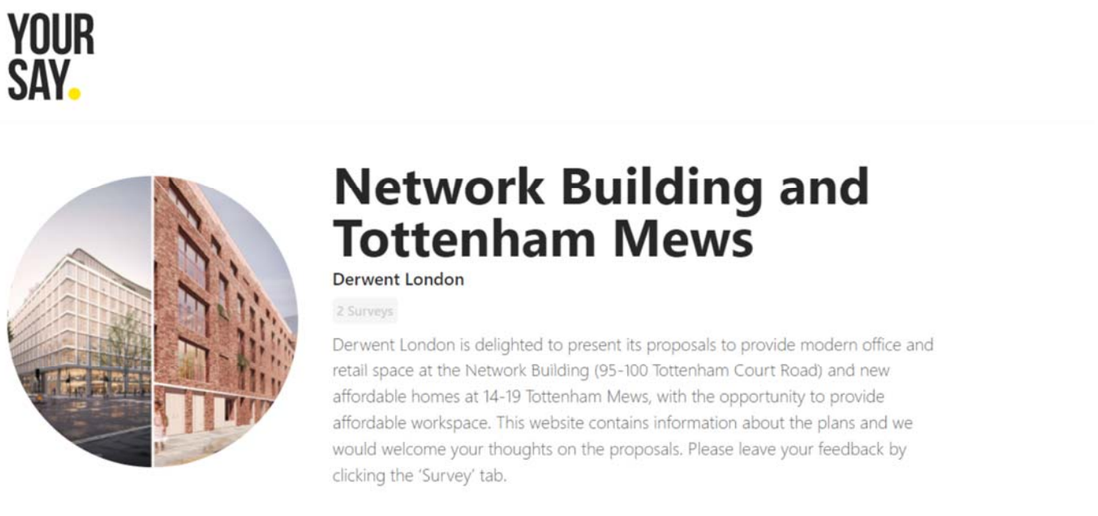

Figure 11-1 - Home page of The Network Building online consultation

In total, 278 people viewed the online exhibition with 5 feedback forms completed. Feedback received has been constructive and fairly positive with elected Councillors supportive of the principle of the development as well as some stakeholders. We have received mixed feedback regarding the quality of homes and the proposed public realm improvements and have provided assurances where possible.

In conclusion, the Applicant has adopted a positive, flexible and responsive approach to engagement and consultation throughout and has sought to reflect the feedback of stakeholders in the final proposals wherever possible to give a sense of ownership to the local members and stakeholders.

The Applicant recognises their responsibility to occupiers, neighbours, City residents, workers and visitors and are committed to working with LBC going forward to ensure that the proposals are of the highest possible standard and deliver genuine and tangible benefits to the London Borough of Camden.

11.3 Inclusivity and Accessibility

A Building Access Statement has been prepared by Proudlock Associates detailing the accessibility features of the proposals to improve access and demonstrate design inclusivity in and around The Network Building which have been summarised below:

- Widened footways to Tottenham Court Road, Whitefield Street and Howland Street, with smooth, level and firm surface and step-free access;
- Curved building corners provide a wider, more generous public realm helping pedestrian flow;
- Accessible cycle parking with step-free access via a large dedicated cycle lift, provided with accessible associated amenities and WC facilities at basement level;
- The main entrance on Howland Street is recessed to provide shelter from the weather, centrally located and easily distinguishable on the façade;
- Revolving doors are supplemented by automatically opening swing doors at the entrance;
- An evacuation / fire fighting lift in the central core provides independent and dignified means of escape for disabled users unable to use stairs;
- Four generously sized passenger lift in the main core in additional to the fire-fighting / evacuation lift.
- A wheelchair accessible toilet is provided at each level and ambulant accessible toilets provided wherever standard toilets are provided;
- A wheelchair accessible toilet and shower facility is provided at basement level for cyclists and building staff; and
- Accessible roof terraces are provided at higher levels.

The scheme meets and improves upon the Building Regulations Part M and Approved Document M demonstrating the commitment of the Applicant to ensure facilities provided will give all building users the opportunity to participate independently whatever their use of the building and maximise their individual abilities while enjoying safe and wherever possible, independent participation.

11.4 Health Impact Assessment

The Proposed Development is considered a large-scale development and therefore should give regard to emerging London Plan Policy GG3: Creating a Healthy City and prepare a Health Impact Assessment (HIA).

A HIA has been undertaken by WYG that builds on the principles set out in the Rapid HIA Toolkit developed by the Healthy Urban Development Unit (HUDU)[45] to develop a comprehensive assessment outlining how the Proposed Development could impact on health, identifying relevant pathways towards health outcomes drawing on the wider determinants of health.

The following relevant socio-economic and public health issues are covered by the Toolkit:

- Housing Quality and Design
- Access to healthcare services and other social infrastructure
- Crime reduction and community safety
- Access to healthy food
- Access to work and training

Other categories, such as Access to open space and nature, Accessibility and active travel, Air quality, noise and neighbourhood amenity, Social cohesion and inclusive design; Minimising the use of resources; and Climate change are also included but are covered elsewhere in this Sustainability Statement.

Housing Quality and Design: The proposals are for E Use Class floorspace with a residential planning application to be made at Tottenham Mews to provide 23 affordable housing units. The design of the building will comply with the relevant requirements of the Building Regulations and will endeavour to achieve BREEAM accreditation. The DDA accessible WCs and lift will comply with all requirements of the Part M of the Building Regulations. The design of the proposals has been considered throughout various stages of the scheme, however, as the scheme is currently being submitted in outline, the final designs will be agreed at the reserved matters stages. It is assumed that the building will be designed in accordance with the relevant regulations.

Access to healthcare services and other social infrastructure: Due to its commercial nature, the Proposed Development is not anticipated to impact upon access to and capacity of healthcare and social infrastructure facilities. It is however acknowledged that some demand for access to healthcare could arise from workers, although this is anticipated to be minimal.

Crime reduction and community safety: The Proposed Development has undertaken a Security Needs Assessment as part of the application outlining recommendations made by the Security Specialist Kabsec which includes the provision of CCTV and designing to Secure by Design standards. Stakeholder engagement has been undertaken to inform local community members of the design proposals and to encourage participation and provide feedback to the design proposals (see section 11.2 for more details)

Access to healthy food: The development includes the provision of retail floorspace at ground floor along Tottenham Court with commercial floorspace above. Although, not finalised at this stage, the retail units are likely to accommodate shops and cafes, but no hot takeaways are proposed.

Access to work and training: The Proposed Development will generate employment opportunities during both the construction and end use phases which is anticipated to have a positive impact on health in terms of access to employment. Temporary construction opportunities will be provided during the short-term period of the demolition and refurbishment of the existing Site. During the operational phase, employment opportunities will derive directly from the employment and retail floorspace provided as part of the development.

The HIA concludes that the development is located in a location which is close to local amenities, public transport and community facilities whilst also encouraging walking and cycling by providing cycle spaces, areas of public realm and areas for community interaction which would directly benefit the health and wellbeing of the users and local residents. This aligns with the London Plan Policy GG3 for creating a healthy city.

11.5 Healthy Streets

The healthy streets approach to assessing local environment has been adopted by TfL and the Mayor of London as the principal means of evaluating the local area with the aim of reducing car use and helping Londoners to walk, cycle and use public transport more. The approach is based on 10 indicators of what forms a Healthy Street with a particular focus on the experience of people using streets, as summarised below in Figure 11-2.

[45] National Health Service (NHS), London Healthy Urban Development Unit (HUDU), 2017. HUDU Planning for Health, Rapid Impact Assessment Tool.

Figure 11-2 -TfL's Healthy Streets Approach

The Proposed Development promotes a Healthy Streets Approach in line with the principles above via promoting walking and public transport use, initiatives to promote wellbeing and site access alongside ensuring neutral air quality impacts and best practice construction management. For more details please refer to sections 9.0 and 10.0 within this OPA Sustainability Statement and the Outline Transport Assessment prepared by Caneparo Associates.

11.6 Daylight

Through design development and the project brief aspiration for a balanced approach to delivering thermal performance, occupant comfort and an inspiring design the team have looked to optimise internal natural daylight as much as possible. As well as considering the internal daylight levels and minimising artificial lighting Point 2 surveyors were appointed during the per-planning stages to advice on the potential and sunlight effects of the Proposed Development on the neighbouring residential properties within close proximity of the site. An analysis based against the recommendations and guidance set out in the BRE Guidelines (2011) was undertaken looking at the Vertical Sky Component (VSC), No-Sky Line (NSL) and the Annual Probably Sunlight Hour (APSH). The analysis findings conclude that the Proposed Development will be almost completely compliant with the BRE targets, with the exception of a small number of windows within the Carpenter's Arms Public House a 68-70 Whitfield Street. With the majority of this building in use as a public house it is not required to have a detailed daylight and sunlight assessment included however has been included in the assessment due to the uncertainty surrounding the second floor accommodation. It is the overall view from the daylighting specialists is that the level of daylight and sunlight effects arising from the Proposed Development is commensurate with the Central London redevelopment and should therefore be considered acceptable. This aligns with LBC Local Plan A1 policy on ensuring appropriate consideration is given to managing the impact of development.

11.7 Policy Alignment

The Proposed Development meets the following statutory requirements

Policy Document	Policies
London Plan	Policy 7.1 Lifetime Neighbourhoods
Draft New London Plan	GG1 Building strong and inclusive communities
	Policy D5 Inclusive design
	Policy D11 Safety, security and resilience to emergency
	Policy S1 Developing London's social infrastructure
	Policy T2 Healthy Streets
London Borough of Camden	Policy A1 Managing the Impact of Development
	Policy C1 Health and wellbeing
	Policy T1 Prioritising walking, cycling and public transport
	CPG: Air quality
	CPG: Design
	CPG: Planning for health and wellbeing

12.0 Conclusion

This outline application demonstrates the design team's proactive approach to ensure the scheme aligns with the global, national and local sustainability objectives and planning policy requirements.

The proposals accord with the current London Plan and demonstrate alignment against the draft New London Plan policy which is due for adoption in the near future. Camden Core Policy has been cross referenced by the design team to ensure alignment with current policy whilst the supplementary planning guidance has been reviewed and with policies addressed where relevant.

The Applicant's environmental and social sustainability aspirations has ensured the development has embedded best practice design and construction principles within the proposals from the outset which can be summarised as follows:

- Carbon efficient development that considers whole life cycle carbon emissions with the aspiration to minimise energy demands and exceed minimum policy requirements
- Application of the energy hierarchy, best practice industry standards for fabric performance alongside the incorporation of zero carbon technologies
- Designed for climate resilience and UHI mitigation, embedding mitigation measures to ensure a future proofed development.
- Significantly enhances the proposals green infrastructure through intensive and extensive green roof design and soft landscaping.
- Application of principles of circularity to optimise material efficiency, future flexibility and adaptation and minimising waste on site.
- Use of low toxicity, healthy, and sustainably sourced material to ensure user wellbeing and contribute to improving internal air quality.
- Use of low flow sanitaryware fittings and a design strategy to minimise external water use.
- Healthy and comfortable internal environments for occupant wellbeing and satisfaction, placing the user front and center to enhance experiences of the development.
- Inclusive design that is accessible to all and a design that promotes and contributes to a healthy city.

The Network Building will be a dynamic and vibrant new destination and create a new landmark building on Tottenham Court Road. The environmental considerations are a key focus of the development considered from the outset of the design with an holistic approach to the development to ensure and result in an excellent energy and low carbon performance and a future-proofed asset for decades to come.

APPENDIX A: Pre-Demolition Audit

CarbonPlan Engineering

... delivering quality engineering services

LONDON I LEEDS I PLYMOUTH

BREEAM Pre-Demolition Audit

BREEAM 2018 NC V3

The Network Building, 97 Tottenham Court Road

For

CGL
Providing Ground Solutions

And

DERWENT LONDON

August 2020

www.carbonplanengineering.co.uk I engineering@carbonplan.co.uk I 0113 8155 558 I Woodhead House, Woodhead Rd, Leeds, WF17 9TD

Revisions schedule		
Issue Date: 3rd August 2020		
Report prepared by: Alan Calcott, Director, Carbon Plan Engineering Limited		**Date:** 3rd August 2020
Checked by: Dan Castle, Director, Carbon Plan Engineering Limited		**Date:** 3rd August 2020
Status	**FINAL DRAFT**	
Revision	**Date**	**Changes**

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Contents

Executive Summary

This pre-demolition audit has been undertaken to assess and confirm whether refurbishment or reuse of materials in the existing building on the site at 97 Tottenham Court Road (The Site) is feasible and, in the case of demolition, to set out a route to maximise the recovery of material for high grade or value applications.

Carbon Plan Engineering has been engaged to undertake a survey of the existing building to identify opportunities for reclamation, reuse and recycling from a demolition process.

Pre-Demolition audits are recommended by The Institute of Civil Engineers and are required for major projects in London. They are designed to highlight the potential for maximum material recovery through demolition and provide an estimate of volumes and / or tonnages of each type of waste that will arise. In many cases exact weights or quantities cannot be given (for example for Carpet or Ductwork) and so in these cases a description and approximation of the likelihood of re-using or recycling is given.

This document sets out the process and results of the Pre-Demolition Audit and Demolition process taking account of any likely remediation works and stating the volumes of material recovered for recycling such as concrete, bricks, metals, wood/timber, etc.

Key Conclusions

- The majority of the structure is an RC concrete frame and slabs with either brick cladding or pre-cast concrete panels.
    - 100% of this should be recycled and reprocessed as construction products
- The is a significant amount of M&E Plant on the rooftop and distributed around the building. The majority of this plant is at end of life and has been retained through several refurbishments.
    - These services have not been quantified in terms of weights but figures have been provided where possible in section 3.6
    - 100% of the metals within the M&E systems should be recycled and reprocessed as construction products
    - Consideration should be taken regarding disconnections to ensure that all services are isolated – We recommend a detailed M& survey and initial discussions with the utility providers
    - Please ensure that all systems are drained of refrigerants and purged to best practice standards
- Efforts should be made at this early stage to find reclamation routes for the materials identified in section 3.5 (doors, flooring, kitchenettes, etc)
- Tenants should ensure that they oversee and record the waste actions they take as part of any strip-out works that they are obliged to undertake. It may be useful to refer them to Appendix A of this document.

- Key targets for diversion from landfill have been proposed based upon experience of similar projects and the requirements of the new London Plan as set out below:

Table Ex.1: Target Waste Diverted and Landfill

Types of Waste	Tonnage
Non-Demolition	**90%**
Demolition	**95%**
Excavation	**95%**

- More broadly we suggest the following targets for excavation and construction waste based upon experience of similar projects. The Client team should review and confirm these targets as set out below:

Table Ex.2: Resource Efficiency Targets

No of Credits	Waste Generated per 100m^2 (GIA)	
	m^3	tonnes
2	**≤7.5**	**≤6.5**

1. Introduction

This report has been compiled to assess and confirm the BREEAM performance as related to the site. The report sets out the outcomes of the audit providing details of the site and general volumes of waste. It also makes recommendations on specific elements within the building that are key components for re-purposing.

1.1. Site Details

The existing structure comprises two, back to back buildings of 6-7 storeys with basement parking and ancillary areas and an overall area of approximately 7,300m^2. These two buildings are situated around a central courtyard. There is a central core that allows access to both parts of the building with an entrance on both Tottenham Court Road and Whitford Street.

The primary existing use is for offices, with retail areas on the Ground floor of Tottenham Court Road. It is assumed that any new building will also be utilised for office space.

1.2. General Construction

The buildings appear to be constructed in the post war period and are considered to be of the following construction.

Structural Frame – In Situ, steel reinforced concrete columns and beams (assumed 2% steel)

Facades – Primarily there are two façade

- Concrete pre-cast panels
- Brickwork



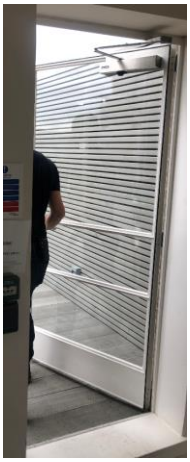




Floor Slabs – In Situ, steel reinforced concrete slabs @ 350mm thick (varies) (assumed 1.5% steel)

Stairs – In Situ, steel reinforced concrete (assumed 1.5% steel)

Windows – Generally single glazed, metal (Steel) framed crittall style windows


Ceiling – no ceilings in any areas – exposed soffits only with the exception on the retail areas.

Basement retaining wall and slab – In Situ, steel reinforced concrete slab and retaining walls (assumed 2.5% steel) and 600mm thick

Piles – Assumed to be 1 per column plus perimeter (with approximately 65 locations) ‘ 600mm diameter and 30m deep (assumed 2.5% steel).

2. BREEAM Requirements

The primary aim of the BREEAM Waste category is to encourage the sustainable management and where possible reuse of construction, operational waste and waste through future maintenance and repairs associated with the building structure. This is done by encouraging good design and construction practices by ensuring the reduction of waste arising from the construction and operation of the building. Carbon Plan Engineering has been appointed to review and assess the potential demolition works undertaken at the site, in line with the principles of Waste 01 and against the targets as set out in the BREEAM 2018 NC manual which are duplicated below with the recommended targets noted.

2.1 Waste 01: Construction Waste Management

As per the BREEAM 2018 New construction guidance, the Contractor is required to provide evidence in support of the proposed development achieving a minimum of **4 credits** against the Wst 01 credit criteria as detailed below.

2.1.1 Credit 1: Pre-demolition audit – 1 Credit

Requirement 1. A pre-demolition audit of any existing buildings, structures or hard surfaces being considered for demolition. This must be used to determine whether refurbishment or reuse is feasible and, in the case of demolition, to maximise the recovery of material for subsequent high grade or value applications. The audit must cover the following as a minimum:

- ❑ Identify and quantify the key materials where present and code them into appropriate construction waste groups
- ❑ Identify potential applications and any related issues for the reuse and recycling of the key materials in accordance with the waste hierarchy
- ❑ Identify opportunities for reuse and recycling within the same development – *None available as full demolition is required and site constraints preclude on site crushing of aggregate*
- ❑ Identify local re-processors or recyclers for recycling of materials
- ❑ Quantify overall recycling targets where as appropriate
- ❑ Quantify overall reuse targets as appropriate
- ❑ Quantify overall landfill diversion rate for all key materials

Addition the demolition audit must:

a) Be carried out at Concept Design stage by a competent person prior to strip-out or demolition works – *This demolition audit has been carried out by Alan Calcott who is a BREEAM AP and has worked in the construction industry for over 20 years*.

b) Guide the design, consider materials for reuse and set targets for waste management – *This document achieves this in Sections 3 and 4*.

c) Engage all contractors in the process of maximising high grade reuse and recycling opportunities – *The client will need to engage with demolition and construction contractors with regards to the outcomes of this document and any subsequent work*.

Requirement 2. Make reference to the audit in the Resource Management Plan (RMP) or Site Waste Management Plan (SWMP)

Requirement 3. Compare actual waste arisings and waste management routes used with those forecast and investigate significant deviations from planned targets.

2.1.2 Credit 2: Construction resource efficiency – Up to 3 Credits

Requirement 4. Prepare a compliant Resource Management Plan (RMP) covering:

a) Non-hazardous waste materials (from on-site construction and dedicated off-site manufacture or fabrication, including demolition and excavation waste)
b) Accurate data records on waste arisings and waste management routes.

Requirement 5. Meet or improve upon the benchmark in Table 2.1 below for non-hazardous construction waste, excluding demolition and excavation waste - highlighted in Red:

Table 2.1: Resource Efficiency Targets

No of Credits	Waste Generated per 100m^2 (GIA)	
	m^3	tonnes
1	**≤13.3**	**≤11.1**
2	≤7.5	≤6.5
3	**≤3.4**	**≤3.2**
Exemplary Level	**≤1.6**	**≤1.9**

2.1.3 Credit 3: Diversion of Resources from Landfill – 1 Credit

Requirement 6. Meet, where applicable, the diversion from landfill benchmarks in Table 2.2 for non-hazardous construction waste and demolition and excavation waste generated.

Requirement 7. Sort waste materials into separate key waste groups as per Table 5.1 (Section 5), either on-site or through a licensed contractor for recovery.

Diversion from landfill includes:

- ❑ Reusing the material on site (in-situ or for new applications)
- ❑ Reusing the material on other sites
- ❑ Salvaging or reclaiming the material for reuse
- ❑ Returning material to the supplier via a 'take-back' scheme

- Recovery of the material from the site by an approved waste management Contractor and recycled or sent for energy recovery.

Table 2.2: Target Waste Diverted and Landfill

No. of Credits	Types of Waste	Volume	Tonnage
1	**Non-Demolition**	**70%**	**80%**
	Demolition	**80%**	**90%**
Innovation Credit 2	Non-Demolition	85%	90%
	Demolition	85%	95%
	Excavation	95%	95%

Based upon the survey we see no reason that a minimum of 90% of the demolition waste can be diverted from landfill. In reality 95% could be achieved with some care.

Note that the New London Plan requires that a higher level of diversion from landfill is achieved. Please refer to Section 6.

3. Pre-Demolition Audit

Pre-Demolition audits identify opportunities for reclamation, reuse and recycling from a demolition process.

Pre-Demolition audits are recommended by The Institute of Civil Engineers and can be requested for planning requirements. They are designed to highlight the potential for maximum material recovery through demolition and provide an estimate of types, volumes and tonnages that will arise.

The aim of a Pre-Demolition Audit, Sequential Demolition is to facilitate and maximize resource recovery of demolition materials for beneficial reuse/recycling, without compromising all safety measures and practices outlined in the standard **BS** 6187 **Code of Practice for Demolition**.

3.1. Scope of works

Carbon Plan Engineering were engaged to undertake a complete Pre-Demolition Audit prior to demolition works commencing to enable materials capable of being recovered for recycling to be identified (such as concrete, bricks, metals, wood/timber, etc). The benefit of this includes identifying potential resources available and the level of material segregation required to achieve this potential which normally depends on the type of buildings to be demolished.

The audit set out in this document covers:

- Types of waste generated on-site
- Quantity of waste
- Recovery/Recycling Target

The audit was based on non-intrusive site surveys and desktop reviews of plans and other surveys provided. The audit report does not offer technical advice on the demolition process but focuses on the environmentally preferable options for the reuse and recycling of parts of the structure and internal fixtures and fittings as appropriate.

Within the audit we include many items that will be stripped out by the tenants of various parts of the building, however wherever possible they should provide records of how they have managed these works and of what waste was produced and what was diverted from landfill.

For many of these items it is not possible to accurately quantify the amount (volume / weight) that will be produced however sections 3.5 and 3.6 provide detail on what is existing within the building and set targets for re-use and recycling.

3.2. Demolition Process

The demolition process is separated into phases in which one type of material is carefully dismantled at a time and salvaged for reuse and recycling. The wastes generated in each dismantling stage are of similar types and nature such that contamination of nonrecyclable items can be significantly reduced.

The principal phases of Demolition involved the following:

- Stripping of deleterious materials (such as asbestos, lead etc) which may contaminate the clean concrete debris of building bearing structure.
- Stripping out of lose and fixed furnishings and finishes such as kitchenettes, flooring, ceilings, etc.
- Stripping out of all services – after safe disconnections have been made – ensuring that any refrigerants, gases, etc are drained from the systems present.
- Demolition of part of the building structures with higher concrete content (such as concrete parapet walls, etc).
- Step-by-step demolition of the bearing and main structure by dismantling part of the structures that are of similar materials to avoid contamination of clean concrete debris and allow separation of concrete debris with other demolition arising.

All demolition materials arising from or in connection with the demolition work must be separated into different groups, such as concrete, bricks, metals, wood/timber, etc. To facilitate sorting, allocation of on-site temporary storage points for various materials generated from the demolition process were provided before sending them off-site. These sorted materials were then delivered to an approved disposal facility or accredited recycling facilities for further processing into recycled products and aggregates for beneficial reuse/recycling.

3.3. Description of works

As part of the demolition works the following general steps should be undertaken before demolition and strip-out works start to build upon the contents of this report:

- The types of material used in the construction of the building through desk study of the building plans and site visits should be confirmed by intrusive surveys.
- The construction method, structural framing system, and critical building elements that need special treatment during demolition are assessed.
- A set of the phased building plans of the structures to be demolished should be produced as part of a demolition management plan / method statement. The key aim of this from an environmental perspective is to establish the most effective demolition sequence to reclaim and recycle the key material components identified in the audit. It should state clearly the

sequence of strip-out and demolition of structural elements on each floor, i.e. finishes, furnishings, services, parapets, brick wall, slabs, beams, columns, walls, etc.

The Demolition Management Plan / Method Statement is to be developed including as a minimum:

- Identifying existing fixtures and fittings that may affect the demolition progress and need to be removed prior to commencement of demolition works (such as false ceiling, air conditioning units, doors, wooden floors, partitions, ceilings, windows, and other mechanical services).
- Identifying part of the building structures with higher concrete content (such as concrete parapet walls, slabs, columns, etc).
- Identifying potential removal of materials which may contaminate the clean concrete debris (such as bricks, tiles, etc) and the level of material segregation/sorting required.

3.4. Demolition phases

The following sets out at a high level the phases that the contractor should undertake in the demolition process.

Phase 1 – Strip out

- Removal of existing fixtures, fittings & services (such as false ceiling, air conditioning units, ductwork doors, wooden floors, partitions, ceilings, windows, and other mechanical services).
- Stripping of deleterious materials which may contaminate the clean concrete debris of building bearing structure (such as asbestos, lead etc).

Phase 2 – Demolition

- Demolition of the bearing and main structure to be progressed in conformance with the method statement.
- Demolition of part of the building structures with higher concrete content (such as concrete parapet walls, etc).
- Step-by-step demolition of the bearing and main structure by dismantling part of the structures that are of similar materials to avoid contamination of clean concrete debris and allow separation of concrete debris with other demolition arising.

Phase 3 – Segregation and separation

- Separation of demolition debris into different groups (such as concrete, bricks, metals, wood/timber, plastic, etc).
- Proper labelling and storage of sorted waste generated in the demolition process.

3.5. Reclaimable Materials

The Site has been assessed with a review of all the materials within the building, identifying those that were:

- Reclaimable – where materials can be re-used in their current form
- Recyclable – where materials can be processed by a recycling facility into a secondary product / use

The followings sets out the key materials identified that are felt to be reclaimable.

3.5.1 Timber products

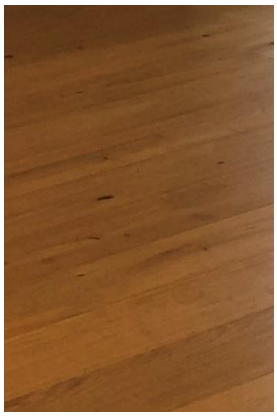
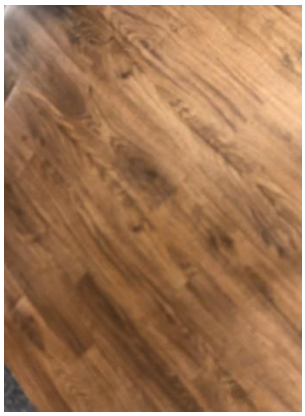
Doors

There are a large number of timber doors that could be reclaimed and re-purposed, however there does not appear to be a current mature market for these. We have assumed 10% can be reclaimed and re-used as doors.




Flooring

In many of the offices there are areas of hardwood timber flooring which may be able to be reclaimed and re-used as flooring. This will largely be dependant upon whether the flooring is solid or engineered and on how it is fixed down. We have assumed 50% can be reclaimed as flooring.

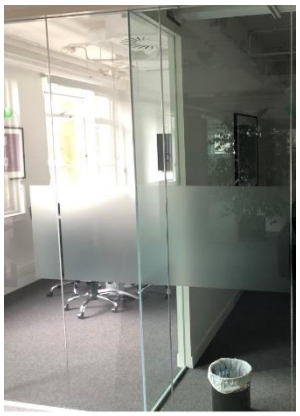
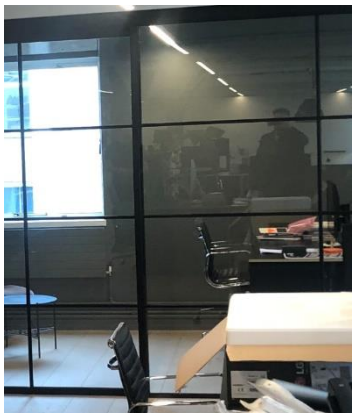
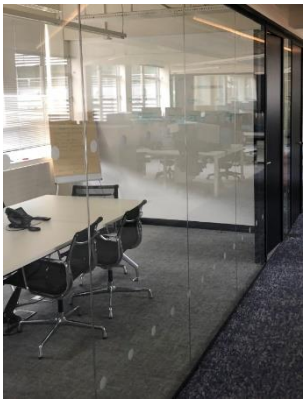
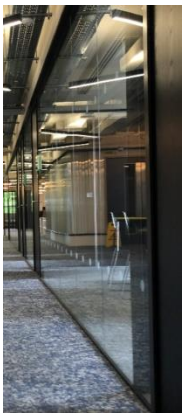

Decking (Composite)

The roof terraces all have good quality composite decking which could be reclaimed easily.


3.5.2 Glass products

Internal Glazed partitions & doors

There are several demises within the building where high quality glazed partitions have been installed. There is the potential for these to be reclaimed and re-used, however the difficulty of handling glass in this way may preclude this and so we have only assumed 10% will be reclaimed as glass partitioning systems.

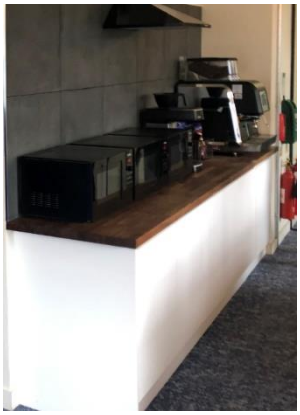
3.5.3 Kitchens and Kitchenettes

It is noted that the removal of these items is likely to be the tenants responsibility

Kitchenettes

In almost every demise there is some form of kitchenette of good quality. There is a strong secondary market for these and attempts should be made to find companies that will recycle these as cabinets rather than these being processed for secondary applications.

Most of the white goods appeared to be in good order and again these should eb diverted from secondary re-processing where possible.



Commercial Kitchens

In the GF units there are 2 commercial kitchens. If the tenants are not re-using elsewhere then they should eb required to ensure that the equipment is recycled wherever this is feasible.


3.5.4 Key Items for reclaiming

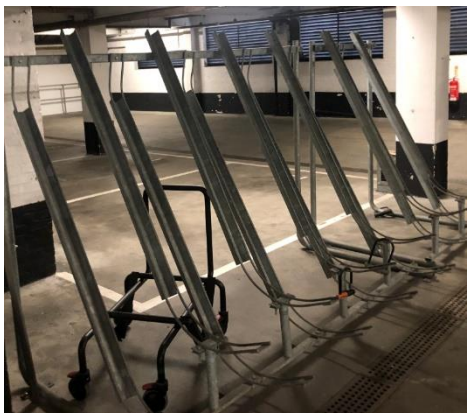
Safe Doors

In the basement of IKEA there are two now large steel safe doors. These will be curiosity items and attempts should be made to see if these have any intrinsic value as antiques.

Cycle Racks

In the basement level there are cycle racks for over 100 spaces. These are perfectly functional and there should be a secondary market for these.





3.6. Recyclable Materials – Structural & Façade

The followings sets out the key elements that are felt to be recyclable based upon the observations set out in section 1.2. The quantities for these some of these items have all been estimated and the outcomes of this are set out in Section 5.

3.7. Recyclable Materials – Non structural

The followings sets out the key materials identified that are felt to be recyclable, but are not part of the structure or facade. The quantities for these some of these items are difficult to ascertain and report and so the tables in Section 5 refer back to this section.

9.5.1 Services equipment

Heating and Ventilation

The building is primarily services by Fan Coil Units situated locally on each floor and serviced by centralised plant on the roof. There is also a centralised air handling unit.

External Plant – Roof




100% of these items should be recycled and re-processed into secondary products.

Internal FCUs and ductwork

There are approximately 250 FCUs within the building along with associated ductwork for fresh air.


100% of these items should be recycled and re-processed into secondary products.

Local Cooling

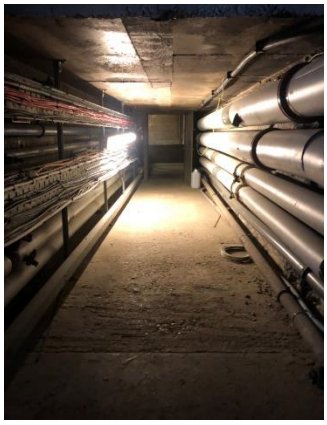
Several of the units have individual split AC systems to serve individual office etc, with both an outdoor and indoor unit.

100% of these items should be recycled and re-processed into secondary products.

GF Plant room

There is a plant room area that is set off the central courtyard which serves the main building and this contains Andrews Hot Water boilers to service the communal areas as well as gas boiler which are assumed to be for space heating.

There will be a significant amount of copper and steel distribution pipework all of which will be insulated.

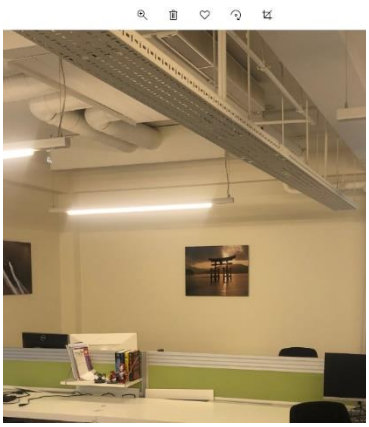


All the steel and copper, along with boilers, pumps, cylinders and associated equipment should be recycled. The insulation may be recycled depending on its type.

Electrical systems

All cable trays are exposed and visible from the incoming mains and switch gear to the distribution within the floor plates. Much of the cable tray is painted, but by no means all.



Also in each of the GF commercial units there are separate electrical supplies which will need to be carefully addressed in terms of disconnections.

4. Pre-Demolition waste checklist

Action Point	✓ If Yes
Has a careful evaluation of materials been made so that over-ordering and site wastage is reduced?	
Has full consideration been given to the use of secondary and recycled materials?	
Is unwanted packaging to be returned to the supplier for recycling or re-use?	
Can unused materials be returned to supplier or used on another site?	
Project Planning	
Has a project programme been developed to include likely waste arising? (Refer to Section 5)	
Has an area been designated for waste management, including segregation of waste?	
Can targets be set for different types of waste likely to arise from the project?	
Has disposal of liquid wastes such as wash-down water, dewatering or toilet waste been considered?	
Have measures been put in place to deal with expected (and unexpected) hazardous waste?	
Have opportunities been considered for re-use of materials on site i.e. crushing concrete?	
Have you considered what are the most appropriate sites for disposal of residual waste from the project?	
Record quantities of waste?	
During site operations, are barriers to good waste management practice considered and noted for incorporation into the post-completion review?	
Are there opportunities for reducing disposal costs from waste materials, which may have commercial value?	
Has responsibility for Waste Management and Compliance been assigned to a named individual?	
Are containers/skips clearly labelled to avoid confusion?	
Are the Duty of Care procedures complied with, including the provision of transfer notes and authorisation checks of registered carriers, registered exempt sites and licensed waste management facilities?	
Are any checks made that excavation waste is received at the intended site?	
Is implementation of agreed waste management procedures monitored?	
Are reports regularly produced regarding waste quantities and treatment/disposal routes, and on costs incurred?	

5. Waste Management Options

The following table sets out the quantities of main waste groups that are estimated to be produced during demolition and records the waste actions that were taken to divert these waste streams from Landfill should be provided by the demolition contractor for inclusion in the RMP / SWMP.

List of waste identified on site and estimated to be generated during the project									
Waste Type	**EWC Code**	**Produced**	**Re-use on site?**	**Reclaim for re-use**	**Recycle / reprocess**	**Safe Disposal**	**Estimated Quantity**	**Units**	**Comments**
Concrete	17.01.01	✓			✓		12,906	Tonnes	
Brick/rubble	17.01.02	✓			✓		2,822	Tonnes	Brickwork facades
Tiles and ceramics	17.01.03	✓			✓		Unknown		Primarily in WCs and communal parts
Tiles, ceramics, etc. containing dangerous substances	17.01.06	NA							
Mixtures of concrete, bricks, tiles and ceramics	17.01.07	✓			✓		Unknown		Should be avoided
Wood - Panelling	17.02.01	✓			✓		Unknown		Various small areas
Wood - Doors	17.02.01	✓		✓	✓		352	No of	No of doors suitable for re-use
Wood - Flooring	17.02.01	✓		✓	✓		670	m^2	
Glass - Internal Partitions	17.02.02	✓		✓	✓		492	m^2	Includes metal frames
Glass - External Windows	17.02.03	✓			✓		1,666	m^2	
Plastic	17.02.03				✓	✓	Unknown		Various sundry plastic
Bituminous mixtures	17.03.02				✓		1,400	m^2	Approximate roof areas
Copper	17.04.01				✓		Unknown		Refer to report Section 3
Aluminium	17.04.02								
Metal (Rebar)	17.04.07	✓			✓		850	Tonnes	
Metal (mixed)	17.04.07	✓			✓		Unknown		Refer to report Section 3
Cable	17.04.11	✓			✓		Unknown		Refer to report Section 3
Excavated soil (contaminated)	17.05.03*	NA							
Excavated soil (non-contaminated)	17.05.04	✓			✓		Unknown		Dependant upon construction

List of waste identified on site and estimated to be generated during the project									
Waste Type	**EWC Code**	**Produced**	**Re-use on site?**	**Reclaim for**	**Recycle / reprocess**	**Safe Disposal**	**Estimated Quantity**	**Units**	**Comments**
Asbestos (bonded)	17.06.05*								
Asbestos (fibrous/insulation)	17.06.01*								
Insulation (Mineral wool)	17.06.04	✓			✓		268	m^3	
Insulation (Other)	17.06.04								
Gypsum based wastes (Plasterboard)	17.08.02	✓			✓		154	m^3	
Demolition wastes containing dangerous substances	17.09.03*	NA							
Mixed demolition and construction wastes	17.09.04	✓			✓	✓	Unknown		Refer to report Section 2 on methods for waste segregation
Paper	20.01.01								
Carpets, curtains and other geotextiles	20.01.11	✓			✓		6,469	m^2	
Fluorescent tubes	20.01.21*				✓	✓	~250	No of	
Mattresses, furniture and other bulky household items	20.03.07								
Refrigerators and air/con equipment	16.02.11*	✓			✓		Unknown		Refer to report Section 3
Discarded electrical equipment (no dangerous substances)	16.02.14	✓			✓		Unknown		Refer to report Section 3
Other (specify) LED Lighting					✓		~470	No of	
Other (specify) Safe Doors				✓	✓		Unknown		Refer to report Section 3
Other (Specify) Kitchenettes and Kitchens				✓	✓		Unknown		Refer to report Section 3

6. Circular Economy Statement

6.1. Planning Policy

The following are relevant extracts from the DRAFT New London Plan and DRAFT Camden Local Plan which relate to the diversion of waste from landfill and resource efficiency generally.

The London Plan

Policy SI 7 Reducing waste and supporting the circular economy of the New London Plan requires that … reductions in waste going for disposal will be achieved by the Mayor, waste planning authorities and industry working in collaboration to […] meet or exceed the targets for each of the following waste and material streams:

- construction and demolition – 95 per cent reuse/recycling/recovery
- excavation – 95 per cent beneficial use

These targets are not explicitly aimed at development applications, however it is implicit that the waste diversion targets need to be achieved if the Mayor is to achieve the targets. The second part of the policy goes on to state that …*referable applications should promote **circular economy outcomes** and aim to be net zero-waste. A Circular Economy Statement should be submitted, to demonstrate:*

1) *how all materials arising from demolition and remediation works will be re-used and/or recycled*
2) *how the proposal's design and construction will reduce material demands and enable building materials, components and products to be disassembled and re-used at the end of their useful life*
3) *opportunities for managing as much waste as possible on site*
4) *adequate and easily accessible storage space and collection systems to support recycling and re-use*
5) *how much waste the proposal is expected to generate, and how and where the waste will be managed in accordance with the waste hierarchy*
6) *how performance will be monitored and reported.*

At this stage only item 1 and 6 can be addressed at this stage and this report sets out to do so below.

Camden Local Plan

The Camden Local Plan **Policy CC1 Climate change mitigation** states that … *all proposals that involve substantial demolition to demonstrate that it is not possible to retain and improve the existing building*.

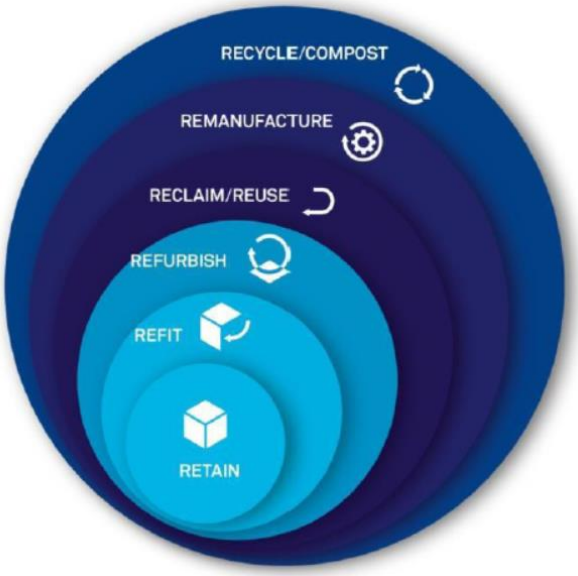
Additionally, in the **Resource efficiency and demolition section para 8.17** sets out the following which is duplicated in … *All proposals for substantial demolition and reconstruction should be fully justified in terms of the optimisation of resources and energy use, in comparison with the existing building. Where the demolition of a building cannot be avoided, **we will expect developments to***

divert 85% of waste from landfill *and comply with the Institute for Civil Engineer's Demolition Protocol and either reuse materials on-site or salvage appropriate materials to enable their reuse off-site*.

6.2. Waste Management – Circular Economy

The concept if a circular economy in the construction industry is to move away from the linear model of **extract – construct - dispose** to one that is restorative and regenerative by design, and which aims to keep products, components and materials in use after the end of the proposed buildings use.

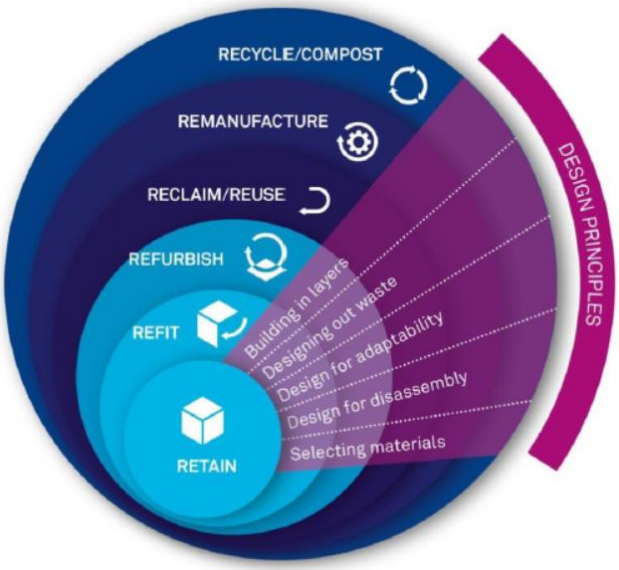
The following sets out how this concept has been addressed within this report and how the future design team can address this as the designs for the proposed new building develop.



6.3. Waste Management – Demolition Phase

The Client has commissioned Carbon Plan Engineering to undertake a full Demolition Audit to understand what opportunities there are for re-using materials from the existing building either on site or in other applications.

Where this is not feasible a target of 95% of all non hazardous demolition waste will be diverted from landfill and put to a beneficial use. In addition to this target we have proposed key targets in line with the BREEAM 2018 Exemplary level benchmarks for other waste streams. These targets will need to be reviewed and confirmed by the client team as the design develops.

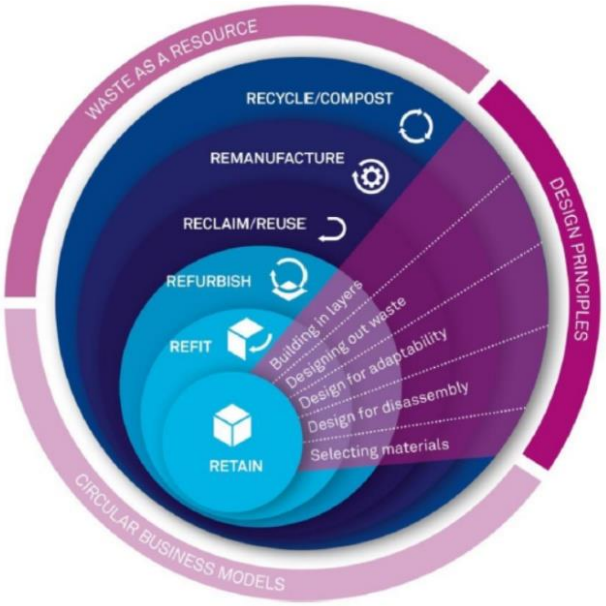


Types of Waste	Tonnage
Non-Demolition	**90%**
Demolition	**95%**
Excavation	**95%**

6.4. Waste Management – Design Phase

A designing for Disassembly and Adaptability assessment should be undertaken in line with the BREEAM 2018 NC Wst06 requirements.

This will ensure that a large proportion of the materials used within the buildings construction will be re-used in their current form once the building has been decommissioned.



7. Local waste re-processors and recyclers

London is well served by waste recyclers and processors for the construction industry.

Some key resources for re-using the elements identified in this report are set out below:

https://www.lwarb.gov.uk/

https://circularlondon.org/

http://lcrn.org.uk/

https://woodrecyclers.org/

http://www.esauk.org/

https://www.ciria.org/ - All WRAP work on construction is now here

Appendix 1 – Resource Management Plan Guidance

This section provides a resource to show what key elements should be included in the RMP. The demolition contractor should be obligated to provide this level of detail as part of their final submission to the Client.

Examples (in red) have been provided within each table as guidance only.

A1.1 RMP Checklist; Design Phase

Items below are examples (highlighted in red) that you may wish to use on your site. Confirm or delete, and/or insert new, site-specific measures to be employed

Points to consider		Actions Taken
1	Where relevant, has permission to discharge to controlled waters been obtained from EA / SEPA?	*NA*
2	Has agreement been sought from the sewage company for trade effluent discharge?	*NA*
3	Waste Prevention and Reduction Measures:	♦ *Subcontractors to be involved as early as possible (specific measures identified in relevant sections)* ♦ *Use of hand driers instead of paper towels to reduce paper waste* ♦ *Plan work to ensure it can be completed correctly the first time so there is no re-work required* ♦ *Accurate measurement, and minimal wastage will be allowed when ordering materials* ♦ *Materials delivery measures* *Just in time for the work package* *Materials handling and storage to avoid damage* ♦ *Materials stored where they are not vulnerable to damage by site traffic* ♦ *Materials are to be kept off the ground by the use of pallets or timber bites* ♦ *Check materials delivered are compliant with the specifications* ♦ *Materials unloaded with maximum care so as to avoid damage and handled as few times as possible* ♦ *Materials unloaded where they are required wherever practical* ♦ *All operatives are to receive training on the agreed reduction measures*

4	Waste Reuse Measures	♦ *Inert excavated materials reused as fill for landscaping / noise barriers on site* ♦ *Inert excavated materials created from other sites reused at the main site (Environmental Permit / Waste Management Licence or Exemption required)* ♦ *Excess materials utilised locally or on other sites (Environmental Permit / Waste Management Licence or Exemption required)* ♦ *Ground improvement techniques used on excavated materials e.g. soil stabilisation - improvement of soil engineering properties with the addition of cement / lime* ♦ *Materials crushed on site for reuse* ♦ *Recycled materials used on site e.g. aggregates*
Completed by:		
Position:		Site manager

A1.2 RMP Checklist; Procurement Phase

	Points to consider	Action Taken
1	Have the correct quantity of materials been ordered?	*All materials will be scheduled accurately from the design and specifications available at*
2	Have delivery times been scheduled to avoid unnecessary site disturbance and storage?	*All materials will be schedule for delivery in a "just in time basis".*
3	Have suitable locations for the storage of materials been identified?	*Compound layout including storage areas are located on the site information board*
4	Are materials being obtained from reputable sources?	*CLIENT only procure materials from industry recognised suppliers*
5	Can unnecessary packaging be avoided?	*All sub-contractors remove their own waste*
6	Can unwanted packaging be returned to the supplier for recycling or reuse?	*Included within subcontract and material orders where possible.*
7	Can unused materials be returned to the supplier or used on another job?	*Any unused or reclaimed materials will be relocated to the nearest CLIENT development or returned to the manufacturer where possible*
8	Can off-cuts be returned to the supplier or used on another job?	*See above*
9	Can bulk packaging be used e.g., silos compared to tubs?	*Silo proposed*
10	Can we buy recycled materials?	*Recycled material will be used wherever possible.*
11	If we are to procure / import recycled aggregates, can they be obtained so as to be conformant to the WRAP Quality Protocol?	*Where we are importing this will occur*
12	If we are placing demolition sub-contract order can we specify that any resultant crushed recycled aggregate is produced in conformance to the WRAP Quality Protocol?	

Completed by:	
Position:	Site manager
Date:	

A1.3 RMP Checklist; Construction Phase

	Points to consider	Action Taken
1	Have estimates been made of potential waste streams and potential disposal amounts e.g. excavated material?	*102 - 8 yard general waste skips* *20 - 12 yard plasterboard skips*
2	Has responsibility for waste management planning and compliance been assigned to the subcontractor, including named individual?	*All subcontractors responsible for their own waste.*
3	Has responsibility been assigned to generate and submit waste performance reports (i.e., waste quantities and treatment disposal routes)?	*All transfer notes recorded and sent to head office.* *Have reports done to look at whole of business.*
4	Has the site been registered as a hazardous waste producer *(England & Wales only)*?	
5	Has an area of the site been designated for waste management, including storage and	*Fenced off and with signage*
6	Have provisions been established to adequately store and segregate waste	*Area will be fenced off*
7	Have measures been put in place to deal with expected (and unexpected) hazardous waste?	
8	Has disposal of liquid waste such as wash-down water and lubricants been considered?	
9	Have the most appropriate sites for disposal of waste from the project been considered?	*Local waste carrier appointed to nearby transfer station.*
10	Have toolbox talks been planned for all site personnel about waste management on-site?	*Carried out weekly, information given on site induction.*
11	Have provisions been established to clearly label containers / skips / drums?	*Skips have been labelled accordingly*
12	Have means been developed to ensure that Duty of Care requirements are complied with? Namely: • Provision of transfer notes • Verifying registered carriers / brokers • Verifying registered exempt sites • Validation on the scope / validity of waste disposal sites	*All copies of transfer notes to be kept on site, copies of register waste carrier licence, copies of all waste disposal sites/transfer stations all to be kept on record.*

13	Have means been developed to periodically check that wastes are received at intended disposal site(s)?	*Site operative to check 3 monthly*
Completed by:		
Position:	Site manager	
Date:		

A1.4 Waste Streams & Associated EWC Codes & Planned Storage Plans

Project Name:	
Date Completed:	
Completed by:	
Position	

Section 1 - Waste Licences & Exemptions		
Waste Activity requiring a licence or exemption	Details of license/exemption	Expiry Date

Section 3 - Duty of Care							
Waste Details		Waste Carrier / Broker			Disposal site This may include more than one facility (e.g., transfer station; treatment or deposition facility, landfill site) for each type of waste. Details of each facility should be provided.		
Waste Stream	**EWC Code**	**Contractor Name**	**License No.**	**License Expiry Date**	**Name of Site**	**License Details: WML/PCC/Exempt NO.**	**Conditions of license checked: Covers the type & quantity of waste involved**

Waste Stream	EWC† Code	Suggested Storage Arrangements
Bricks	17-01-02	*Inert waste skip*
Concrete	17-01-01	*Inert waste skip*
Contaminated rags / cloths / wipes	15-02-02 *	*Drums*
Contaminated spill materials	15-02-02 *	*Drums*
Dredging spoil containing dangerous substances	17-05-05 *	*Designated leak proof skip*
Dredging spoil not containing dangerous substances	17-05-06	*Designated Skip*
Fluorescent Tubes (FT)	20-01-21 *	*FT Coffin*
Mixed Municipal Waste	20-03-01	*Designated Skip*
Mixed Construction and Demolition Waste	17-09-04	*Designated Skip*
Glass	17-02-02	*Glass Skip*
Lead Batteries	6-06-01 *	*Designated container*
Mixed Metals	17-04-07	*Designated Skip*
Mineral based non-chlorinated engine, gear and lubricating oils	13-02-05 *	*Waste oil tank*
Oil Filters	16-01-07 *	*Drainage & drums*
Paper and Cardboard	20-01-01	*Designated Skip*

Plasterboard	17-08-02	*Designated Skip / Bag*
Plastics	17-02-03	*Designated Skip*
Soil & stones containing dangerous substances	17-05-03 *	*Designated leak proof skip*
Soil & stones not containing dangerous substances	17-05-04	*Designated Skip*
Synthetic engine, gear & lubricating oils	13-02-06 *	*Drums / tank / tote*
Track ballast containing dangerous substances	17-05-07 *	*Designated leak proof skip*
Track ballast not containing dangerous substances	17-05-08	*Designated Skip*
Tyres	16-01-03	*Designated Skip*
Wood	17-02-01	*Designated Skip*

† European Waste Catalogue Code (Refer to http://publications.environment-agency.gov.uk/pdf/GEHO1105BJVS-e-e.pdf)

* Denotes a hazardous waste stream

A1.5 Site Waste Data Sheet

Construction Phase

Project Name:	
Date Completed:	
Completed by:	
Position	

Material	EWC Code	Waste Category	Quantity		Cumulative totals since start of the project (m^3)						
			Estimate	Actual	Reused on site	Reused off site	Recycled for use on site	Recycled for use off site	Sent to WML exempt site	Sent to recycling facility	Sent to landfill
EXAMPLE-Bricks	170102	I	300	35	5	5	5	5	5	5	5

Totals	[redacted]										

Waste Category = Inert (I), Non Hazardous (NH) or Hazardous (H)

WML = Waste Management Licence exempt site i.e. Site/operation carrying out an activity which does not require a full waste management licence

End