Planning Report
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Document prepared for

Mrs Liora and Mr Udi Zaidman
6 Lindfield Gardens

Date of issue

15/09/2020

Issue no.

1

Our reference

5207 – 6 Lindfield Gardens – Sustainability Statement–2009–15ap.docx

Document prepared by

Aazraa Oumayyah Pankan

Quality assured by

Joanna Peacock

Disclaimer

Contents:

Executive Summary
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Overview

The proposed project consists of the conversion of the existing 617m^2 six–bedroom family house into nine dwellings of a total GIA of approximately 701.5m^2. The construction will include a rear extension to the existing building and the reconfiguration of the roof layout to create a communal roof terrace. Part of the rear garden will be converted into a communal space while the rest of the garden, including the summer house will be assigned to Flat 1.The scheme is comprised of a mix of unit sizes; 3x 1 bedroom (Flats 3, 7 and 8), 4x 2 bedroom (Flats 4 to 6 and Flat 9) and 2x 3 bedroom (Flats 1 and 2).

This Sustainability Statement will be provided as evidence to the London Borough of Camden to demonstrate the development's holistic approach to sustainable design and construction. It summarises the contribution that the design will make to create a more sustainable development, drawing on information provided by specialist consultants and design reports, and identifying key features intrinsic to achieving low carbon developments.

Key sustainability features within the development will include:

- The development will reduce total carbon emissions by 4.2% and 3.5% over Building Regulations using SAP 2012 and draft SAP 10.0 carbon dioxide emission factors, respectively;
- A water consumption target of 105 litres/person/day plus an additional 5 litres for external use, through the implementation of water efficiency measures;
- The inclusion of sustainable transport options such as safe cycle storage;
- A sustainable materials procurement policy and an efficient waste strategy on site;
- The implementation of health and wellbeing measures through design and operational procedures, including daylight, optimum indoor air quality and thermal comfort; and
- Protection of ecology on site during construction and biodiversity enhancement measures.

Key Sustainability Measures

In summary, the key measures incorporated to meet planning requirements and to achieve a low carbon development address the following key areas of sustainable design and construction:

- Energy and CO_2
- Adaptation to climate change
- Flood risk mitigation and SuDS
- Waste
- Water efficiency
- Transport and connectivity
- Materials
- Health and wellbeing
- Land use and ecology

Introduction
Sustainability Statement
6 Lindfield Gardens

eight
associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Sustainability Introduction

The design team has significant experience in delivering schemes that are considered highly sustainable, either through application of formal green building rating systems, such as BREEAM, Home Quality Mark as well as applying benchmarks from standards such as Passivhaus Design and adopting precedents from industry exemplary sustainable developments.

The scheme will reflect the holistic nature of sustainable development in the London Borough of Camden. The development will provide much needed private housing in an area of need whilst also conserving the heritage of the area. Health and wellbeing will be incorporated in the design by maximising daylighting, utilising healthy materials and contributing to the alleviation of fuel poverty in the region. The ecological value of the site will be enhanced with landscaped spaces, such as the rear garden as well as the frontage of the house.

Description of Development

The proposed development is to be located at 6 Lindfield Gardens, Hampstead, London, NW 6PU, in the London Borough of Camden. The site consists of an existing 6-bedroom family house of approximately 617m^2, in a predominantly residential area. The development forms part of the Redington/Frognal Conservation Ares, specifically within 'Sub Area Eight – Arkwright Road, Frognal, Frognal Close and Lindfield Gardens'.

The proposed project consists of the conversion of the existing single dwelling into nine residential units of a total GIA of approximately 701.5m^2. The construction will include a rear extension to the existing building and the reconfiguration of the roof layout to create a communal roof terrace. Part of the rear garden will be converted into a communal space while the rest of the garden, including the summer house will be assigned to Flat 1.The scheme is comprised of a mix of unit sizes; 3x 1 bedroom (Flats 3, 7 and 8), 4x 2 bedroom (Flats 4 to 6 and Flat 9) and 2x 3 bedroom (Flats 1 and 2).

The aspiration for the scheme is to significantly improve the existing site and its immediate environment by providing an efficient and inclusive development, which meets the policy recommendations of the London Borough of Camden.

Policy Context
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

National Context: The 2008 Climate Change Act

The UK Government is committed to reducing the UK's carbon emissions by 100% over 1990 levels through the Climate Change Act 2008. Achieving truly sustainable design and construction and forwarding the green agenda within the construction industry across the UK is inherent to meeting these emission targets. This development aims to do both of these.

To help monitor carbon reductions and to plot progress being made for future plans and investments in the UK's low-carbon economy, intermediary targets have been established to ensure that the UK remains on course for meeting the 100% reduction by 2050.

Concurrent with reducing CO_2 emissions by 100% by 2050 is the European Climate Change Policy targets. It sets the objective of ensuring 20% of energy consumption is generated from renewable sources by 2020 whilst also reducing Europe's carbon footprint by 20%. Ensuring a fabric first approach with consideration to renewable energy production fits both the climate change act and the European Commission's 2020 targets for reducing greenhouse gas (GHG) emissions.

Regional Context: The London Plan 2016

The London Plan (March 2016) is the overall strategic plan (Spatial development Strategy) for London. This document, therefore, plays a key role in the planning process in all the 32 London Boroughs and the City of London.

The London Plan sets out an integrated economic, environmental, transport and social framework for the development of London over the next 20–25 years, including the following key aspects of the Mayor of London's other strategies:

- Transport;
- Economic Development;
- Housing;
- Culture;
- Social issues (such as children and young people, health inequalities and food); and
- A range of environmental issues (such as climate change, air quality, noise and waste).

Within the London Plan there are a number of key targets for 'major developments'[1], not applicable to this scheme:

- Policy 5.2: a 35% reduction in CO_2 emissions over Target Emission Rate identified in Building Regulations 2013;
- Policy 5.9: reduce the potential for overheating and reliance on air conditioning systems and demonstrate this in accordance with the 'cooling hierarchy.

London Plan Policy 5.3 Sustainable Design and Construction also sets out the following targets for major developments. This has been followed as guidance for 'best practice':

- Efficient use of natural resources (including water);
- Minimising pollution (including noise, air and urban runoff);
- Minimising the generation of waste and maximising reuse or recycling;
- Avoiding impacts from natural hazards (including flooding);
- Ensuring developments are comfortable and secure for users;
- Securing sustainable procurement of materials, using local supplies where feasible; and
- Promoting and protecting biodiversity and green infrastructure.

[1] more than 10 dwellings or 0.5 hectares for residential areas, and more than 1,000 m^2 or 1 hectare for developments of other uses

Policy Context
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Regional Context: The London Plan Intend to Publish 2019

The London Plan – Intend to Publish 2019 is the upcoming new replacement strategic plan for London, which aims to shape the planning process and sets out an integrated economic, environmental, transport and social framework for the 32 London Boroughs, the City of London and the Mayoral Development Corporations (MDCs) over the next 20–25 years (2019–2041). On its adoption, the new London Plan is expected to require compliance with the following:

Regional Context: The London Plan Intend to Publish 2019 (continued)

Policy D6 Housing Quality and Standards

- Housing should be designed with adequate and easily accessible storage space that supports the separate collection of dry recyclables (for at least card, paper, mixed plastics, metals, glass) and food waste as well as residual waste.

Policy G4 Open Space

- The creation of new areas of publicly accessible open space particularly green space, should be promoted.
- It should be ensured that open space, particularly green space of the development remains publicly accessible.

Policy G5 Urban Greening

- Major development proposals (more than 10 dwellings or 0.5 hectares for residential areas, and more than 1,000m^2 or 1 hectare for developments of other uses) should contribute to the greening of London by including urban greening as a fundamental element of site and building design and measures, such as high-quality landscaping (including trees), green roofs, green walls and nature-based sustainable design.

Policy G6 Biodiversity and Access to Nature

- Where harm to a Site of Importance for Nature Conservation (SINCs) is unavoidable, and where the benefits of the development proposal clearly outweigh the impacts on biodiversity, the mitigation hierarchy should be applied.
- Development proposals should manage impacts on biodiversity and aim to secure net biodiversity gain.

Policy SI1 Improving Air Quality

- Major development proposals must be at least air quality neutral and must submit an Air Quality Assessment.
- Major developments should also submit a statement demonstrating considerations on ways to maximise benefits to local air quality and the relevant measures taken to reduce exposure to pollution.
- Reduction of impact on air quality during demolition and construction must be reflected in development proposals with reference to the adopted strategies to comply with the Non-Road Mobile Machinery Low Emission Zone.

Policy SI2 Minimising Greenhouse Gas Emissions

- Major development should be net zero-carbon. All developments should follow the London Plan energy hierarchy which now includes monitoring, verification and reporting requirements in addition to using less energy, utilising renewable resources and becoming carbon neutral.
- A minimum on-site reduction of at least 35% beyond Building Regulations is required for major developments. Residential development should achieve 10%, and non-residential development should achieve 15% through energy efficiency measures.
- Where it is clearly demonstrated that the zero-carbon target cannot be fully achieved on-site, any shortfall should be provided by either a cash in lieu contribution to the relevant borough's carbon offset fund, or off-site provision provided that the alternative proposal is identified, and delivery is certain.
- Major development proposals should also calculate and minimise unregulated carbon emissions such as those from plant or equipment. In addition, development proposals referable to the Mayor should carry a Whole Life-Cycle Carbon Assessment and demonstrate actions taken to reduce life-cycle carbon emissions.

Policy Context
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Regional Context: The London Plan Intend to Publish 2019 (continued)

Policy SI3 Energy Infrastructure

- Energy masterplans should be developed for large-scale development locations, which establish the most effective energy supply options.
- Major development proposals within Heat Network Priority Areas should have a communal low-temperature heating system, and developments should connect to existing heat networks, wherever feasible, use zero-emission or local secondary heat sources, use low-emission combined heat and power or use ultra-low NOx gas boilers.
- CHP and ultra-low NOx gas boiler communal or district heating systems should achieve good practice design and specification standards for primary, secondary and tertiary systems comparable to those set out in CIBSE/ ADE Code of Practice CP1 or equivalent.
- Development proposals should identify opportunities to maximise renewable energy production on-site.

Policy SI4 Managing Heat Risk

- Development proposals should minimise internal heat through design, layout, orientation, and materials and the incorporation of green infrastructure.
- Major development proposals should also demonstrate through an energy strategy how they will reduce the potential for internal overheating and reliance on air conditioning systems.

Policy SI5 Water Infrastructure

- Commercial developments should achieve at least a BREEAM 'Excellent' minimum requirement for water consumption, corresponding to a 12.5% reduction in water consumption from the baseline.
- Residential developments should achieve mains water consumption of 105 litres or less per head per day (excluding allowance for up to five litres for external water consumption) and should incorporate measures such as smart metering, water saving and recycling measures to achieve lower water consumption rates and to maximise future proofing.
- Development proposals should seek to improve the water environment and ensure adequate wastewater infrastructure capacity is provided as well as minimise the potential for misconnections between foul and surface water networks.

Policy SI12 Flood Risk Management

- Development proposals should ensure that flood risk is minimised and mitigated, and that residual risk is addressed through making space for water and aiming for development to be set back from the banks of watercourses.
- Proposals for utility services should be designed to remain operational under flood conditions and buildings designed for quick recovery following a flood.
- Development proposals should be set back from flood defences. If the latter is not possible, proposals will be required to protect the integrity of flood defences to allow for future maintenance and upgrading.
- Developers are encouraged to employ natural flood management methods due to their benefits both in increasing flood storage and creating recreational areas and habitat.

Policy SI13 Sustainable Drainage

- Development proposals should identify the need for applying sustainable drainage strategies in areas with surface water management issues. Surface water run-off rates should be managed as close to its source as possible and strategies considered in line with the following drainage hierarchy:
  - Rainwater use as a resource;
  - Rainwater infiltration to ground or close to source;
  - Rainwater attenuation in green infrastructure features for gradual release (e.g. green roofs);
  - Rainwater discharge direct to a watercourse;
  - Controlled rainwater discharge to a surface water sewer or drain; and
  - Controlled rainwater discharge to a combined sewer.

Policy Context
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Regional Context: The London Plan Intend to Publish 2019 (continued)

Policy SI13 Sustainable Drainage (continued)

- Development proposals for impermeable surfacing should be resisted unless unavoidable (including front gardens and driveways) and drainage designed in ways to promote multiple benefits (e.g. improved water quality, enhanced biodiversity, urban greening).

Policy T1 Strategic Approach to Transport

- Development proposals should facilitate the delivery of the Mayor's strategic target of 80% of all trips in London be made be made by foot, cycle or public transport by 2041.
- All development should make the most effective use of land, reflecting its connectivity and accessibility by existing and future public transport, walking and cycling routes, and ensure that any impacts on London's transport networks and supporting infrastructure are mitigated.

Policy T3 Transport Capacity, Connectivity and Safeguarding

Development proposals should support capacity, connectivity and other improvements to the bus network and ensure it can operate efficiently to, from and within developments, giving priority to buses and supporting infrastructure as needed.

Policy T5 Cycling

- Development proposals should help remove barriers to cycling and create a healthy environment in which people choose to cycle.
- Developments should provide at least in accordance to the minimum standards set out in Table 10.2. A minimum of two short-stay and two long-stay cycle parking spaces are provided, where the application of the minimum standards would result in a lower provision.

Policy T6 Car Parking

- Car-free development should be the starting point for all development proposals in places that are (or are planned to be) well-connected by public transport, with developments elsewhere designed to provide the minimum necessary parking.
- The maximum car parking standards are set out in Policy T6.1 Residential parking and should be applied to development proposals.
- Where car parking is provided in new developments, provision should be made for infrastructure for electric or other Ultra-Low Emission vehicles.

Local Context: The London Borough of Camden's Local Plan 2016-2031

The Camden Local Plan, adopted in 2010, sets out the Council's planning policies and replaces the Core Strategy and Development Policies planning documents. It ensures that Camden continues to have robust, effective and up-to-date planning policies that respond to changing circumstances and the borough's unique characteristics.

At a minimum, the following policy requirements will be demonstrated in this Sustainability Statement:

Policy C1 – Health and wellbeing

- Developments will require to positively contribute to creating high quality, active, safe and accessible places.
- Proposals for major development schemes will need to include a Health Impact Assessment (HIA).

Policy C5: Safety and security

- Developments will require to demonstrate that design principles that contribute to community safety and security are incorporated.

Policy Context
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Policy C5: Safety and security

All buildings and places are expected to meet the highest practicable standards of accessible and inclusive design so they can be used safely, easily and with dignity by all.

Policy A1 – Managing the impact of development

Developments need to ensure that they protect the quality of life of occupiers and neighbours. The following factors will be taken into consideration:

- Sunlight, daylight and overshadowing;
- Artificial lighting levels;
- Transport impacts, including the use of Transport Assessments, Travel Plans and Delivery and Servicing Management Plans; impacts of the construction phase, including the use of Construction Management Plans;
- Noise and vibration level;
- Odour, fumes and dust;
- Microclimate;
- Contaminated land; and
- Impact upon water and wastewater infrastructure.

Policy A3 – Biodiversity

- Developments will be assessed against their ability to realise benefits for biodiversity through the layout, design and materials used in the built structure and landscaping elements.
- Improvements to green corridors must be secured, particularly where a development scheme is adjacent to an existing corridor.
- Demolition and construction phase of development, including the movement of works vehicles, are to be planned to avoid disturbance to habitats and species and ecologically sensitive areas, and the spread of invasive species.
- The loss of trees and vegetation of significant amenity, historic, cultural or ecological value will be resisted, including proposals which may threaten the continued wellbeing of such trees and vegetation.
- Trees and vegetation which are to be retained are required to be satisfactorily protected during the demolition and construction phase of development in line with BS5837:2012 'Trees in relation to Design, Demolition and Construction' and be positively integrated as part of the site layout.
- Replacement trees or vegetation are expected to be provided where the loss of significant trees or vegetation or harm to the wellbeing of these trees and vegetation has been justified in the context of the proposed development.
- Developments are expected to incorporate additional trees and vegetation, wherever possible

Policy A4 Noise and vibration

Development should have regard to Camden's Noise and Vibration Thresholds (Appendix 3). Planning permission will not be granted for:

- development likely to generate unacceptable noise and vibration impacts; or
- development sensitive to noise in locations which experience high levels of noise, unless appropriate attenuation measures can be provided and will not harm the continued operation of existing uses.

Policy D1 Design

- Developments will need to be of high quality and sustainable in design and construction, incorporating best practice in resource management and climate change mitigation and adaptation.
- Developments should comprise of details and material that are of high quality and complement the local character.
- Development should be inclusive and accessible for all as well as promotes health.
- Developments should respond to natural features and preserve gardens and other open space.
- High quality landscape design should be incorporated and opportunities for greening must be maximised through planting of trees and other soft landscaping.

Policy Context
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Policy CC1 Climate change mitigation

- All developments are required to reduce carbon dioxide emissions through following the steps in the energy hierarchy.
- All major developments are required to demonstrate how the London Plan targets for carbon dioxide have been met.
- The location of the development and mix of land uses should minimise the need to travel by car and help to support decentralised energy networks.

Policy CC2 Adapting to climate change

- Existing green spaces should be protected, and new appropriate green infrastructure must be promoted.
- Surface water run-off should not increase and, wherever possible be reduced through increasing permeable surfaces and use of Sustainable Drainage Systems.
- Biodiverse roofs, combination of green and blue roofs and green walls, where appropriate, must be incorporated.
- Measures to reduce the impact of urban and dwelling overheating must be considered, including the application of the cooling hierarchy.
- Development schemes should demonstrate how adaptation measures and sustainable development principles have been incorporated into the design and proposed implementation.
- New build residential development will be encouraged to use the Home Quality Mark and Passivhaus design standards.
- Conversions and extensions of more than 500m^2 residential floorspace or more than 5 dwellings are encouraged to achieve 'Excellent' in BREEAM domestic refurbishment.

Policy CC3 Water and Flooding

- Water efficiency measures must be incorporated.
- Harm to the water environment must be avoided and water quality must be improved.
- The impact of development in areas at risk of flooding must be considered and appropriate flood resilient measures must be incorporated.
- Sustainable Drainage Systems (SuDS) must be utilised in line with the drainage hierarchy to achieve a greenfield run-off rate, where feasible.

Policy CC4 Air Quality

- It should be ensured that the impact of development on air quality is mitigated and that exposure of poor air quality is reduced in the borough.
- Air Quality Assessments are required where development is likely to expose residents to high levels of air pollution.

Policy CC5 Waste

Developments must ensure the inclusion of facilities for storage and collection of waste and recycling.

Policy T1 Prioritising walking, cycling and public transport

Development should provide for accessible, secure cycle parking facilities exceeding the minimum requirements outlined within the London Plan and design requirements outlined within the SPD.

Policy T2 Parking and car-free development

- All new developments are required to be car-free.
- On-street and on-site parking permits will not be issued in connection with new developments.

Energy and CO_2
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Energy Strategy

The energy strategy for 6 Lindfield Gardens is detailed in the Energy Assessment report issued by Eight Associates in September 2020. The whole development will reduce carbon emissions by 4.2% and 3.5% from the fabric energy efficiency measures described in the 'Be Lean' section using SAP 2012 and draft SAP 10.0 carbon dioxide emission factors, respectively. Total carbon emissions will be reduced by 4.2% and 3.5% over Building Regulations using SAP 2012 and draft SAP 10.0 carbon dioxide emission factors, respectively. The following section is a summary of the findings in accordance with the energy hierarchy and policy requirements.

The Energy Hierarchy

The proposed scheme has followed the energy hierarchy, illustrated in Figure 1 below.

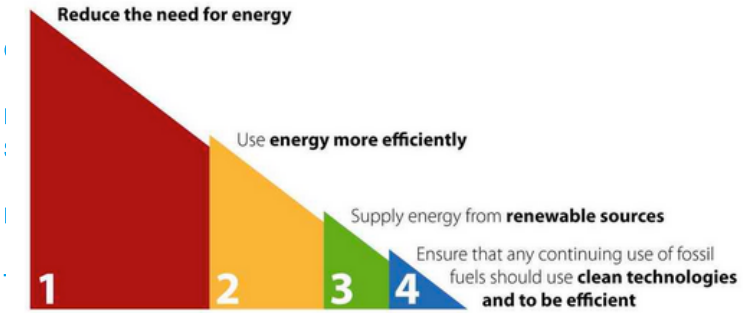

Figure 1: This methodology, widely used in accordance with the Sustainable Design and Construction Supplementary Planning Guidance (SPG), has been adopted for the scheme using a 'Lean', 'Clean', and Green' approach.

Table 1: GLA Energy Hierarchy for the whole development.

GLA's Energy Hierarchy: Regulated carbon emissions – **Whole scheme** Calculated using **SAP 2012** carbon dioxide emission factors				
	Baseline:	Be lean:	Be clean:	Be green:
CO_2 emissions (tCO_2/yr)	21.45	20.54	–	–
CO_2 emissions saving (tCO_2/yr)	–	0.91	–	–
Saving from each stage (%)	–	4.2	–	–
Total CO_2 emissions saving (tCO_2/yr)		0.91		
4.2% total carbon emissions savings over existing building and Part L achieved (using SAP 2012 emission factors)				
GLA's Energy Hierarchy: Regulated carbon emissions – **Whole scheme** Calculated using draft **SAP10.0** carbon dioxide emission factors				
	Baseline:	Be lean:	Be clean:	Be green:
CO_2 emissions (tCO_2/yr)	19.83	19.14	–	–
CO_2 emissions saving (tCO_2/yr)	–	0.69	–	–
Saving from each stage (%)	–	3.5	–	–
Total CO_2 emissions saving (tCO_2/yr)		0.69		
3.5% total carbon emissions savings over existing building and Part L achieved (using draft SAP10.0 emission factors)				

Energy and CO_2
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

GLA's Energy Hierarchy – Regulated Carbon Emissions

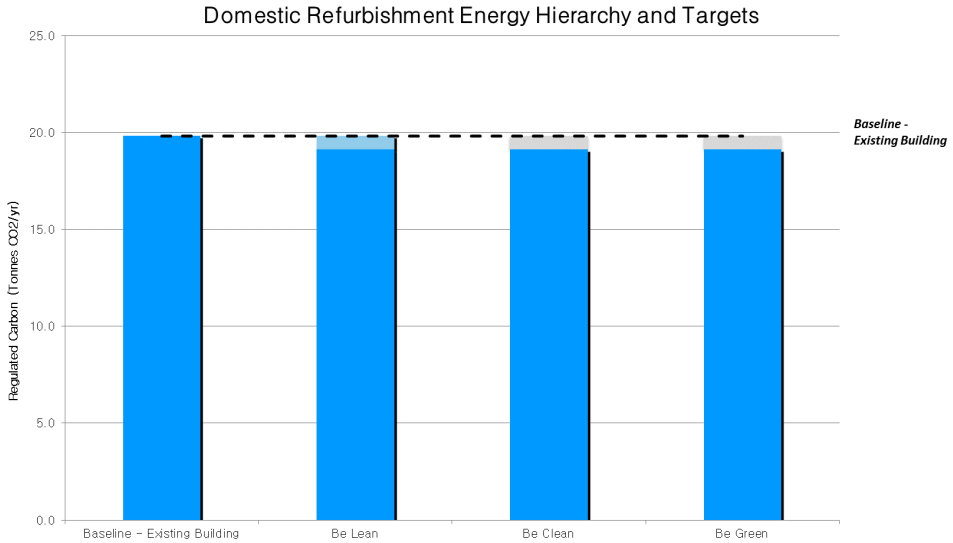

Figure 2: The performance of the scheme in relation to Building Regulations and the Energy Hierarchy. Carbon dioxide emission factors for **SAP 10.0** have been used for the calculation.

As demonstrated in Figure 2, the scheme will reduce carbon emissions by 3.5% from the fabric energy efficiency measures described in the 'Be Lean' section and will reduce total carbon emissions by 3.5% over Building Regulations (using draft SAP 10.0 carbon factors).

Energy and CO_2
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Energy Efficiency Strategies

Energy efficiency measures that will be applied to 6 Lindfield Gardens include:

- High insulation standards to reduce transfer of heat through the building fabric.
- Envelope air tightness to reduce unnecessary air infiltration.
- Heating and hot water will be provided using a gas boiler with an efficiency of 89.5%. The heat provided via radiators will be controlled with a programmer, thermostat and TRVs.
- Daylighting and well-planned floor layouts to reduce the need for artificial lighting.
- High efficacy lighting of 75 lumens per watt is specified for the development.

Thermal Comfort and Overheating Risk

To minimise energy loss, the building fabric performance will be designed to achieve a balance between retaining heat during winter and allowing the building to dissipate heat during the summer months. Further measures to reduce overheating and the need for cooling include:

- Energy efficient design to minimise internal heat generation. Energy efficient appliances and lighting will be preferred where specified.
- Direct solar gains will be controlled through specifying appropriate location, size and type of windows. Windows with specific properties designed to let a low percentage of solar heat in are to be specified. The windows will have a g-value of 0.50.
- Reduced air permeability rate and maximised insulation levels.
- Air conditioning will be provided to Flat 1 to ensure occupant thermal comfort. The unit will have an energy label class of A, with variable speed compressors.
- Passive ventilation measures will include openable windows.

Adaptation to Climate Change

Sustainability Statement

6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Climate Change Mitigation

Passive design measures, including openable windows and night-time cooling, will be integrated into the design of the development.

Flood Risk and Sustainable Drainage

6 Lindfield Gardens is located within Flood Zone 1 of the Environment Agency's Flood Map for Planning, as shown in **Error! Reference source not found.** This is defined as an area with little or no risk to flooding where the annual probability of river, tidal and coastal flooding (with defences where they exist) is <0.1% i.e. less than 1 in 1,000 years.

Eight Associates produced a Flood Risk Assessment and SuDS report in September 2020. It was concluded that the risk of flooding from rivers and sea, surface water, groundwater and artificial sources is very low. The impermeable area of the development has increased slightly. However, the development will incorporate sustainable drainage systems (SuDS) including attenuation measures to manage the risk of surface water runoff. It is proposed to integrate a 32m^3 geocellular storage beneath the hardstanding at the site entrance for subsurface storage, allowing for gradual release into the public sewer. In addition, pervious paving is proposed in all areas of upgraded hard landscaping. The proposals provide a significant improvement on the existing run-off rates and run-off volume, with run-off achieving greenfield rates.

Food Map

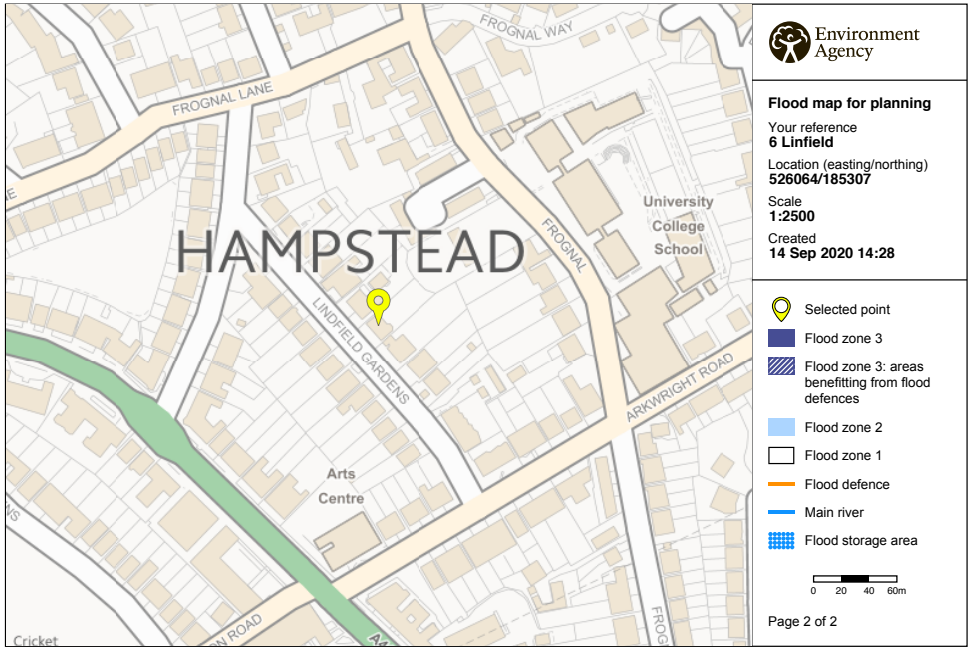

Figure 3: Flood map to show the location of the development within Flood Zone 1.

Waste
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Construction Waste Management

Resource efficiency will be promoted through effective and appropriate management of demolition and construction site waste.

In line with the waste hierarchy, during the construction phase, the approach will be the following:

- Use reclaimed materials;
- Use materials with higher levels of recycled content; and,
- Use new materials.

For any demolition, the following approach will be adopted:

- Prioritise the on-site reuse of demolition materials;
- Adopt on site recycling and, where required, use off site recycling; and,
- The least preferred option – disposal to landfill.

A site waste management plan will be developed which adopts best practice benchmarks for resource efficiency, details procedures and commitments to minimise non-hazardous and hazardous waste at the design stage and monitors/measures waste production on site. The plan will apply to the location of the building.

The site waste management plan will also include procedures and commitments to sort and divert waste from landfill through the following:

- Re-use on site;
- Salvage/ reclaim for re-use off-site;
- Return to supplier via a 'take-back' scheme;
- Recovery and recycling using an approved waste management contractor; and
- Compost.

Operational Waste

The refuse store is located on the entrance floor, next to the street. It provides a safe and convenient access to the residents via a new gate in the existing fence. It is sized to accommodate 7x 350 L and 1x 240 L bins for general, recyclable and food waste to meet current standards.

Construction Management
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Construction Environmental Management

Environmental impacts of the construction works will be mitigated as far as possible. This will include the incorporation of the following:

- Contractor following environmental management system processes (under ISO14001), including the development of a construction environmental management plan (CEMP) specific to the sites;
- Training and site induction of all site operatives;
- Monitoring of energy, water and transport to and from site during construction;
- Management of waste on site;
- Following best practice pollution guidance from the Environment Agency;
- Ensuring all site timber is responsibly sourced in line with the UK Government's Timber Procurement Policy;
- Vehicle emissions would be minimised through the use of catalytic converters and the regular maintenance of vehicle engines;
- Damping down of brick walls etc. during any building demolition;
- Regularly inspecting and wet suppressing materials/soil stockpiles where necessary (including wind shielding or completely enclosing, storing away from site boundaries, and restricted height of stockpiles);
- Appropriate orientating of material stockpiles;
- Providing wheel washing and wet suppressing during the loading of wagons vehicles;
- Covering vehicles carrying dry soil and other wastes;
- Shielding of dust-generating construction activities;
- Providing suitable site hoarding;
- Restricting vehicle speeds on haul roads and other unsurfaced areas of the site; and,
- Inspecting unsurfaced haulage routes, and wet suppressing should this be necessary (in times of prolonged dry periods).

Considerate Constructors

The scheme will seek to adopt the principles of the Considerate Constructors Scheme (CCS). The CCS scheme aims to recognise and encourage construction sites that are managed in an environmentally and socially considerate, responsible and accountable manner.

Water Efficiency
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Water Management Introduction

The development proposal recognises the need to create a scheme that is efficient and adaptable to future climatic scenarios.

Water Conservation

The design team is committed to achieve a significant reduction in internal water use for the development over typical performance, equating to a water consumption target of ≤105 litres per person per day.

Water consumption will be reduced through the use of water efficient components for all specified domestic water-consuming components (including low-flow showerheads and taps, dual flush toilets and low water consuming washing machines and dishwashers), water meters for each dwelling, water recycling systems where appropriate and flow control devices that regulate the supply of water to each facility according to demand.

Camden Council allows for an additional 5 litres per person per day for external water use. To meet this requirement, rainwater butts can be installed in the rear garden for irrigation of both the front planters as well as the rear garden. Since more than six dwellings will be using the communal garden, the rainwater collector must be able to hold more than 30 litres per dwelling. For the private garden allocated to Flat 1, a volume of 200 litres minimum is required.

A permanent automated water leak detection system that alerts the building occupants to a major water leak on the mains water supply within the building and between the building and the utilities water meter will be installed.

Transport and Connectivity

Sustainability Statement

6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Public Transport

The development at 6 Lindfield Gardens has a PTAL rating of 5, which represents a good rating for connectivity. The nearest bus stop is less than 500m away from the development and it serves bus routes 13,82 and 113. Finchley Road and Frognal, an overground station, less than 1km away from the development serves lines between Richmond, Clapham Junction and Stratford. Additionally, London Underground services are available at Hampstead station and Finchley Road station for the Northern line, and Jubilee and Metropolitan lines, respectively. Both stations are within 900m of the development.

Cycling and Car Parking Provision

The existing garage will be converted into the residents' bike store to accommodate 15 bicycles as per the Council's requirements.

The London Borough of Camden has a network of cycle routes across the borough including cycle lanes on main roads, separated cycle lanes and special fully signed, quiet routes. The development is in close proximity to Quietway 3, which connects Gladstone Park to Regent's Park.

It is proposed to maintain one parking space, which is accessible from the existing entrance gate.

Accessibility and Security

Creating a secure but fully accessible development is a key part of the proposed development. To ensure this is achieved, the design team will seek to adopt, where feasible, the key principles of "Secured by Design" within all elements of the scheme. In addition, an Architectural Liaison Officer (ALO) or a Crime Prevention Design Advisor (CPDA) will be consulted at an early stage to provide a set of bespoke security recommendations for the development. These recommendations will be implemented within the development's design and layout.

Materials
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Materials and Waste Introduction

Sustainable material sourcing and waste management will be considered throughout the life of the building to ensure the scheme's environmental footprint is minimised as far as possible. The scheme will also ensure low embodied carbon throughout the procurement, transport and construction of building materials, together with end of life emissions.

Materials Selection and Sourcing

The design team has confirmed that efforts will be made to reuse materials where feasible and that where required, new materials will be responsibly sourced. New construction materials will be selected, where feasible, with a low environmental impact. In addition, the project will aim for new materials to come from a recycled or reused source, including a high-recycled content in steel. Minimum standards apply to new timber, which must be sourced in accordance with the UK Government's Timber Procurement Policy.

In addition, all timber will be FSC/ PEFC certified, all concrete will be BES 6001 certified and any other material will be ISO 14001 certified for both key processes and supply chain/ extraction processes where feasible to do so.

The Green Guide for Specification is a reference tool, providing guidance on the relative environmental impacts for a range of different building elemental specifications, based on Life Cycle Assessment and the Environmental Profile Methodology. The design team will reference the Green Guide to Specification to help specify materials with a low environmental impact, where feasible. The design will incorporate at least 5 build-up elements that will be A-C rated on the Green Guide.

Insulation specifications will eliminate hydrochlorofluorocarbons (HCFCs) and ozone depleting materials, wherever possible. All insulation specified will have a Global Warming Potential (GWP) of less than 5 and be responsibly sourced to have a low embodied impact.

Embodied Carbon Analysis

The development will utilise a number of opportunities to cut embodied carbon, as follows:

- A materials efficiency strategy will be followed throughout the design, procurement and construction stages of the development, to ensure the scheme produces less waste on site. For example, adjustment of some sizes will be made to minimise offcuts of materials, and some bespoke materials will be developed off-site;
- Materials will be procured from the local area where possible, to reduce carbon through transportation;
- Materials and products with a higher recycled content will be preferentially procured where feasible, as these have a low embodied carbon;
- Consideration has been made to use timber as a low embodied carbon alternative to steel and concrete where possible; and,
- The design team will seek to commit to the Waste and Resources Action Programme (WRAP) guidance 'cutting embodied carbon in construction projects, where feasible.

Health and Wellbeing
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Occupant Wellbeing

The development has been designed to ensure the wellbeing of occupants in terms of levels of fresh air, thermal comfort and reduction of overheating, access to natural light, good lighting levels internally and externally, acoustic performance and access to safe drinking water.

The building services strategy has been carefully considered in order to balance the need for energy–smart, low carbon technologies with the need for adequate and controllable ventilation, heating and cooling.

Internal Air Quality

The design team will specify only low volatile organic compounds (VOC) finishing products, including sealants and paints. All composite wood products will contain no added urea formaldehyde.

Daylight

The design has been developed to allow the use of daylight within the dwelling to be maximised as far as practical.

Inclusive Design

The guidance in the Approved Document M (March 2016) will be incorporated, if feasible, to achieve an inclusive built environment that enables users to maximise their individual abilities and enjoy a safe and independent participation.

Land Use and Ecology
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Protection of Biodiversity

The proposed development will promote the protection of all the existing trees from damage during site demolition and the completion of the construction works.

The design team is committed to protecting biodiversity on site and will implement the following measures:

- Confirm that all relevant UK and EU legislation relating to protection and enhancement of ecology has been complied with during the design and construction process;
- Ensure that any affected trees and shrubs are cleared out of bird breeding season (March–August). Alternatively, a suitably qualified ecologist should check for the presence of active nests prior to the commencement of works;
- Implement working methods in line with best practice to manage dust and water runoff; and,
- During the construction phase a Biodiversity Champion will be appointed to monitor and limit environmentally detrimental activities. They will also train the workforce on the project to raise their awareness of environmental impacts during construction.

Ecological Enhancements

The design team is also committed to enhance biodiversity on site.

The proposed development will aim to incur no negative change in ecological value and a suitably qualified ecologist will provide early design stage advice on:

- How to improve the ecological value of the site;
- Confirm that all relevant UK and EU legislation relating to protection and enhancement of ecology has been complied with during the design and construction process; and,
- Produce a landscape and habitat management plan to cover at least the first five years after project completion, if applicable.

Opportunities for ecological enhancements are limited based on the site layouts. However, soft landscaping will be included in the front and in the rear garden. Jonathan Snow Design prepared a landscape strategy in August 2020 and it is proposed to include a mix of planting, predominantly evergreen to provide year–round cover. Additionally, long flowering plants will provide opportunities to increase biodiversity and attract beneficial insects and birds. The design team is also considering bird and bat boxes to provide nesting opportunities in this nest–limited urban environment.

Conclusions
Sustainability Statement
6 Lindfield Gardens

eight associates

+44 (0)207 0430 418

www.eightassociates.co.uk
info@eightassociates.co.uk

Conclusions

This Sustainability Statement has responded to the London Borough of Camden's local planning policy requirements.

In summary the scheme will adopt the following sustainable features:

- The whole development will reduce total carbon emissions by 4.2% and 3.5% over Building Regulations using SAP 2012 and draft SAP 10 carbon dioxide emission factors, respectively.
- Reduce energy consumption by targeting improved U-values and airtightness. Low energy lighting will be specified.
- Implement a site waste management plan and stringent resource efficiency benchmarks.
- Follow best practice policies in terms of air, water and ground pollution and appoint a contractor who will register for the Considerate Constructors Scheme.
- Achieve a water consumption target of 105 litres/person/day plus an additional 5 litres for external use, through the implementation of low water-consuming fittings.
- Utilise sustainable transport, including access to public transport and inclusion of cycle facilities.
- Minimise embodied carbon through efficient design, procurement of materials from a local source, or with a high-recycled content.
- Be of high build quality, surpassing the minimum Building Regulations.
- Ensure all materials are responsibly sourced and of low environmental impact where feasible.
- Consider health and wellbeing through design and operational procedures, including daylight, optimum indoor air quality and thermal comfort.
- Protect and enhance the ecological value.