

Planning Report

Sustainability Statement

Antill Road

Document information

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Executive Summary

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Executive summary

The proposed project consists of converting a parking and storage area into a new build three-bedroom house of type 3B5P, with a gross internal area of 97 m². The site is located in the London Borough of Haringey. It lies south-west of the junction between Tynemouth Road and Antill Road.

This Sustainability Statement will be provided as evidence to the London Borough of Haringey 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 59% over Building Regulations using draft SAP 10 carbon factors;
- A water consumption target of 105 litres/person/day through the implementation of water efficiency measures;
- A sustainable materials procurement policy and an efficient waste strategy on site.
- The inclusion of sustainable transport options such as safe cycle storage.
- Protection of ecology on site during construction and biodiversity enhancement measures.
- The implementation of health and wellbeing measures through design and operational procedures, including daylight, optimum indoor air quality and thermal comfort.

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 CO₂
 - Adaptation to climate change
 - Flood risk mitigation and SuDS
 - Waste
 - Water Efficiency
 - Transport and connectivity
 - Materials
 - Health and wellbeing
 - Land use and Ecology
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Introduction

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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 as well as applying benchmarks from standards such as Passivhaus Design and adopting precedents from industry exemplar sustainable developments.

The scheme will reflect the holistic nature of sustainable development to the London Borough of Haringey. The development will provide high quality housing in an area of need and will use local labour to boost employment. 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 maintained and protected. The development will enhance the ecological value of the site through measures such as native planting where feasible.

Description of development

The proposed project consists of a three-bedroom house of type 3B5P with a total gross internal area of 97 m² at Antill Road, Seven Sisters, London, N15 4AS, in the London Borough of Haringey.

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 Haringey.

Policy Context

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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 CO₂ 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);
- 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,' **not applicable to this scheme**:

- Policy 5.2: a 35% reduction in CO₂ 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 as '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.

Policy Context

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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:

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 1,000 m² 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 G7 Trees and Woodlands

- Development proposals should ensure that, wherever possible, existing trees of value are retained.
- The planting of additional trees should generally be included in new developments, particularly large-canopied species which provide a wider range of benefits because of the larger surface area of their canopy.

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.
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Policy Context

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

- 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 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.
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Policy Context

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

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 as 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
 - Controlled rainwater discharge to a combined sewer
 - 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).
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Policy Context

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

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 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: Haringey's Local
Plan

The Haringey development plan consists of Strategic Policies 2013–2026 (Adopted in March 2013, with alterations since 2017), Development Management Plan (Adopted in July 2017), Site Allocations and Tottenham Area Action Plan, alongside the London Plan. Of particular relevance to this report is Chapter 4 of the Strategic Policies and Chapter 4 of the Development Management Plan, as well as the Sustainable Design & Construction SPD Document. Together these documents provide a clear guidance on how to sustainably develop the Borough.

1. Strategic Policies

SP4 Working towards a Low Carbon Haringey

- All new residential development will achieve a minimum 25% reduction in total (regulated) CO₂ emissions in line with Code for Sustainable Homes

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Local context: Haringey's Local Plan (continued)

Level 4 energy standards and should aim to achieve Level 6. All new residential development shall be zero carbon from 2016 onwards.

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

SP5 Water Management and Flooding

- All development should improve the water environment, water quality and drainage systems.
- Measures should be implemented to prevent local surface water and downstream flooding.
- Sustainable Drainage Systems should be implemented from strategic to individual site level to improve water attenuation, quality and amenity.

SP6 Waste and Recycling

All major applications will require a Site Waste Management Plan to identify volume and types of demolition and construction waste and to demonstrate how waste will be minimised and managed during construction and occupation.

SP7 Transport

- Public transport. Walking and cycling will be promoted.
- Car sharing and car clubs will be promoted.
- Major trip generating developments will be sought to be located in locations with good access to public transport so as to better integrate transport and land use planning.

2. Development Management Plan

4.24 – The London Plan sets requirements for new major development proposals including for carbon dioxide reduction, sustainable design, decentralised energy systems and renewable energy generation. The Council considers that smaller developments also have a role in responding to climate change and should, in particular, contribute to minimising carbon dioxide emissions wherever possible.

3. Sustainable Design and Construction SPD.

3.1 – Major development proposals should include a detailed energy assessment to show how a reduction in energy use and carbon dioxide (CO₂) emissions from the development will be achieved.

3.5 – All major development proposals should seek to reduce carbon dioxide emissions by at least 20 per cent through the use of on-site renewable energy generation wherever feasible.

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Local context: Haringey's Local Plan (continued)

4.8 – Impact of climate change. Developers should ensure the materials specified will perform adequately in the climate throughout the lifetime of the development; and that the construction methods to be used are suitable for the weather conditions at the time of construction.

5.3 – Surface water run-off should be controlled as near to its source as possible through a sustainable drainage approach to surface water management (SuDS).

6.1 – In the first instance, developments should minimise the need for water.

6.3 – New housing schemes should be designed to ensure that no more than 105 litres of water is consumed per person per day.

7.5 – Construction sites should be carefully managed and maintained to prevent sediment and chemicals washing into waterways or drains which empty into waterways, and also to control dust and noise emissions and vibrations causing nuisance to surrounding properties.

8.1 – The Council has strategies in place which seek to deliver more sustainable waste management, namely encouraging waste reduction, maximising reuse and recycling, and treating remaining waste as a resource, in line with the waste hierarchy.

9.3 – Building materials should be selected as far as possible on the basis of a sustainable supply, and the least possible energy consumption involved in their manufacture.

9.4 – The Council expects that at least 3 out of the 5 following elements be specified using materials with an embodied energy rating between A+ and D, where A+ represents the best environmental performance/ least environmental impact, and E the worst environmental performance/ most environmental impact.

- Roof
- External walls
- Internal walls (including separating walls)
- Upper and ground floors (including separating floors)
- Windows

10.1 – Biodiversity should be considered early in the design process. All development should contribute, where possible, to improving biodiversity in the borough and should increase the number and coverage of plant species on a site.

11.1 – Development should ensure Haringey's transport network can accommodate increases in travel demand by tackling congestion, increasing sustainable transport capacity, encouraging modal shift and reducing the need to travel.

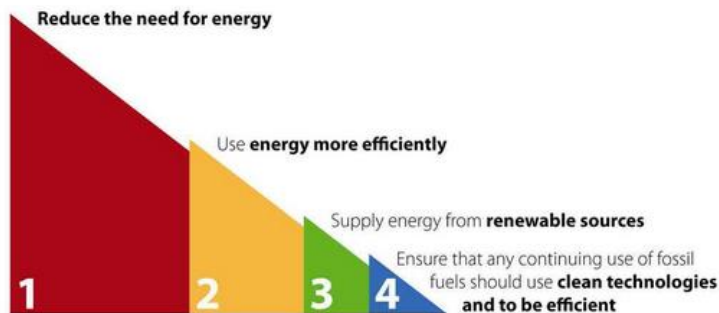
Energy and CO₂ Sustainability Statement Antill Road

Energy strategy

The energy strategy for Antill Road is detailed in the Energy Assessment report issued by Eight Associates in June 2020. The development will reduce carbon emissions by 8.1% from the fabric energy efficiency measures described in the 'Be Lean' section and will reduce total carbon emissions by 59.0% over Building Regulations (using draft SAP 10 carbon factors) with the further inclusion of low and zero carbon technologies (i.e. air source heat pumps). 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 that is illustrated below:



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

GLA's Energy Hierarchy – Regulated Carbon Emissions (draft SAP 10)

	Baseline:	Be Lean:	Be Clean:	Be Green:
CO ₂ emissions (Tonnes CO ₂ /yr)	1.90	1.74	–	0.78
CO ₂ emissions saving (Tonnes CO ₂ /yr)	–	0.15	–	0.97
Saving from each stage (%)	–	8.1	–	50.9
Total CO ₂ emissions saving (Tonnes CO ₂ /yr)		1.12		

59.0% of total carbon emissions savings over Part L 1B of the Building Regulations 2013 achieved.

Energy and CO₂

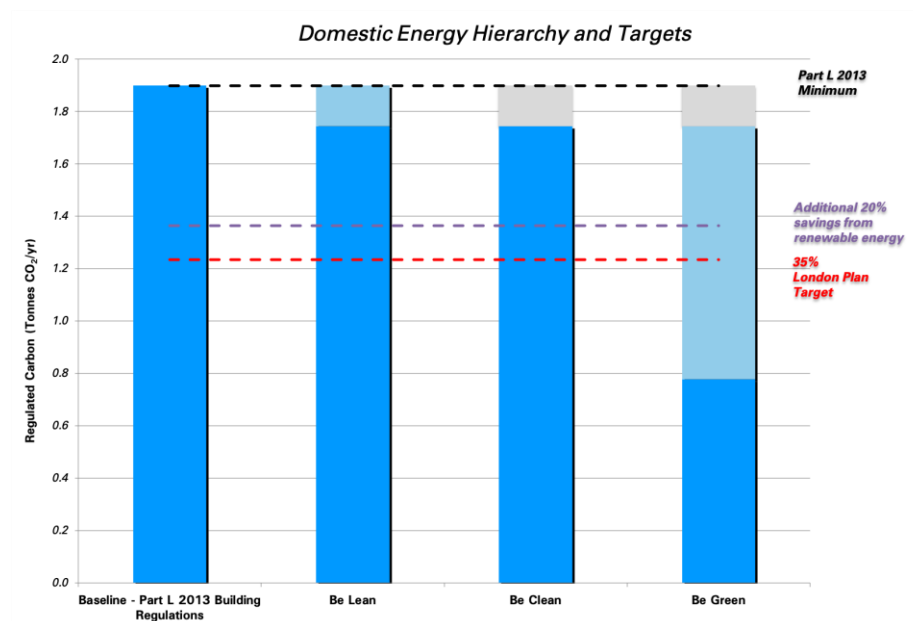
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GLA's energy hierarchy – Regulated Carbon Emissions

Figure

A graphical illustration of how the scheme performs in relation to Building Regulations and the Energy Hierarchy is shown below. Carbon dioxide emission factors for draft SAP 10 have been used for the calculation.



Summary (draft SAP 10 factors)

As demonstrated above, the development will reduce carbon emissions by 8.1% from the fabric energy efficiency measures described in the 'Be Lean' section, and will reduce total carbon emissions by 59.0% over Building Regulations (using draft SAP 10 carbon factors) with the further inclusion of an air source heat pump. These align with Policy SI12 of the London Plan –Intrend to Publish 2019 and Policy SP4 of Haringey's Local Plan.

Energy and CO₂

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Energy efficiency strategies

Energy efficiency measures that will be applied to Antill Road include:

- High insulation standards to reduce transfer of heat through the building fabric;
- Use of an air source heat pump to provide heating and hot water for the development. The distribution of heat will be done using radiators and is controlled using time and temperature zone controls with suitable arrangement of plumbing and services.
- A 150 litres capacity hot water storage cylinder with a specified loss factor of 1.26 kWh/day will be used. The cylinder will be located in a heated space and primary pipework will be fully insulated.
- Envelope air tightness to reduce unnecessary air infiltration;
- Daylighting and well-planned floor layouts to reduce the need for artificial lighting; and,
- High efficacy lighting greater than 75 lumens per watt.

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 (a 'g-value' of 0.5) are to be specified;
 - Reduced air permeability rate and maximised insulation levels;
 - Passive ventilation measures will include openable windows.
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Adaptation to Climate Change

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Climate change mitigation

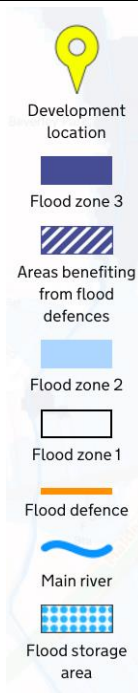
The proposed development will utilise an air source heat pump and mechanical ventilation with heat recovery. Passive design measures, including openable windows and night-time cooling, are integrated into the design of the development. Mechanical ventilation using fans will remove heat from the building during summer months.

Flood risk and sustainable drainage

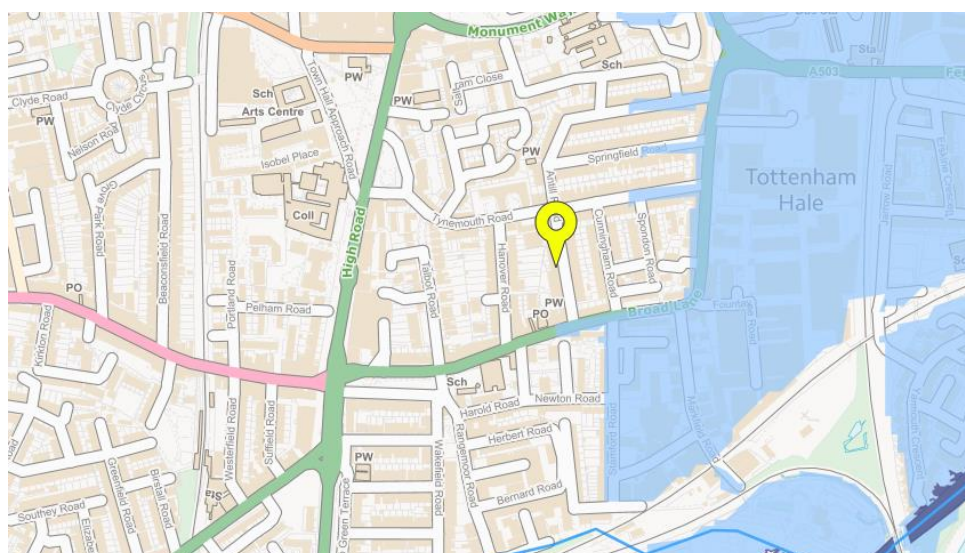
Antill Road is located within Flood Zone 1 of the Environment Agency's Flood Map for Planning. This is defined as an area with little or no risk to flooding where the annual probability of river, tidal and coastal flooding (with defences where they exist) is $<0.1\%$ i.e. less than 1 in 1,000 years.

The majority of the development site currently comprises of low-quality hardstanding surface with no sustainable drainage systems and therefore the majority of the existing site likely discharges surface water at an uncontrolled rate. There is a very small area of low-quality soft landscaping to the rear of the site. The proposal for the site is to improve the soft landscaping within the rear garden and also provide a new area of soft landscaping to the front of site, whilst the roof will also incorporate downpipes to serve a 200 litre water butt for irrigation purposes and also discharge water to the local public surface water sewer. The roof area is not significant enough to justify a green roof. The measures proposed are reasonably expected to provide a reduction in surface water run-off from the site to comply with Policy SI13 of the London Plan – Intend to Publish and Policy SP5 of Haringey's Local Plan.

Flood map



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



Waste

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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 (Policy SP6 of Haringey's Local Plan) 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

Haringey is committed to the sustainable management of waste through prioritising waste reduction, reuse and recycling. Household waste has been recycled over the past three years, reducing the disposal amount. Moreover, all households in the borough have access to convenient and comprehensive recycling facilities, available at a number of community centres with on-street recycling points on high streets and around transport hubs.

In that respect, a dedicated bin store and recycling facilities are proposed near the entrance to the development for waste storage and to encourage recycling. The storage space will provide inclusive access and usability.

Collection arrangement is specific to each location and can be checked on the [Timed Collections Schedule](#).

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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 register for 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

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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 water use for the development over typical performance, equating to a water consumption target of ≤ 105 litres per person per day, as dictated by Policy SI5 of the London Plan – Intend to Publish 2019 and the Sustainable Design & Construction SPD.

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.

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

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Public transport

The development at Antill Road has a PTAL rating of 6a. It is located within close proximity to a number of bus stops, with the nearest one being less than 300 metres away and serving three separate bus routes (41, N41 and W4), which provide a frequent service. Railway services are available at Seven Sisters, South Tottenham and Tottenham Hale. The London Underground Victoria line at Seven Sisters connects to Brixton and Walthamstow.

Cycling provision

The London Borough of Haringey has a network of cycle routes across the borough including cycle lanes on main roads, separated cycle lanes and special fully signed, quiet routes. Haringey is also part of the London Cycle Network and the London Cycle Guide provides a map of on and off-road cycle routes.

A secure cycle storage for two bicycles is proposed in the private rear garden.

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 look to adopt where feasible, the key principles of “Secured by Design” within all elements of the scheme.

Materials

Sustainability Statement

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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-B 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 has confirmed the Waste and Resources Action Programme (WRAP) guidance 'cutting embodied carbon in construction projects' will be followed.

Health and Wellbeing Sustainability Statement Antill Road

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 principles of Lifetime Homes will be incorporated where feasible to achieve an inclusive built environment that enables users to maximise their individual abilities and enjoy safe and independent participation.

Land Use and Ecology Sustainability Statement Antill Road

Protection of biodiversity

The proposed development will promote the protection of any existing ecological features 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 enhancement

The design team is committed to help protect and 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.

Planting of native and adaptive species will be included in the rear garden. The design team is also considering bee bricks or towers to provide nesting opportunities in this nest-limited urban environment.

Conclusions

Sustainability Statement

Antill Road

Conclusions

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

In summary the scheme will adopt the following sustainable features:

- Reduce energy consumption by targeting improved U-values and airtightness. Low energy lighting will be specified;
 - The development will reduce total carbon emissions by 59.0% over Building Regulations using draft SAP 10 carbon factors;
 - 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 for water-consuming fittings;
 - Ensure all materials are responsibly sourced and of low environmental impact where feasible;
 - Implement a site waste management plan and stringent resource efficiency benchmarks;
 - Protect and enhance the ecological value where feasible;
 - Utilise sustainable transport, including access to public transport and inclusion of cycle facilities;
 - Follow best practice policies in terms of air, water and ground pollution and appoint a contractor who will register for the Considerate Constructors Scheme; and,
 - Consider health and wellbeing through design and operational procedures, including daylight, optimum indoor air quality and thermal comfort.
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