Kidderpore Avenue, London

Sustainability Statement

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1.0 EXECUTIVE SUMMARY

This Statement outlines the sustainability strategy for the proposed new development at Kidderpore Avenue, London, consisting of the conversion of listed and non-listed buildings, the construction of new buildings, and the creation of a basement car park and residents' facilities. This Statement in particular outlines the applicable policies and documents relating to environmental sustainability, and demonstrates the steps that are being considered to address these.

The proposals for this development incorporate a wide range of measures and features that will result in a development that conserves natural resources, limits pollution and environmental damage and is adapted to cope with the potential impacts of a changing climate both during construction and when in operation.

This Sustainability Statement should be read alongside the Energy Statement (which has been submitted as a stand-alone supporting document) and the Lord Cameron Hall Embodied Carbon Report (which forms part of the Design and Access Statement) and both of which were also prepared by NLG Associates Ltd.

1.1 Key Sustainability Targets

Sustainability Target	New-Build Buildings	Existing/Retained Buildings	London Plan Policy	London Plan Energy Hierarchy
Carbon dioxide emissions reduction	35% reduction over Part L 2013 targets Code for Sustainable Homes Level 4: 19% reduction over Part L 2013 targets	35% reduction over Part L 2013 targets. Subject to conservation and listed building constraints	5.1 5.2 5.3 5.4 5.9	Level 1 – Be lean
Water conservation	<105 litres/person/day (l/p/d)	<118 litres/person/day (l/p/d)	5.15	
BREEAM rating	-	BREEAM Refurbishment 'Excellent' rating – subject to conservation and listed building constraints	5.4	
On-site Low and Zero Carbon Technologies (LZC)	Roof-mounted Photovoltaic panels (PV)	-	5.7	Level 3 – Be green

1.2 Key Design Strategies Used to Meet Key Sustainability Targets

The following key design measures have been employed in order to address the requirements of the Policies outlined in the London Plan Section 5.

<table>
<tr><th>London Plan Policy</th><th>Design Measures Adopted – New-Build Buildings</th><th>Design Measures Adopted – Existing/Retained Buildings</th></tr>
<tr><td>5.1 – Climate Change Mitigation
5.2 – Minimising CO_2 Emissions
5.3 – Sustainable Design & Construction
5.4 – Retrofitting</td><td>- U-Values to exceed the minimum requirements of Building Regulations Part L1A (2013)
- Air Permeability to exceed the minimum requirements of Building Regulations Part L1A (2013)
- Building Services plant efficiencies and operation in compliance with minimum standards set out in Domestic Building Services Compliance Guide (2013)
- Low NO_x boiler plant</td><td>- Constructions upgraded to improve U-Values – subject to conservation and listed building constraints
- Building Services plant efficiencies and operation in compliance with minimum standards set out in Domestic Building Services Compliance Guide (2013)
- BREEAM Refurbishment ‘Excellent’ rating – subject to conservation and listed building constraints</td></tr>
<tr><td>5.5 – Decentralised Energy Networks
5.6 – Decentralised Energy In Development Proposals</td><td colspan="2">- Decentralised energy production not available for this site at present
- The communal heating system should allow for future connection of decentralised energy/district heating system should one be developed in the locality of the site</td></tr>
<tr><td>5.7 – Renewable Energy</td><td>- After considering options for on-site renewable energy production, roof-mounted Photovoltaic (PV) panels to be included on the following new-build buildings:
- Queen Mother’s Hall
- Lord Cameron Hall
- Rosalind Franklin Hall
- Townhouses</td><td>N/A</td></tr>
<tr><td>5.9 – Overheating & Cooling</td><td>- U-Values to exceed minimum requirements of Building Regulations Part L1A (2013)
- Solar control glass
- Communal cooling system</td><td>- Constructions upgraded to improve U-Values – subject to conservation and listed building constraints</td></tr>
<tr><td>5.15 – Water Use & Supplies</td><td>- Water consumption limited to <105 litres/person/day (l/p/d)
- Water meters provided</td><td>- Water consumption limited to <118 litres/person/day (l/p/d) where possible
- Water meters provided</td></tr>
</table>

2.0 INTRODUCTION

This Statement outlines the sustainability strategy for the proposed new development at Kidderpore Avenue, London and in particular demonstrates the steps that are being considered to address relevant policies. The applicable policies are outlined in section three of this Statement.

The proposed development involves the retention of the site's five Grade II statutorily listed buildings. Kidderpore Hall, the Maynard Wing, the Chapel and the old Skeel Library will all be sensitively converted to residential use, and the Summerhouse will be restored in a new location on the site close to the Chapel.

Other unlisted buildings will also be retained and sensitively converted to residential use, namely Bay House, Dudin Brown, and Lady Chapman Hall.

Three existing buildings will be demolished and replaced with new residential buildings: Lord Cameron, Rosalind Franklin and the Queen Mother's Hall.

Integrated in the Kidderpore Avenue elevation of the replacement for the Queen Mother's Hall will be an access to a basement area where car parking for residents and visitors will be provided. In total 97 spaces are proposed. The majority of cycle parking requirements will also be accommodated in the basement, amounting to 312 spaces. Some cycle parking – in particular that intended to be used by visitors, amounting to 16 spaces – will be provided at ground floor level, carefully integrated into the hard and soft landscaping scheme.

New buildings are proposed in two locations on the site. The first is between the Chapel and Queen Mother's Hall where 'pavilion' houses are proposed. A terrace of 'townhouses' is proposed between the Chapel and the Maynard Wing on the site of the previously-consented student accommodation development, planning permission for which remains extant by virtue of the development having been commenced.

The proposed development also includes residents' facilities and a concierge.

3.0 POLICY CONTEXT

The proposed development should aim to comply with a number of national, regional and local policies with regard to energy use and conservation, carbon emissions, sustainable design, construction and building systems as below:

3.1 National Policy

National Planning Policy Framework (NPPF)

In March 2012, the Government published its National Planning Policy Framework (NPPF). This document replaced most of the Planning Policy Guidance Notes and Statements issued since 1991. It provides guidance for local planning authorities and decision-takers both in drawing up plans and as a material consideration in determining planning applications.

The National Planning Policy Framework (NPPF) sets the planning context for sustainable design and development. The NPPF also provides policy on designated heritage assets which include grade II listed buildings: paragraph 138 states that any harm or loss should provide clear and convincing justification.

Climate Change Act

The Climate Change Act 2008 set a legally-binding greenhouse gas emission reduction target of at least 80% by 2050 (with an interim target of 26% by 2020) against a 1990 baseline. The Government has provided guidance to planning authorities to encourage the reduction of CO_2 emissions through the use of sustainable design and construction and the use of on-site renewable technologies.

3.2 Building Regulations

Part L of the Building Regulations deals with the energy efficiency requirements of the Regulations and sets out the maximum CO_2 emissions occupied buildings are to meet. Approved Documents L1A and L1B – Conservation of Fuel and Power in New Dwellings and Existing Dwellings respectively, provide guidance on compliance with those aspects of the Building Regulations relating to energy efficiency. For listed buildings, L1B states 'the aim should be to improve the energy efficiency as far as is reasonably practicable'.

L1B also refers to 'Energy Efficiency and Historic buildings', a document produced by English Heritage which advises on the balance that needs to be found between measures to improve energy efficiency and conservation of the building's character and fabric.

3.3 Regional Policy

London Plan Further Alterations (March 2015)

On 10 March 2015, the Mayor published the Further Alterations to the London Plan (FALP). From this date, the FALP are operative as formal alterations to the London Plan (the Mayor's spatial development strategy) and form part of the development plan for Greater London.

The London Plan is the strategic plan for London, setting out an integrated economic, environmental, transport and social framework for the development of London over the next 20 – 25 years.

Most relevant to the purposes of this report is chapter 5 of the London Plan - London's Response to Climate Change, which sets out the policies that underpin London's response to climate change, including climate change mitigation. The Plan seeks to achieve an overall reduction in London's carbon emissions of 60% (below 1990 levels) by 2025. An overview of the policies relevant to this report are as follows:

- major developments should meet the target CO_2 reduction of 40% over 2010 building regulations;
- the plan's energy strategy uses a hierarchy of measures to help achieve the target CO_2 reductions: be lean - use less energy, be clean - supply energy efficiently and be green - generate energy from renewables;
- the Mayor's Supplementary Planning Guidance document: Sustainable Design and Construction, published in April 2014 reduces the CO_2 reduction to 35% beyond Part L 2013 to take into account this document's typical reduction in CO_2 target levels over Part L 2010;
- the highest standards of sustainable design and construction should be achieved in London to improve the environmental performance of new developments;
- the environmental impact of existing urban areas should be reduced through policies and programmes that bring existing buildings up to the Mayor's standards on sustainable design and construction;
- the Mayor expects 25 per cent of the heat and power used in London to be generated through the use of localised decentralised energy systems by 2025;
- development proposals should evaluate the feasibility of Combined Heat and Power (CHP) systems; and
- The Mayor seeks to increase the proportion of energy generated from renewable sources.

The Mayor's Supplementary Planning Guidance document: Sustainable Design and Construction, published in April 2014, aims to provide guidance on how to achieve the London Plan objectives effectively, by providing detail on how to implement the sustainable design and construction policies and meet the sustainability targets set out in the London Plan. More detailed information is included in the document 'Guidance for Developers on Preparing Energy Assessments' (April 2014), including transitional arrangements for the introduction of Part L 2013. The Mayor's Housing SPG (November 2012) is also relevant.

The London Borough of Camden is designated as an Air Quality Management Area (AQMA) for both PM10 and Nitrous oxide (NO_2). Therefore an Air Quality Assessment has been prepared and has been submitted in support of the planning application. That assessment concludes that:

- annual mean NO_2 concentrations are not predicted to exceed the annual mean objective at any of the future receptor locations on the ground floor level of the proposed development. There are no exceedances of the PM_{10} objectives at any of the future receptor locations;
- the buildings emissions for the development comply with the aims in the Mayor of London's SPG for 'air quality neutral' development; and
- overall, the air quality effects for the proposed development on future residents are considered to be insignificant.

3.4 Local Policies

Camden Core Strategy (2010)

The current local spatial planning document for the Borough is the Camden Local Plan which includes the Core Strategy 2010 which sets out the strategic elements of the Council's planning vision and strategy for the borough. Core strategy policies especially relevant to this development are:

- CS 6 – providing quality homes; the council aims to make full use of Camden's capacity for housing and minimise social polarisation;
- CS 13 - Tackling climate change through promoting higher environmental standards; the council aims to reduce the effects of and adapting to climate change, promote local energy generation, reduce water and surface water flooding and reduce carbon emissions; and
- CS 14 – Promoting high quality places and conserving our heritage; the council will require developments of the highest standard, preserve and enhance Camden's heritage assets, promote high quality landscaping and seek the highest standard of access to buildings.

Camden Development Policies (2010)

Camden Development Policies set out detailed planning policies that the Council will use when determining applications for planning permission in the borough. The table below shows how individual development polices in this document relate to the policies in the Core Strategy. CS 13 and 14 are of particular relevance for this Statement.

Core strategy		
CS 13	Tackling climate change through promoting higher environmental standards	DP22. Promoting sustainable design and construction
		DP23. Water
CS 14	Promoting high quality places and conserving our heritage	DP24. Securing high quality design
		DP25. Conserving Camden's heritage
		DP26. Managing the impact of development on occupiers and neighbours
		DP27. Basements and lightwells
		DP28. Noise and vibration
		DP29. Improving access

Camden Planning Guidance

Camden Planning Guidance documents provide advice on how Camden applies planning policies. A range of such documents have been produced and those which are of relevance to the proposed development are as follows:

- CPG 1 Design (2014);
- CPG 2 Housing (2013);
- CPG 3 Sustainability (2013);
- CPG 4 Basements and light wells (2013);
- CPG 6 Amenity (2011);
- CPG 7 Transport (2011); and
- CPG 8 Planning obligations (2011).

CPG 1 Design, provides guidance to support their Core Strategy and Development Policies and covers a range of topics including housing, sustainability, amenity and planning obligations. The document also provide guidance on applying Camden's policies on listed and historic buildings.

CPG 3 Planning Guidance supplementary document on sustainability (adopted September 2013) explains the application of Camden's energy hierarchy and practical means of achieving sustainable construction. The Council expects change of use or conversion of developments of more than five dwellings or 500 square meters to be BREEAM domestic refurbishment rated and strongly encouraged to meet the 'Excellent' rating. It also encourages minimum un-weighted standards of: Energy 60%, Water 60% and Materials 40%. However, it does note that special consideration will be given to buildings that are protected e.g. listed buildings to ensure that their historic and architectural features are preserved.

Developers of new buildings are encouraged to meet Code for Sustainable Homes Level 4 in accordance with Development Policy DP22 - Promoting sustainable design and construction and similarly to BREEAM refurbishment also encouraged to meet minimum un-weighted standards of: Energy 60%, Water 60% and Materials 40%.

However, at a Planning pre-application meeting the Sustainability Officer for Camden Council confirmed the development will not require Code for Sustainable Homes assessment. This is because the government has withdrawn the Code for Sustainable Homes, following a fundamental review of the technical housing standards in March 2015.

4.0 DESIGN RESPONSE

4.1 Reuse of land and buildings

Applicable policies:

- Government/CABE guidance: By Design – Urban Design in the planning system
- Camden Planning Guidance supplementary document CPG 1 The London Plan March 2015 (further alterations to the London Plan):
  - Policy 5.4 Retrofitting
  - Policy 5.21 Contaminated land
  - London Plan Housing SPG (November 2012)
- Camden Core Strategy 2010:
  - CS14: Promoting high quality places and conserving our heritage
- Camden Development Policies:
  - DP24: Securing high quality design
  - DP25: Conserving Camden's Heritage

Design response:

The site has listed buildings, a SINC, and trees of arboricultural value, therefore the energy strategy and services distribution is designed to be as unobtrusive and sympathetic as reasonably possible providing a high quality service to the buildings that preserve the quality, character and fabric of the existing architecture on site in accordance to DP25 and London Plan Policy 5.4 Retrofitting.

Services distribution shall be routed through new builds wherever possible, especially in the car park ceiling to avoid the gardens.

4.2 Adaption to climate change

Applicable policies:

- Climate change act 2008
- Camden Planning Guidance supplementary documents – CPG 1 and 3
- The London Plan March 2015 (further alterations to the London Plan):
  - Policy 5.3 Sustainable design and construction
  - Policy 5.9 Overheating and cooling
  - Policy 5.10 Urban greening
  - Policy 5.11 Green roofs and development site environs
  - Policy 5.12 Flood risk management
  - Policy 5.13 Sustainable drainage
  - Further Alterations to the London Plan: Sustainability Statement (March 2015)
  - Sustainable Design and Construction SPG (April 2014)
- Camden Core Strategy 2010:
  - Policy CS1: Distribution of growth
  - Policy CS13: Tackling climate change through promoting higher environmental standards

- Camden Development Policies:
  - DP22: Promoting sustainable design and construction
  - DP23: Water
  - DP24: Securing high quality design
  - DP26: Impact of development on occupiers and neighbours
  - DP27: Basements and light wells

Design response:

The development includes a range of features which will enable it to adapt to the potential effects of climate change. Green roofs will be considered to enable urban greening and mitigate the urban heat island effect.

With respect to summer overheating:

- glazing to southern and western façades will use solar control glass where possible;
- where necessary low-loss hot water cylinders will be installed to reduce undesirable internal gains and dwellings with less than three bathrooms and/or en suites the cylinder will be omitted and replaced by a low loss HIU for hot water;
- low energy lighting will be installed;
- the dwellings have been assessed for overheating risk using a simulation method based on CIBSE Guide A using the DSY weather data, a description and results of this assessment are included in the Energy Statement. The preliminary statutory summer overheating test in SAP2012 Appendix P was carried out on selected dwellings and no overheating risk was identified; and
- comfort cooling is proposed for the new build units to enable these units to realise their full commercial potential. The energy and emissions impact of these systems has been minimised as much as practicable.

With respect to minimising the contribution to the heat island effect:

- the heat rejection for the comfort cooling system on private sale residential units will be located at the corner of the site reducing local heating; and
- underground car parking is provided to eliminate the adverse effect of the conventional low albedo car parking area.

4.3 Energy and carbon dioxide emissions

Applicable policies:

- Climate change act 2008
- Part L Building Regulations
- Camden Planning Guidance supplementary documents – CPG 1 and 3
- The London Plan March 2015 (further alterations to the London Plan):
    - Policy 5.2 Minimising carbon dioxide emissions
    - Policy 5.3 Sustainable design and construction
    - Policy 5.5 Decentralised energy networks
    - Policy 5.6 Decentralised energy in development proposals
    - Policy 5.7 Renewable energy
    - Policy 5.9 Overheating and cooling
    - Further Alterations to the London Plan: Sustainability Statement (March 2015)
    - Sustainable Design and Construction SPG (April 2014)
- Camden Core Strategy 2010:
    - Policy CS13: Tackling climate change through promoting higher environmental standards
- Camden Development Policies:
    - DP22: Promoting sustainable design and construction
    - DP24: Securing high quality design

Design response:

One of the fundamental objectives of any development that embraces sustainable design principles is to reduce operational carbon dioxide emissions. This is of course to reduce the rate at which the level of atmospheric carbon dioxide is increasing as well as to conserve finite fossil fuel reserves. This Statement adheres to the principles set out in the London Plan.

A separate Energy Strategy has been prepared and submitted in support of the planning application.

The starting point in developing the energy strategy for the scheme was to design-in specifications that would minimise the intrinsic energy demand of the development, corresponding to the first part of the London Plan energy hierarchy – be lean. The National Calculation Methodology (NCM) for dwellings, SAP2012, was used, and a representative range of dwelling types were modelled and assessed.

We predict challenges in improving energy efficiency to listed and historic buildings, however best endeavours shall be made whilst being sympathetic to the buildings' character and fabric.

Key efficiency measures proposed for the development are as follows:

- low energy lighting throughout the residential part of the development using "A" rated lamps with a maximum average wattage across the total floor area of 9 Watts/m^2;

- automatic controls for all common area and external lighting, including ancillary areas such as bin and cycle stores. Controls will be based on occupant or daylight sensors as appropriate;
- high performance hot water cylinders with declared loss factors of less than 0.01 kWh/l/day;
- in dwellings with two or fewer bathrooms and/or en suites, the omission of hot water storage cylinders will increase the efficiency of the heating system. Best endeavours shall be made in converted and listed buildings to negate the need for hot water cylinders;
- high efficiency EST "best practice compliant" mechanical balanced ventilation systems with heat recovery and summer bypass on new builds;
- on new builds underfloor heating with multi-zone controls to maximise the ease of use and allow residents to set appropriate control temperatures for each part of a dwelling;
- low water showers and taps to reduce the consumption of domestic hot water, coupled with low water WCs to reduce the calculated total water consumption to <105 l/p/d for new builds and where possible <118 l/p/d for refurbished dwellings in accordance with Code for Sustainable Homes and BREEAM domestic refurbishment;
- every dwelling will be equipped with the CfSH-compliant "energy display device"; and
- on new build private sale central air cooled chilled water comfort cooling with an EER of 2.4.

In addition to adopting the extensive range of efficiency measures listed above, the Design Team reviewed the options for heating systems in the context of the constraints of the scheme itself, including the architecture of the buildings, the location of the site, the latest planning guidance and substantial practical experience of low and zero carbon heating systems.

The possibility of connecting to an existing district heating system was considered to correspond to the second part of the London Plan energy hierarchy, be clean, but a review of existing schemes using the London Heat Map revealed that there are none within a reasonable distance of the site. However the scheme is designed to facilitate connection to a district heating network if one should extend into the locality in the future. The following energy system is proposed:

- a community heating system will provide heat to the whole building with high efficiency low NOx gas boilers;
- incorporation of a CHP machine has been investigated but has not been found feasible and is not being installed;
- a communal cooling system to provide cooling to the private sale units using basement located air cooled chillers and – the system to achieve an overall EER of at least 2.4;
- these systems (including the cooling where provided), will result in a further reduction in Dwelling Emission Rate (DER) and achieve for the dwellings an average reduction of approximately 35%;

- the provision of a 43.16 kWp PV installation referring to the third part of the London Plan hierarchy – be green; and
- the communal system will be designed for a future connection to a district heating network in accordance with best practice and local guidance.

The above provisions mean that the development will comply with London Plan Policy 5.2 Minimising carbon dioxide emissions, and Camden's Policy CS13: Tackling climate change through promoting higher environmental standards.

4.4 Noise and light pollution

Applicable policies:

- BRE: Site layout planning for Daylight and Sunlight – A guide to Good Practice
- Camden Planning Guidance supplementary document CPG 1
- Planning Policy Guidance 24: *Planning and noise*
- The London Plan March 2015 (further alterations to the London Plan):
  - Policy 5.3 Sustainable design and construction
  - Policy 7.15 Reducing noise and enhancing soundscapes
- Camden Core Strategy 2010:
  - Policy CS5: Managing the impact of growth and development
- Camden Development Policies:
  - DP26: Managing the impact of development on occupiers and neighbours
  - DP28: Noise and vibration

Design response:

Significant items of plant in terms of noise generation are likely to include the following:

- plant within the energy centre; and
- air cooled chillers within the basement plant room.

Noise pollution from the development will be mitigated by ensuring that all plant and equipment is designed to be at least 10dB below the background noise levels.

An Acoustic Assessment has been undertaken by RBA Acoustics and noise monitoring was carried out on site to determine corresponding noise levels over a typical day and night time period. The assessment concludes measured noise levels satisfy planning permission requirements and vibration levels are unlikely to affect this development. Also, planning approval is not considered to be rejected on the basis of noise and vibration.

If required by BREEAM domestic refurbishment best endeavours shall be made to achieve the 3 dB improvement over Building Regulations Part E compliance for refurbished dwellings.

The construction phase noise will be managed in accordance with best practice, and particularly the requirements of the Considerate Constructors Scheme code of considerate practice.

External lighting will be minimised as far as possible, consistent with satisfying requirements for safety and security. Light pollution will be minimised by ensuring that the external lighting is designed in accordance with the Institute of Lighting Engineers guidance including the *Guidance notes for the reduction of light pollution (2000)* and *Guidance notes for the reduction of obtrusive light, GN01 (2005).*

4.5 Air quality and microclimate

Applicable policies:

- Camden Planning Guidance supplementary document
- BREEAM Refurbishment
- Code for Sustainable Homes
- The London Plan March 2015 (further alterations to the London Plan):
    - Policy 5.3 Sustainable design and construction
    - Policy 7.14 Improving air quality
    - Sustainability Statement (March 2015)
- Camden Core Strategy 2010:
    - Policy CS5: Managing the impact of growth and development
    - Policy CS13: Tackling climate change through promoting higher environmental standards
    - Policy CS16: Improving Camden's health and well-being
- Camden Development Policies:
    - DP22: Promoting sustainable design and construction
    - DP24: Securing high quality design
    - DP26: Managing the impact of development on occupiers and neighbours
    - DP32: Air quality

Design response:

The development will be heated by a community heating system with gas boilers. The gas boilers will have NOx emissions that are less than 40 mg/kWh (equivalent to NOx Class 5). This plant will be located in a new build plant room and the flues will be routed up through the new building to discharge at a high level.

An air quality assessment prepared by Peter Brett Associates has been prepared and submitted with the planning application and concludes that the air quality effects for the proposed development are considered to be insignificant.

The basement car park will be mechanically ventilated at six air changes an hour to control traffic pollution and be capable of ten air changes per hour for fire mode.

4.6 Flood risk and surface water management

Applicable policies:

- Planning Policy Statement: Planning and Climate Change
- Planning Policy Statement 25: Development and Flood Risk, CLG, 2006
- The London Plan March 2015 (further alterations to the London Plan):
  - Policy 5.12 Flood risk management
  - Policy 5.13 Sustainable drainage
  - Policy 5.14 Water quality and wastewater infrastructure
- Camden Core Strategy 2010:
  - Policy CS13: Tackling climate change through promoting higher environmental standards
- Camden Development Policies:
  - DP22: Promoting sustainable design and construction
  - DP23: Water
  - DP27: Basements and lightwells

Design response:

A Flood Risk Assessment has been undertaken and is submitted in support of the planning application. This has confirmed that the site is in a Low Flood Risk area (Flood Zone 1). Implementation of Sustainable Drainage Systems (SuDS) on the development is to be investigated..

4.7 Water conservation

Applicable policies:

- Part G: 2010 of the Building Regulations
- Camden Planning Guidance supplementary document – CPG 1 and 3
- The London Plan March 2015 (further alterations to the London Plan)
  - Policy 5.3 Sustainable design and construction
  - Policy 5.15 Water use and supplies

Camden Core Strategy 2010:

Policy CS13: Tackling climate change through promoting higher environmental standards

Camden Development Policies:

DP22: Promoting sustainable design and construction

DP23: Water

Design response:

Best endeavours will be made to implement a range of water conservation measures that will reduce the calculated water consumption to below 105 and 118 litres per day for each resident, on the new and refurbished dwellings respectively as calculated using the methodology defined in Part G: 2010 of the Building Regulations.

Each dwelling will have an individual water meter, and the apartments' Landlord's area, and the individual tenanted areas in the commercial space will be similarly metered.

5.0 CONCLUSIONS

This Sustainability Statement demonstrates that the proposed development at Kidderpore Avenue, in London borough of Camden, has targeted very high standards of design and build quality. The sustainable design and construction strategy focuses on the implementation of sustainable systems for energy, water, management, waste, pollution, and the use and choice of materials. Much attention has been given to reducing the environmental impact throughout the whole lifetime of the buildings and not just during occupation.

Following the energy hierarchy has enabled carbon reductions to be calculated for the proposed redevelopment of Kidderpore Avenue. The total overall carbon reduction is predicted to be approximately 35% through high fabric efficiency, the use of a community heating system and a carbon offset financial contribution.

Water consumption will be reduced through the incorporation of water efficient fixtures and fittings throughout the proposed residential units, in line with the requirements of BREEAM Domestic refurbishment.

The scheme will incorporate best practice design principles with regards to light and noise pollution and the recommendations of appointed professionals will be adopted.

A Flood Risk Assessment has been undertaken and confirms that the site is in a Low Flood Risk area. A drainage strategy has also been prepared which says that surface and foul drainage will be connected to existing networks and that two flow control chambers will be provided on the site. These will be specified to a maximum combined rate of 9.9l/s for all storm events up to and including the 1 in 100 year storm with an additional 30% intensity considered to allow for future climate change. The proposed incorporation of green roof areas within the development along with permeable paving will help reduce volumes of surface water run-off from the development and will also help reduce the attenuation storage requirement.

Recycling facilities will be provided for the proposed residential units and the reuse and disposal of demolition and construction waste will be guided by a Site Waste Management Plan. In addition, the site will be registered with the Considerate Constructors Scheme which will ensure that the site's impacts on the environment, the workforce and the general public are minimised.

A BREEAM Refurbishment 'Excellent' rating has been targeted, that best endeavours shall be made subject to conservation and listed building constraints to achieve.

In conclusion, this report demonstrates that the proposed redevelopment has successfully met the majority of the Mayor's Essential and Preferred Standards referred to in the Sustainable Design and Construction SPG, and the standards found in London Borough of Camden planning policy. Where a standard is not met, justification will be provided.