Leycam Limited

41 Fortess Road
London Borough of Camden
London
NW5 1AD

Sustainability Statement
(Incl. BREEAM Domestic Refurbishment)

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ASHP	Air Source Heat Pump
CHP	Combined Heat & Power
CO_2	Carbon Dioxide – usually measured in $kgCO_2/yr$
CS	Core Strategy
CSH	Code for Sustainable Homes
DC	District Council
DPD	Development Plan Document
FGHR	Flue Gas Heat Recovery
GSHP	Ground Source Heat Pump
HP	Heat Pump
kg	Kilograms
kWh	kilo-Watt-hour – kW is peak load, kWh/yr is annual figure
No.	Number of items
Offset	Use of this fuel/technology offsets an amount of energy/CO2 generated off-site – e.g. the use of PV does not reduce electrical use, but offsets it through on-site generation
PV	Photovoltaic
PV-T	Photovoltaic-Thermal (Brand Name)
SCC	Sustainable Construction Checklist
SWH	Solar Water Heating
TFA	Total Floor Area (Internal)
The Agent	The party who requested the scope of works
The Client	The party who is developing the property (generally the invoicee)
The Proposed Development	The new build/refurbishment on which the planning application is based

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Executive Summary

1.0.1 This Sustainability Statement has been undertaken by SRE for the Proposed Development at 41 Fortess Road, London Borough of Camden (Proposed Development) in order to meet the requirements of the London Borough of Camden Core Strategy 2010 – 2025 and the Camden Planning Guidance (CPG3) Sustainability.

1.0.2 The units will achieve certification to "Excellent" under the BREEAM Domestic Refurbishment[1], achieving a score of 73.33.

1.0.3 This report assesses the Proposed Development in relation to wider sustainability requirements for the area, relating to both local and regional planning policy.

1.0.4 The Proposed Development goes as far as is practical in meeting all of the relevant requirements set out within the London Borough of Camden Core Strategy 2010 - 2025, and consequently addresses all planning requirements (for sustainability) related to the site.

[1] SD5072 – 2012 – 2.0

2.0 Introduction

2.0.1 This Sustainability Statement has been prepared by SRE Ltd to accompany the planning application for the Proposed Development at 41 Fortess Road, London Borough of Camden, London, NW5 1AD (the Proposed Development) for Leycam Limited (the Client).

2.0.2 The statement details how the Proposed Development responds to, and meets the relevant requirements as part of an overall sustainability assessment.

2.1 The Proposed Development

2.1.1 The Proposed Development at 41 Fortess Road comprises the conversion and upgrade of an existing building to form 9 no. dwellings ranging from studio to 3 bedroom apartments, over 4 floors.

Figure 1: Proposed Development

2.1.2 Full details of the Proposed Development can be found in the supporting drawings (See Appendix A for proposed Floor Plans).

3.0 Sustainability Approach

3.0.1 The World Commission on Environment and Development (WCED) report: Our Common Future, describes Sustainable Development as development that:

"meets the needs of the present without compromising the ability of future generations to meet their own needs."

3.0.2 This broad concept of Sustainable Development is taken into account within the Sustainability and Energy Statement. However, the focus is on successfully meeting the requirements of planning policy and guidance, with key documents listed below.

Sustainability Guidelines and Policy

3.0.3 The following planning policy and guidance has been used to inform the strategy and to ensure that the Proposed Development meets all requirements imposed on it:

Key Policies

- London Borough of Camden Core Strategy 2010 – 2025 (Adopted version 2010) – Policy CS13 Tackling climate change through promoting higher environmental standards.

- London Borough of Camden Supplementary Planning Documents (SPDs) – CPG 3 Sustainability (September 2013).

Policy CS13: Tackling climate change through promoting higher environmental standards

Reducing the effects of and adapting to climate change

The Council will require all development to take measures to minimise the effects of, and adapt to, climate change and encourage all development to meet the highest feasible environmental standards that are financially viable during construction and occupation by:

a) ensuring patterns of land use that minimise the need to travel by car and help support local energy networks;

b) promoting the efficient use of land and buildings;

c) minimising carbon emissions from the redevelopment, construction and occupation of buildings by implementing, in order, all of the elements of the following energy hierarchy:
- ensuring developments use less energy,
- making use of energy from efficient sources, such as the King's Cross, Gower Street, Bloomsbury and proposed Euston Road decentralised energy networks;
- generating renewable energy on-site; and

d) ensuring buildings and spaces are designed to cope with, and minimise the effects of, climate change.

The Council will have regard to the cost of installing measures to tackle climate change as well as the cumulative future costs of delaying reductions in carbon dioxide emissions.

Local Energy Generation

The Council will promote local energy generation and networks by:

e) working with our partners and developers to implement local energy networks in the parts of Camden most likely to support them, i.e. in the vicinity of:

- housing estates with community heating or the potential for community heating and other uses with large heating loads;

- the growth areas of King's Cross, Euston; Tottenham Court Road; West Hampstead Interchange and Holborn;

- schools to be redeveloped as part of Building Schools for the Future programme;

- existing or approved combined heat and power/local energy networks (see Map 4) and other locations where land ownership would facilitate their implementation.

f) protecting existing local energy networks where possible (e.g. at Gower Street and Bloomsbury) and safeguarding potential network routes (e.g. Euston Road);

CPG 3 – Section 5: Decentralised energy networks and combined heat and power

"Decentralised energy could provide 20% of Camden's heating demand by 2020.

Combined heat and power plants can reduce carbon dioxide emissions by 30-40% compared to a conventional gas boilers.

Where feasible and viable your development will be required to connect to a decentralised energy network or include CHP."

CPG 3 – Section 6: Renewable energy

"All developments are to target at least a 20% reduction in carbon dioxide emissions through the installation of on-site renewable energy technologies. Special consideration will be given to heritage buildings and features to ensure that their historic and architectural features are preserved.

When assessing the feasibility and viability of renewable energy technology, the Council will consider the overall cost of all the measures proposed and resulting carbon savings to ensure that the most cost-effective carbon reduction technologies are implemented in line with the energy hierarchy."

3.1 Minimum Policy Compliance

Environmental Rating – BREEAM Refurbishment – Domestic Buildings

3.1.1 The BREEAM Domestic Refurbishment Pre-Assessment Estimate shows that the refurbished flats are predicted to meet the requirements BREEAM label 'Excellent'.

3.1.2 BREEAM Domestic Refurbishment is a nationally recognised standard with a primary aim of improving the environment performance of existing dwellings in a robust and cost effective manner.

3.1.3 The performance of a development is quantified by a number of individual measures and associated criteria stretching across a range of environmental issues which is ultimately expressed as a single certified BREEAM rating. The issues considered are:

• Management	• Water	• Pollution
• Health and Well-being	• Materials	• Innovation
• Energy	• Waste	

Table 1: BREEAM Domestic Refurbishment Categories

3.1.4 SRE are a BREEAM accredited assessor organisation.

3.1.5 A summary of the key measures that are to be implemented and the final credit score is provided in the Pre-Assessment summary (Appendix B). Please see the supporting Pre-Assessment Estimate for full details.

3.2 Energy Use and Pollution

Need for Cooling

3.2.1 All flats have large openings allowing effective ventilation. Good levels of insulation will help reduce heat exiting and entering the building.

3.2.2 The existing building is comprised of concrete floors and brick walls with cement lime plaster and therefore has a good level of thermal mass.

3.2.3 Thermal mass in the outer leaf of a building can reduce any potential risk of overheating in the summer months by absorbing solar radiation and allowing it to dissipate without being transmitted into the building itself. There will be some solar gain via windows and this will be controlled via blinds.

Pollution: Air, Noise and Light

3.2.4 Construction site impacts will be monitored as standard practice. This includes:

- Adopt best practice in terms of air (dust) pollution from site activities

This will include items such as:

- The use of dust sheets to limit the amount of dust being moved around.
- All electric saws, routers and planers used on site must be fitted with an extract system to minimise dust being released into the air.
- Any machine cutting of bricks/ blocks on site will have facilities to control the dust by using water.

- All skips will be covered to reduce the dust being blown around the site.

3.2.5 It is unlikely that there will be any increase in noise levels to the surrounding area - except for associated construction traffic - as it is not expected that there will be any additional traffic as there is no change to the existing parking provision on site.

3.2.6 The proposed residential use is compatible with adjacent land uses. Therefore, noise at street level and neighbouring buildings is unlikely to change (and may slightly improve) and thus the sound scape of the street will stay the same.

3.2.7 Sound insulation for all party walls and floors will improve on Building Regulations standards by a minimum of 3dB in line with BREEAM Domestic Refurbishment requirements to ensure an appropriate living environment for future occupants.

3.2.8 A Light Pollution Reports is not deemed necessary for a site of this scale. However, light pollution will be minimised through the careful specification and positioning of any external lighting required by the Proposed Development, ensuring that no lighting negatively impacts the surrounding residential units.

3.2.9 Under BREEAM guidelines, external lighting will consist of dedicated energy efficient fittings.

3.3 The Use of Renewable Energy

3.3.1 It is has been assumed in the accompanying BREEAM Domestic Refurbishment Pre-Assessment Estimate that renewable technologies will not be specified. However, modelling of the feasibility of renewable technologies on the pitched roof will be undertaken at detailed Design Stage (post-planning), and subject to aesthetic considerations.

3.4 Transport

Provision for the safe efficient and sustainable movement of people and goods

3.4.1 The design does not provide on-site car parking facilities for the residents of the property and therefore encourages residents to use alternative means of transport.

3.4.2 The Proposed Development is located on Fortess Road, which is well serviced by buses with the nearest stop (Forest Walk) being less than 5 minutes walk away. Buses operate at approximately 15 minute intervals during daytime and evening periods. Buses connect directly with Tottenham Court Road and North Finchley Bus Station. In addition, Tufnell Park Railway Station is less than a 10 minute walk away.

3.4.3 There is a Car Club at nearby Falkland Road, less than 0.1 miles from the Proposed Development. There are numerous other Car Clubs located within 1 mile of the Proposed Development (Figure 2). Evidence suggests that club cars reduce the overall mileage of cars and reduce CO_2. Organisation 'Carplus' states that *"On average, British car club vehicles emit over **20% less CO_2** per kilometre than the average car. They also emit lower levels of local air pollutants. In addition, a number of operators have trialled **electric vehicle** technology while others have used **low carbon fuels** since their inception"*[2].

3.4.4 Architectural drawings show that the development includes cycle storage. In line with the BREEAM Domestic Refurbishment assessment, the development will include 9 secure cycle

[2] Carplus. (2012). *Changing the way we travel.* Available from: http://www.carplus.org.uk/agenda/changing/

park spaces for residents use. These will give residents the option of travelling by bicycle for local journeys and to cycle to local train stations for example.

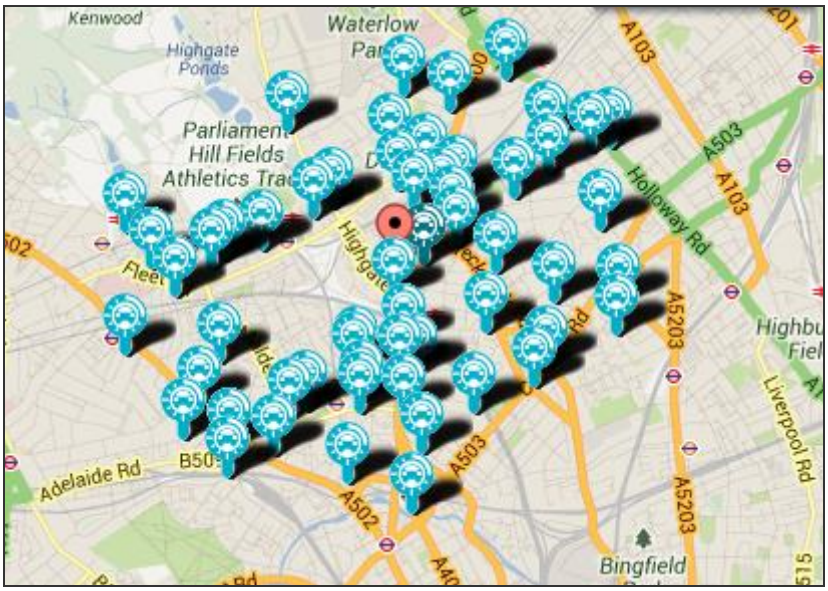


Figure 2: Local Club Car locations

3.4.5 Given the good level and frequency of public transport and the proximity of local club cars there are numerous alternatives to using the private car for travel.

3.5 Biodiversity

Minimising the threat to biodiversity

3.5.1 The proposed building will take up space occupied by the existing building. In line with BREEAM Domestic Refurbishment methodology, all features identified as being of 'ecological significance' in the ecology report will be protected during the demolition and construction phases.

3.5.2 Due to the site constraints and the use of a pitched roof, brown/green roofs and green walls are inappropriate for the Proposed Development.

3.6 Flooding and Drainage

Reducing and mitigating the risks of flooding and other impacts of climate change

3.6.1 A flood risk assessment will be undertaken for the Application Site as part of the mandatory elements of the BREEAM Domestic Refurbishment Assessment. This will determine the risk of flooding from all potential sources – in line with PPS25 (for BREEAM purposes).

3.6.2 The EA flood risk map shows the development is in Flood Zone 1, and is therefore at low risk of flooding (1 in 1000 chance of flooding per year).

3.6.3 The Proposed Development consists of the conversion and upgrade of an existing office building into residential units and, as such, the building footprint will remain the same and therefore the hard surface area will not change.

3.6.4 Under BREEAM Domestic Refurbishment Pol 2 credit (Surface Water RunOff), the domestic refurbishment will have a neutral impact upon site runoff in order to protect the watercourses and reduce the risk of localised flooding, pollution and other environmental

damage. Please see the accompanying BREEAM Domestic Refurbishment Pre-Assessment Estimate for more details.

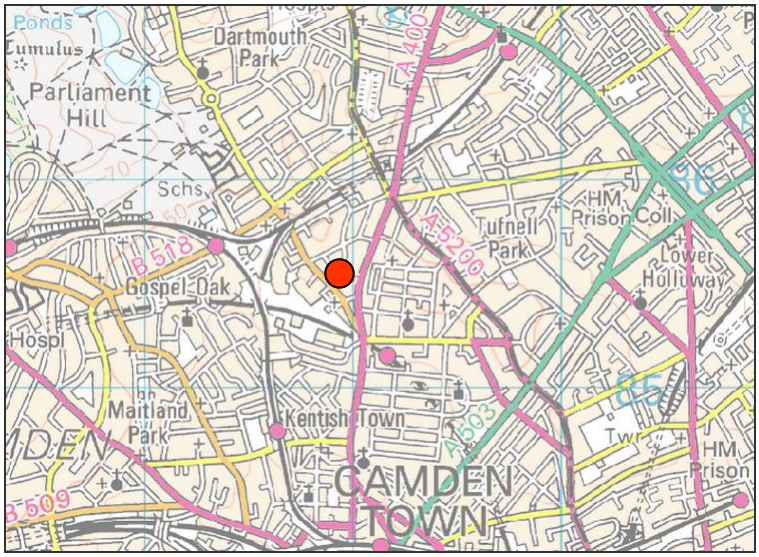


Figure 3: EA Flood Risk Map

3.7 Improving Resource Efficiency

Reduce waste generated and amount disposed of by landfill

3.7.1 A Site Waste Management Plan (SWMP) will be established before construction work commences on site to monitor, report and set targets for the level of waste being re-used and recycled. Appropriate monthly monitoring and waste targets will be set by the main contractor to minimise waste during the construction process. This process will also be applicable for assessment as part of the BREEAM Domestic Refurbishment assessment. Please see the accompanying BREEAM Domestic Refurbishment Pre-Assessment for full details of what will be included in the SWMP.

3.7.2 The Proposed Development consists of the upgrade and conversion of an existing building into residential units. Therefore, demolition waste will be kept to a minimum as the existing building envelope will be retained. Wherever practicable, construction waste will be recycled/re-used in accordance with a suitable guide such as the DTI Construction Industry Key Performance Indicator (KPI) and in accordance with the waste hierarchy (see Figure 4).

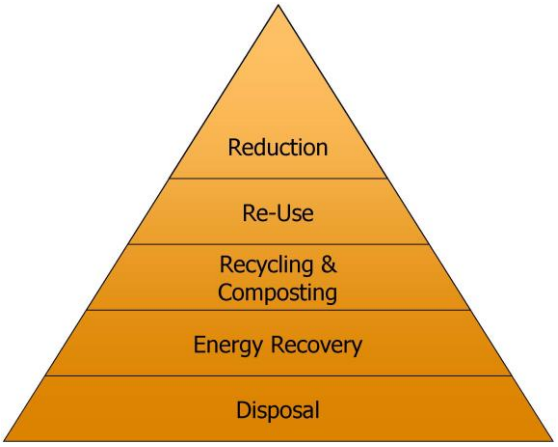


Figure 4: Waste Hierarchy

3.7.3 The London Borough of Camden operates a recyclable waste collection service for more than 3 different recycling streams, which is sorted post collection. As part of the BREEAM Domestic Refurbishment Assessment, it has been assumed that an internal recycling bin of a minimum capacity of 30 litres will be installed. The London Borough of Camden also provides a food waste collection service.

3.7.4 As part of the BREEAM Domestic Refurbishment Assessment, the environmental impact of materials used will be low and as many as practical will be re-used from the existing structure. All timber will be sourced responsibly, from independently verifiable and legal sustainable sources (e.g. FSC/PEFC) or forestry law enforcement, governance and trade sources.

3.7.5 Please see the accompanying BREEAM Domestic Refurbishment Pre-Assessment Estimate for more details.

Contaminated Land

3.7.6 Environment Agency data indicates that the site is not contaminated and there are no reported pollution incidences in the immediate surrounding area (Figure 5).

3.7.7 In addition, there are no operating or historic landfill sites in the immediate surrounding area (Figure 6).

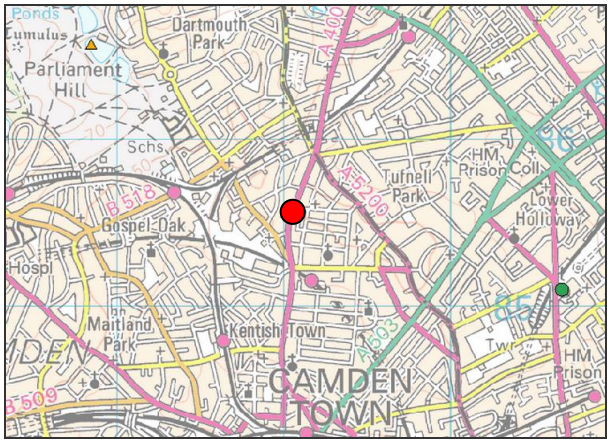


Figure 5: EA Pollution Map

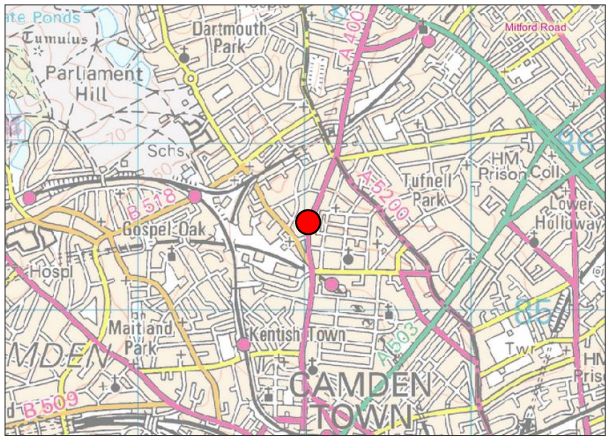


Figure 6: EA Landfill Map

Reducing levels of water waste

3.7.8 Each residential unit within the Proposed Development will be fitted with modern, efficient, low water use fittings, appliances (washing machines and dishwashers) and equipment to minimise water usage.

3.7.9 All units will have a water use of 95/litres/person/day, the below specification shows how this can be achieved:

- Kitchen sink taps have a flow rate of 5 litres/min or less
- Bathroom basin taps have a flow rate of 4 litres/min or less
- Low Flow Showers (not more than 6 litres/min)
- Dual Flush WC's (4/2.6 Litre)
- Bath: maximum 170 litre
- Washing Machine (8.17 litre/kg)
- Dishwasher (1.25 litres/place setting)
- No water softeners are to be installed

3.7.10 For units where external space is specified, appropriately sized water butts will be supplied for irrigation. Please see the accompanying BREEAM Domestic Refurbishment Pre-Assessment Estimate for more information.

3.7.11 At this stage, evidence that capacity exists in the public sewerage and water supply network has not been obtained, but will be investigated as required at the design stage – the site currently features an existing building so issues are not expected.

3.8 Design Standards

3.8.1 As part of the BREEAM Domestic Refurbishment assessment, the Proposed Development will adopt an inclusive design approach to improve the accessibility of the home and its future adaptability to cope with the changing needs of a household. An access statement will be provided which covers many aspects, including means of access, accessibility of switches and sockets and height of control fixtures. Please see the accompanying BREEAM Domestic Refurbishment assessment for more details.

4.0 Summary

4.0.1 The Proposed Development at 41 Fortess Road, London Borough of Camden comprises the conversion and upgrade of an existing building to form 9 no. dwellings ranging from studio to 3 bedroom apartments, over 4 floors.

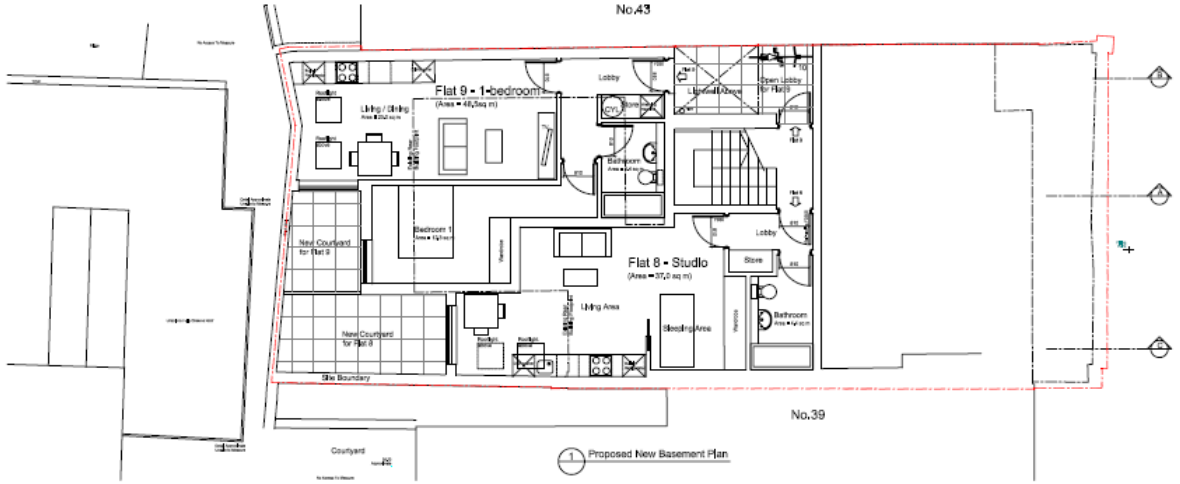
4.0.2 Overall, the Proposed Development will provide a modern, resource efficient, sustainable residential building, which complies with all the relevant planning policy, and includes the following measures:

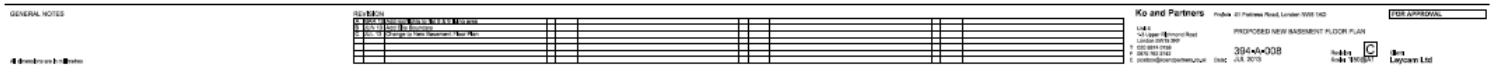
- BREEAM Domestic Refurbishment 'Excellent' rating
- Access to sustainable transport facilities
- Minimal impact on biodiversity
- Low environmental impact of materials
- Responsible sourcing of materials
- Use of water efficient fittings

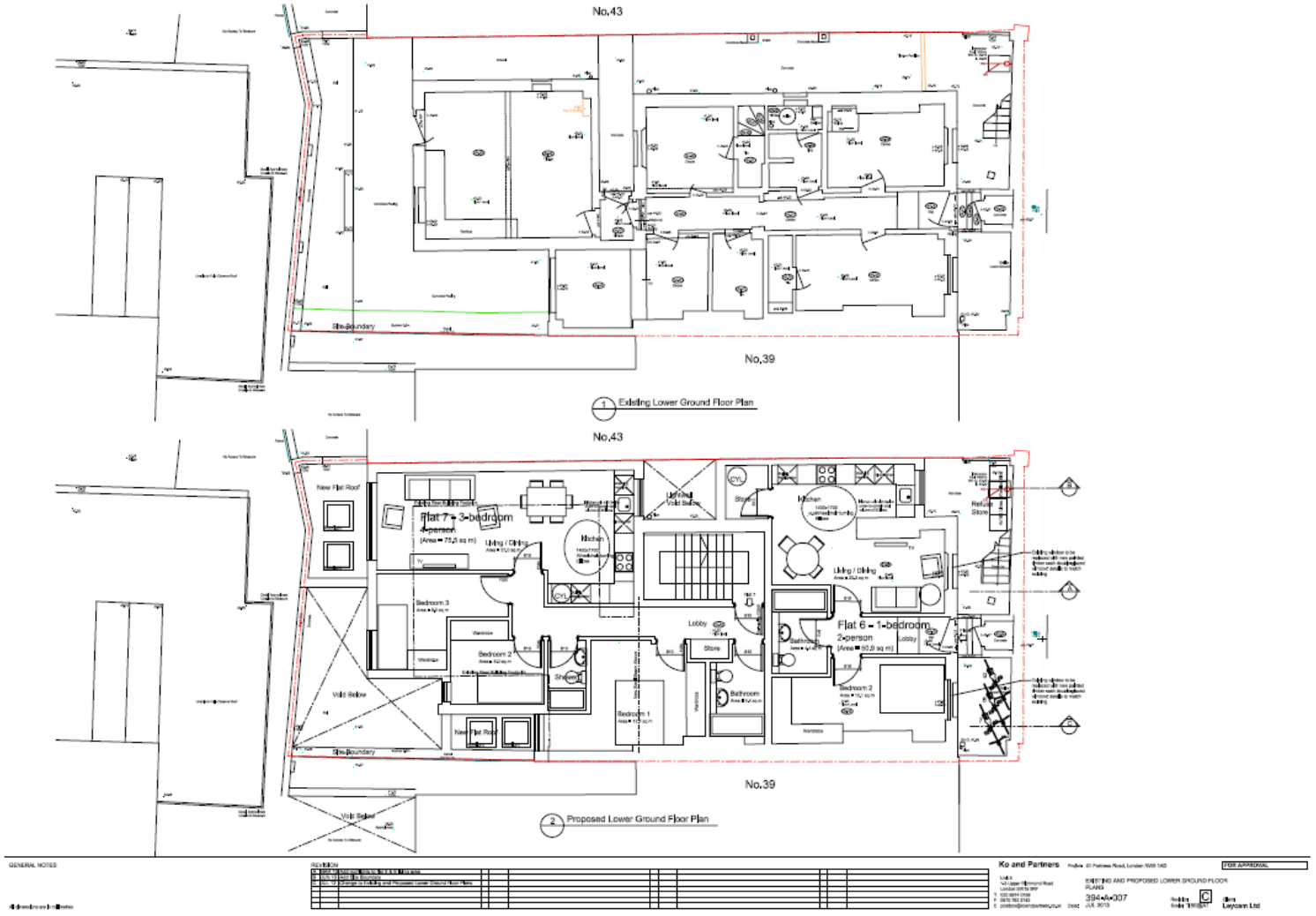
4.0.3 Through this approach the Proposed Development has gone as far as is practical in attaining compliance with all relevant environmental planning policy:

- London Borough of Camden Core Strategy 2010 – 2025 (Adopted version 2010) – Policy CS13 Tackling climate change through promoting higher environmental standards.
- London Borough of Camden Supplementary Planning Documents (SPDs) – CPG 3 Sustainability (September 2013).

5.0 Appendix A – Site Layout Plan






No.43
Site Boundary
No.39
1 Existing Lower Ground Floor Plan
No.43
New Flat Roof
Flat 7 - 3-bedroom 4-person
Living / Dining
Kitchen
Bedroom 3
Bedroom 2
Shower
Void Below
Lobby
Store
Bathroom
Bedroom 1
Flat 6 - 1-bedroom 2-person
Refuse Store
Site Boundary
No.39
2 Proposed Lower Ground Floor Plan
GENERAL NOTES
REVISION
Ko and Partners
FOR APPROVAL
EXISTING AND PROPOSED LOWER GROUND FLOOR PLANS
394-A-007
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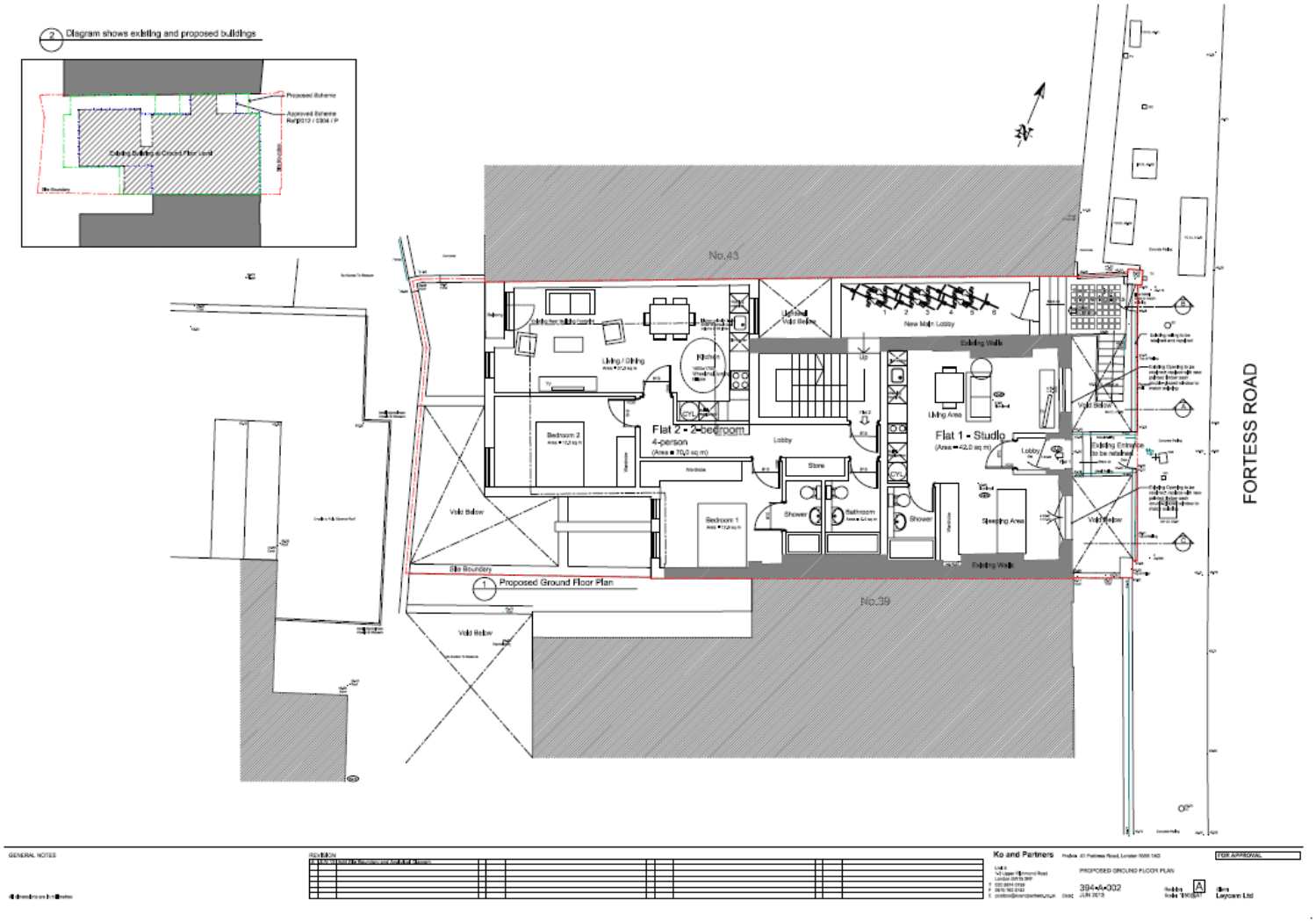
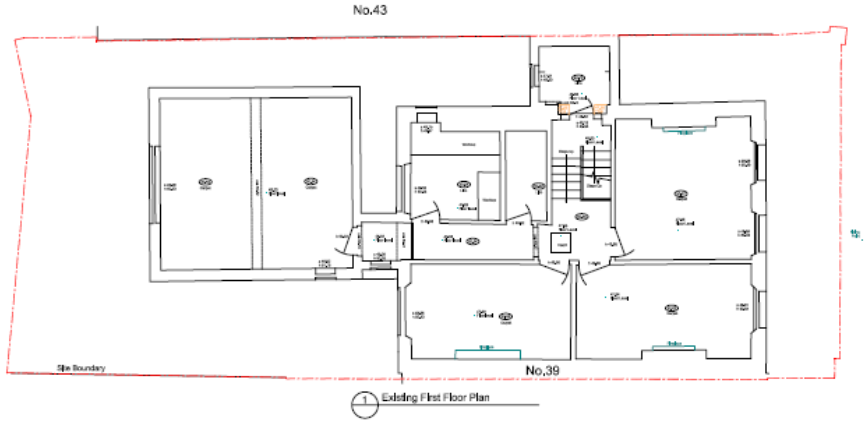
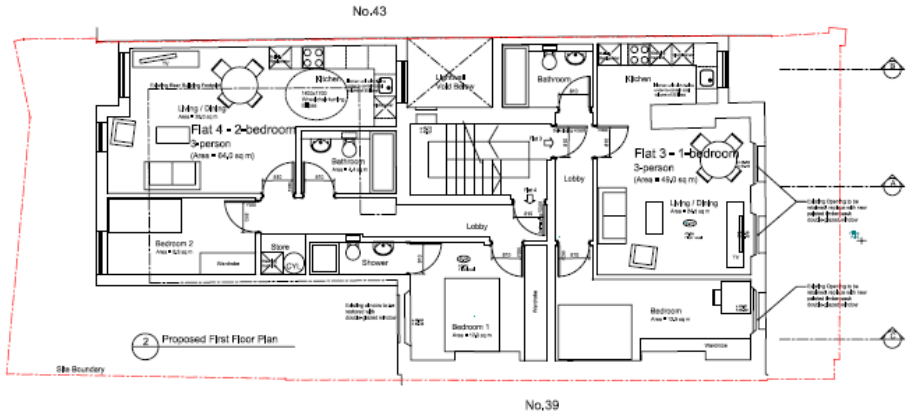

2 Diagram shows existing and proposed buildings
Proposed Scheme
Approved Scheme Ref:2012 / 0304 / P
Existing Building at Ground Floor Level
Site Boundary
No.43
No.39
FORTESS ROAD
Flat 2 - 2-bedroom 4-person
(Area = 70,0 sq m)
Flat 1 - Studio
(Area = 42,0 sq m)
Living / Dining
Kitchen
Bedroom 2
Bedroom 1
Lobby
Store
Bathroom
Shower
Void Below
New Main Lobby
Existing Walls
Living Area
Sleeping Area
Building Entrance to be retained
1 Proposed Ground Floor Plan
GENERAL NOTES
REVISION
Ko and Partners
FOR APPROVAL
PROPOSED GROUND FLOOR PLAN
394+A+002
Laycom Ltd


No.43
Site Boundary
No.39
1 Existing First Floor Plan


No.43
Kitchen
Living / Dining
Flat 4 - 2-bedroom
3-person
Bathroom
Lobby
Bedroom 2
Store
Shower
Bedroom 1
Kitchen
Bathroom
Flat 3 - 1-bedroom
3-person
Living / Dining
Lobby
Bedroom
2 Proposed First Floor Plan
Site Boundary
No.39


GENERAL NOTES
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EXISTING AND PROPOSED FIRST FLOOR PLANS
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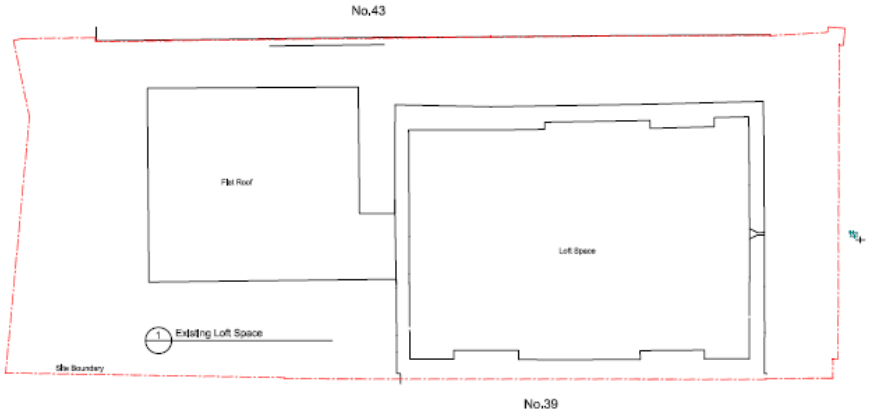
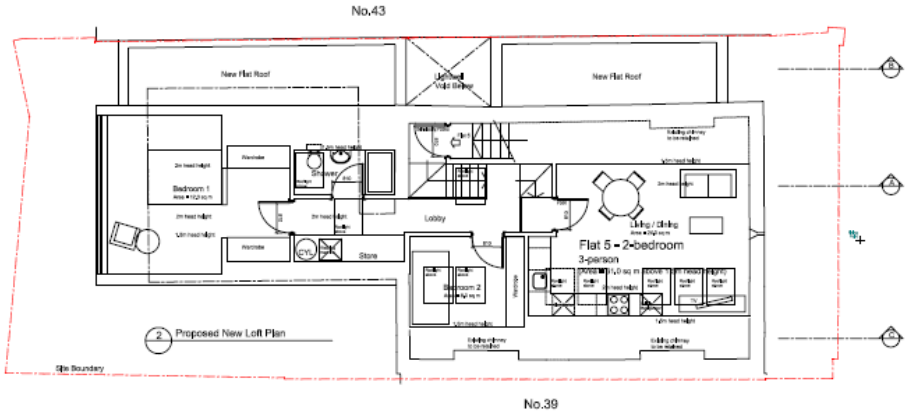
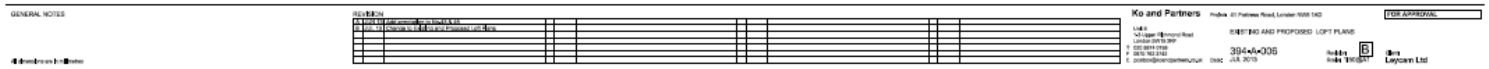

No.43
Flat Roof
Loft Space
1 Existing Loft Space
Site Boundary
No.39


No.43
New Flat Roof
New Flat Roof
Bedroom 1
Shower
Lobby
Store
Living / dining
Flat 5 - 2-bedroom
3-person
Bedroom 2
2 Proposed New Loft Plan
Site Boundary
No.39


GENERAL NOTES
REVISION
Ko and Partners
FOR APPROVAL
EXISTING AND PROPOSED LOFT PLANS
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6.0 Appendix B – CSH Pre-Assessment Estimate

Section	Credits Available	Target Score	Unit No / Type 41 Fortess Road, Camden - All Units		
Management				**Assumption**	**Confirmed**
Man 1	3	3	3	✓	
Man 2	2	2	2	✓	
Man 3	1	1	1	✓	
Man 4	2	1	1	✓	
Man 5	1	1	1	✓	
Man 6	2	2	2	✓	
	11	10	10		
Health and Wellbeing					
Hea 1	2	0	0	✓	
Hea 2	4	3	3	✓	
Hea 3	1	1	1	✓	
Hea 4	2	2	2	✓	
Hea 5	2	2	2	✓	
Hea 6	1	1	1	✓	
	12	9	9		
Energy					
Ene 1	6	1.5	1.5		✓ Averaged
Ene 2	4	3.5	3.5		✓ Averaged
Ene 3	7	7	7		✓ Averaged
Ene 4	2	0	0	✓	
Ene 5	2	2	2	✓	
Ene 6	1	1	1	✓	
Ene 7	2	2	2	✓	
Ene 8	2	1	1	✓	
Ene 9	2	1	1	✓	
Ene 10	1	0	0	✓	
	29	19	19		
Water					
Wat 1	3	3	3	✓	
Wat 2	1	1	1	✓	
Wat 3	1	0	0	✓	
	5	4	4		
Materials					
Mat 1	25	10	10	✓	
Mat 2	12	0	0	✓	
Mat 3	8	8	8	✓	
	45	18	18		
Pollution					
Pol 1	3	3	3	✓	
Pol 2	3	1	1	✓	
Pol 3	2	2	2	✓	
	8	6	6		
Waste					
Was 1	2	2	2	✓	
Was 2	3	3	3	✓	
	5	5	5		
Innovation					
Inn 1	10	2	2	✓	
	10	2	2		
Weighted Total	110	73.33	73.33		
BREEAM Level		EXCELLENT	EXCELLENT		