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Planning Application Energy Efficiency Intent

for

55 Cumberland Terrace

London NW1 4HJ

This report gives a brief overview of the existing building and the potential measures in terms of energy efficiency. The existing building is a Grade I listed, mid-terrace Victorian 5-storey property, with front façade facing west towards The Regent's Park. The proposal is to fully refurbish the existing house.

The following improvements in the energy efficiency are fully in line with Camden Energy Hierarchy:



Potential improvements in the building fabric

- Possibility to upgrade the existing exposed walls has been explored, however this is not feasible due to conservation requirements.
- Flat roofs will be upgraded with insulation to achieve U-value of 0.18 W/m²K or better (e.g. 120 mm PIR insulation). Newly constructed flat roofs will be insulated at least to the same U-value.
- Mews house pitched roof with sloping ceiling will be insulated at rafter level to achieve 0.18 W/m²K.
- Ground slab at the lower ground can't be upgraded with insulation due to technical and functional reasons. Existing uninsulated floor achieves a U-value of 0.30 W/m², which is below the threshold set out in Building Regulation Part L1B and therefore doesn't need to be thermally upgraded.
- All existing single glazed windows and existing external doors will be retained for conservation reasons. Some single glazing may be replaced with thin double glazing subject to conservation officer approval.
- New windows / rooflights will achieve U-value of 1.6 W/m²K.



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Potential improvements in building services

- New heating system will be provided, with new high-efficiency condensing gas boiler, combination of underfloor heating and radiators. Time and temperature zone control will be provided, i.e. each room will have a separate programmable thermostat.
- Cooling will be provided by a high efficiency VRF system with fan coil units in all main areas (living rooms, bedrooms).
- Approved Document F System 1 Intermittent Mechanical Extract Fans are provided for the wet rooms and Laundry room. End vent terminations via existing air bricks. This system is proposed as the most suitable ventilation type for this type of property (given the building size and high air permeability through existing fabric).
- Hot water will be provided by a low heat loss indirect hot water cylinder fed from the gas boilers.

Potential renewable energy sources

There will be no renewable sources included in the design due to the following reasons:

- Solar hot water or solar photovoltaic panels have been considered, but they are not proposed due to negative visual impacts.
- Heating by ground source heat pumps is not technically viable
- Heating and hot water by air source heat pumps is not generally suitable for existing buildings with high heat loss and high temperature heating required. This would also require external units with potential noise issues
- Biomass/biofuel boiler is not feasible due to negative impact on air quality and problematic fuel delivery and storage.

A handwritten signature in blue ink, appearing to read 'Gajdos'.

Ondrej Gajdos, Accredited On-construction Domestic Energy Assessor STRO006629
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