ENERGY STATEMENT

Application site

58 West End Lane, London, NW6 2NE

Works

Part single part two storey rear extension to accommodate 2no studio flats.

Loft conversion with 2no rear dormers to accommodate 1no 2 bed flat.

Demolition and re-position of outbuilding to accommodate a laundry room.

We acknowledge both national and local energy related policies for the proposed development. We present this review addressing options for reducing CO2 emissions through energy efficiency measures, heating and cooling technologies.

Building fabric performance and passive design

It is intended that the building fabric performance is to be improved over the minimum building regulations requirements. Improvements in building U-values, combined with passive design measures, will lead to a decrease in energy demand.

All of the external walls, floors, and roof will be insulated to a standard that exceeds the current edition of part L of the building regulations relating to the conservation of fuel and Power.

The building fabric U-values will be improved compared to the maximum values allowed by the Building Regulations for the external walls, the ground floors and the glazing.

For example, an area weighted average window U-value of 1.8W/m2/K is to be targeted instead of the minimum 2.2 W/m²/K

Heating

Minimum SEDBUK ratings for boilers to be: Mains gas -86%, LPG - 86% (75% if Gas –fired range cooker with integral central heating boiler with the appliance having two independently controlled burners), Oil - 86% (82% if combination boiler/Range cooker boilers).

Flues to be installed strictly in accordance with manufacturer's instructions. Hot water cylinder to be factory lagged with min. 35mm PU foam and all Hot water pipe work within 1m of cylinder to be lagged. Any pipe work in unheated spaces (i.e. roof void) to be fully insulated. System to be fully controllable and incorporate TRV's, cylinder thermostat, heating/HW programmer and boiler flow controls. Installer to provide full operating & maintenance instructions in new dwellings.

Extended heating system to be calibrated and adjusted to be energy efficient and a commissioning certificate provided to the Local Authority on completion.

Cooling

Cooling within the dwellings is not estimated. SAP methodology does not incorporate the cooling load at present and it is anticipated that the cooling load would be minimum with the provision of natural ventilation.

Ventilation

Provide mechanical extract ventilation to bathrooms with min. 15l/s output and to kitchens 60l/s output (30l/s if within cooker hood). Windows to these rooms to have 4000sqmm trickle vents. Where such rooms have no windows - ensure there is a 15min overrun (ideally light switch operated) on the mechanical vent. WC's without opening windows to have 6l/s mechanical vents with 15min overrun.

Provide a 10mm gap under the door of such rooms when they do not have windows. Where mechanical vents discharge via ducting through unheated spaces (ie through roof space to ridge or tile terminal) provide proprietary condensate trap in duct with overflow to outside.

Windows

Timber windows (or PVC-U where acceptable) with low-E (min. 0.15 emissivity) double glazed units with min. 24mm Argon filled gap between panes (0.18W/m2K 'u' value). Windows in habitable rooms to have openable area of minimum 1/20th of the floor area of the room. Trickle vents to be provided to all windows of habitable rooms giving min. 8000sqmm ventilation. *Note - safety glazing to be used where glazing is within 800mm of floor level, in glazing to doors and in glazed door side panels.*

All external doors and windows to be fitted with draught strips. Mastic seals to be applied around window and door openings

internally and external and internally under junction between window board and wall.

Lighting

Use energy efficient lighting. Install fittings only capable of accepting lamps with a luminous efficacy greater than 40 Lumens per Circuit-watt at a rate of 1 per 25sqm or 1 per 4 fixed light fittings (whichever is greater) in rooms or circulation areas most frequently used.

Cooking

As the flats will have an individual boilers, a gas supply for cooking will be provided. This potentially reduces the CO2 emissions from the occupied dwellings as the emissions factor for gas is significantly lower than that for electricity. If a communal heating and hot water system were to be installed, the dwellings would not be provided with their own gas supplies.

Energy Efficient Appliances

A and A+ rated appliances would be provided to the dwellings. These use less energy and consequently result in less CO2 emissions.