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Sustainability Statement

[to be included within main planning submission]

This section relates to the proposed Sustainability & Energy strategy for the redevelopment of the property and includes the services strategy used to meet the aspirations of the client to be as efficient as is reasonably possible within the constraints of planning & cost.

The property located within central London was built circa 1980 to the then relevant Building Regulations at the time of construction the impact of global warming was not commonly discussed and as such measures to mitigate were not considered in any great deal.

Since then and more recently the impact of global warming and the effects of rising temperatures have made a significant number of properties within London more & more uncomfortable to inhabit during the more common periods of sustained higher temperatures.

To make spaces more environmentally comfortable for occupants there is an increased interest in air conditioning units being installed to mitigate the over heating effect. It is also noted that air conditioning is not a preferred method of cooling but without any effective alternatives available and practical to install within a property of this type it has been considered.

To minimise the impact of installing Air Conditioning there a number of measures which can be considered to reduce the overall capacity required internally these are noted and are a guidance to inform the planning process.

The responses follow the widely know definitions within the London plan to demonstrate the process followed

Be Lean

The property is an existing structure with limited capability to alter the fabric externally due to the area it is located within. However, passive, and active measures can be taken to minimise heat loss and air infiltration through the building fabric.

The internal structure of the building can be further insulated to reduce the heat loss through the walls, and it is proposed t replace the glazing to meet current Building Regulation standards. It is proposed that the existing roof insulation is enhanced also to reduce heat loss.

In replacing the glazing system ad also improving the internal insulation the air permeability is improved and reduced to minimise heat loss.

Be Clean

Due to current legislation the use of fossil fuels has been acknowledged by government as significantly contributing to the global warming effect of the planet and having a detrimental effect on the environment. As such the government has taken steps to ensure that the reliance on such fossil fuels is considered during planning process and alternative solutions sought out to reduce this reliance and therefore impact into the global warming effect.

The prime uses of fossil fuels such as Gas & Oil are used for the general heating and cooking facilities within the house using gas cooking or gas boilers for hot water and heating. As these items are generating most of the CO_2 emissions alternative solutions have been considered.

Avoiding the use of fossil fuels can be achieved using electrically operated heat pumps systems in lieu of conventional combustion boilers which either use the heat stored within the mass of the earth/ground or by using air. Due to the location and size of the property a ground source solution is not a viable option, and an air source unit would be preferred. i

The use of electricity as a fuel has recently been significantly de-carbonised using alternative energy systems such as nuclear, wind, hydro electric or solar photovoltaic power. These support the use of heat pumps as they consume electrical energy provided by green energy generation systems

IN addition to the cooling effect, it is essential to achieve good air quality within the house and it is proposed to use a mechanical ventilation system which could include either Mechanical Ventilation with Heat Recovery (MVHR) or Positive Input Ventilation (PIV).

These systems have been proposed to respond to the architectural make up of the space and can provide filtered fresh air into the house and remove any pollutants and therefore reducing the risks associated with health issues stemming from poor ventilation.

Be Green

Once the building has been optimised in terms of construction, and the systems employed are as efficient as possible, the addition of renewable 'Green' energy is then considered to further reduce the reliance on 'grid' energy. Various options are being considered including PV's, Solar thermal, Wind and GSHP.

Due the area being within an urban environment the use of wind turbines was not deemed to be an appropriate solution and therefore discounted.

GSHP was also considered, and the physical area isn't available to meet the demand using either 'Slinky' pipework installed below ground level, or boreholes.

The best solution which meets the budget, and the practical installation uses Photovoltaic panels located on the main roof space. The configuration and orientation of the building being south, southwest is suitable and allows for the use of the roof for a solar PV array to be considered. The size and output of the array shall be within the regulatory guidelines and to suit the space available