Air Quality

Air Quality Assessment

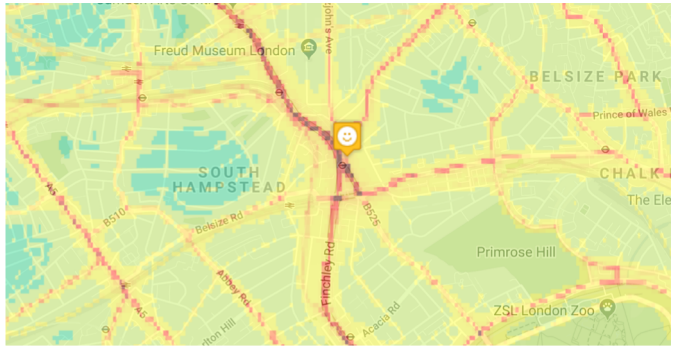
With air quality as one of the key health concerns in London, it is important to assess the site to understand whether mitigation measures are required to improve air quality for site users.

The site is located close to the junction of main roads Finchley Road and Adelaide Road. Both particulate matters and NO_2 levels are very high at the site. The levels of ozone are slightly lower than background levels due to higher concentrations of other pollutants on the surrounding roads which chemically react with ozone.

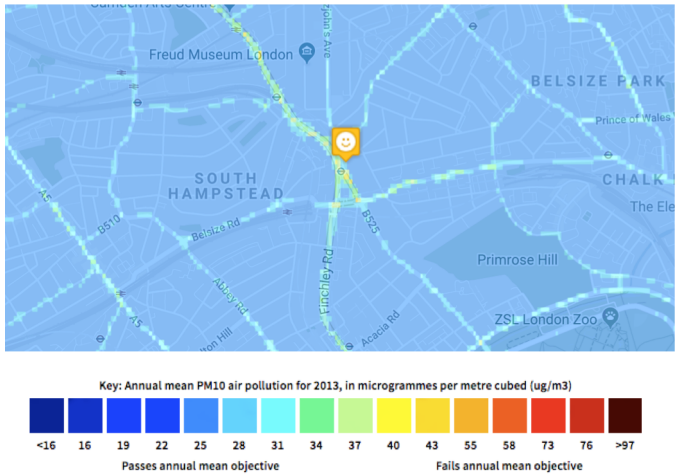
Therefore, suitable mitigation in the form of mechanical ventilation is recommended, and has been specified for the development.

Due to the site's limited potential for natural ventilation, it is recommended that a full overheating assessment: "CIBSE TM59 Design methodology for the assessment of overheating risk in homes" is undertaken after planning.

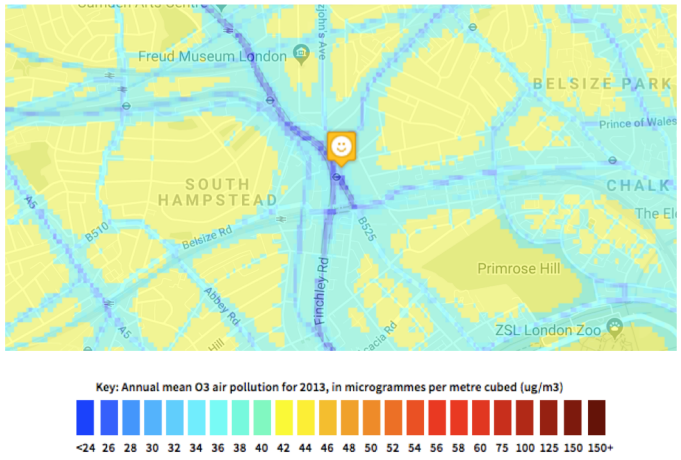
NO_2



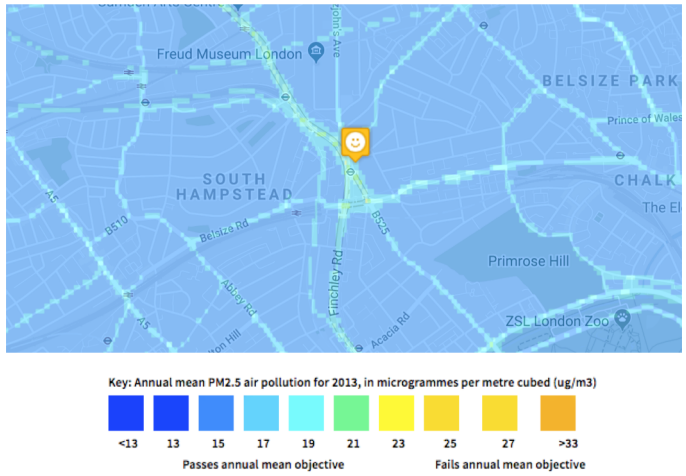
PM10



Ozone



PM2.5



Energy Strategy Summary

Summary

Furness Green have been appointed as the Mechanical and Electrical engineers for the project. They have prepared an Energy strategy report.

This page summarises the key proposals and results outlined in the report. The scheme achieves a 19% over Part L 2013 through energy efficient measures, and an overall 41% reduction in annual regulated carbon emissions with the additions of solar panels.

Energy efficient specifications

The London Plan requires the refurbishment and extension of Mountview Lodge to meet building regulations Part L1B through passive and active efficiency design alone. The key energy efficiency measures targeted are outlined below:

- External wall U-value: 0.11 W/m^2.K
- Ground floor U-value: Not applicable
- Roof U-value: 0.12 W/m^2.K
- Window U-value: 1.1 W/m^2.K
- Air permeability rate: 3 m^3/h/m^2 at 50 Pa
- Heating system: gas-fired boiler – 92% efficiency
- Instantaneous hot water system (no storage): gas-fired boiler – 92% efficiency
- Mechanical Ventilation with Heat Recovery: SFP 0.71W/l.s^{-1}, 91% heat recovery efficiency
- 100% energy efficient lighting (LED)
- No mechanical cooling

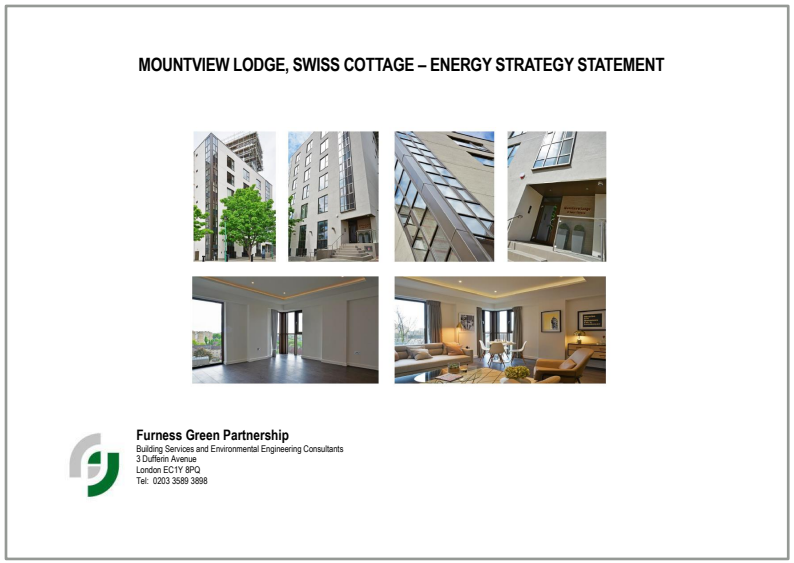
Heat network

The scheme is not within close proximity to any existing and potential heat networks. In addition, there are no riser space available for district heating pipework as the development extends from the existing building. The scheme therefore will not connect to any heat networks.

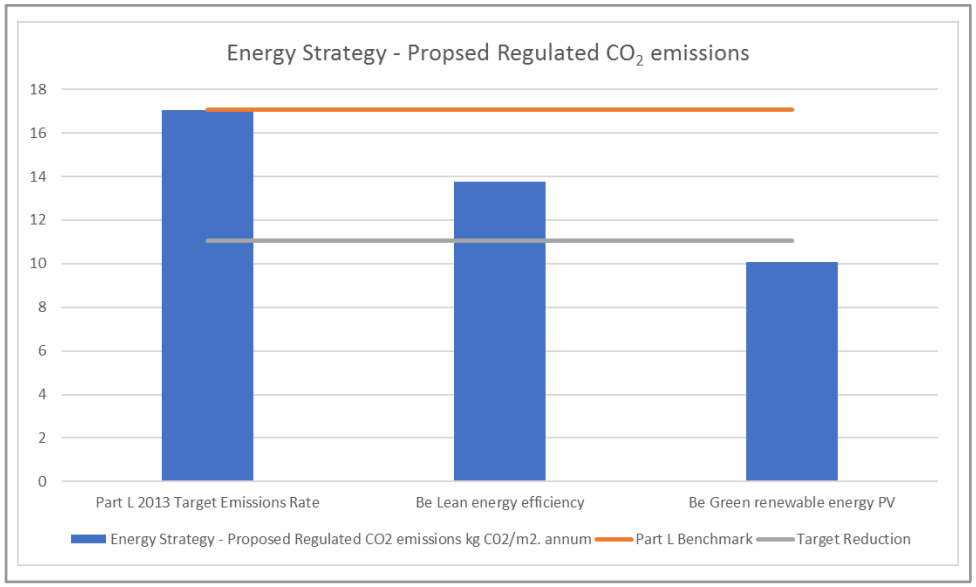
A Combined Heat and Power (CHP) will not be incorporated in the development. This is in line with the London Borough of Camden, who does not support the installation of stand-alone CHP units in small developments where there is neither the potential nor the intention for that development to form part of a wider network.

Renewable energy

A solar photovoltaic array has been recommended as the scheme's low carbon technology. Given the existing roof space, it has been recommended to install 60 roof solar panels of 250W. The development achieves an overall 41% reduction over Part L 2013 with the inclusion of solar panels.



Mountview Lodge Energy statement © Furness Green Partnership



Mountview Lodge Part L1B results © Furness Green Partnership

Sustainability Summary

Summary

The proposal for a 3-storey extension at Mountview Lodge includes a number of sustainability measures. These include the following:

Water use and Floor risk

- Limit water use to 105 litres/person/day
- Use low flow fixtures and fittings
- Low risk of flooding

Operational Waste

- Two additional 660L capacity wheelie bins, for general waste and recycling.

Ecology & Biodiversity

- 3 existing trees at the front of the building will be retained and protected throughout construction
- A biodiverse roof will be installed to encourage biodiversity

Transport and Connectivity

- 14 additional external bicycle spaces at the front of the building
- PTAL rating of 6b – Excellent public transport link

Materials

- Use of A or A+ green guide ratings for key building elements
- Sustainably sourced materials where feasible
- Procure only legally traded timber

Resources

- Register the scheme under the Considerate Contractors Scheme and target a score of 35 of higher
- Produce a construction waste management plan
- Adopt best practice site management to reduce environmental impact

Energy & CO_2 Emissions

- The scheme achieves an overall 41% reduction over Part L 2013 in annual regulated carbon emissions through energy efficient measures and additions of solar panels.

Wellbeing & Comfort

- The development will undertake a full overheating assessment using the CIBSE TM59 methodology after planning

Etude