

SUSTAINABILITY STATEMENT

FOR

MERCEDES BENZ RYGOR VANS & TRUCKS

WORTON DRIVE - READING

CLIMATE CHANGE MITIGATION

Introduction

As environmental issues become increasingly important consensus owners and occupiers are demanding efficient buildings, providing a quality work, rest and relaxation environment. The outline proposals are designed in accordance with the Sustainable Building Guidelines, principally:

1. Life cycle impact
2. Future flexibility
3. Energy efficiency
4. Low maintenance/long life.

Legislation

The proposed refurbishment and reconfiguration of the existing building will comply with the Building Regulations including Part L2B 2010 (2016 Amendments) and will also consider relevant guidance under all Government Guidelines aimed at sustainable development promotion. The development will also observe good practice standards and will be bench marked against equivalent schemes to ensure a low carbon impact.

All works shall fully comply with the latest current Building regulations, British standards and best practice design guidance. In particular the design shall meet:

- All current UK Regulatory Standards and Code of Practice.
- CIBSE technical requirements
- British and European Harmonised Standards
- Health and Safety Executive Guidance
- The Disability Discrimination Act.
- The Electricity at Work Regulations.
- The Electricity Supply Regulations.
- The Electrical Safety, Quality and Continuity Regulations.
- Requirements of the Electricity Supply Authority.
- Requirements of the Health and Safety Executive under the Health and Safety at Work Act.
- COSHH (Control of substances hazardous to health) Regulations.

- Requirements of the Environmental Health Department.
- Heat Network Regulations

Design Considerations

- The building materials will be carefully selected in relation to both energy efficiency, long life, manufacture and transport impact. Consideration will also be given to the orientation of the building with regards to glazing, and in addition, the possible use of low emissivity glass, thermally broken systems, solar shading, etc.
- U-Values – The building fabric remains largely unchanged. Where new elements are installed these will be enhanced over Building Regulations.
 - Where new cladding is installed, the intention is to overclad the existing insulated cladding resulting within a generally improved performance.
 - Glazing – 1.1 (w/m²k)
 - Personnel Doors - 1.4 (w/m²k)
- Consideration will be given to the levels of energy consumption, particularly with regard to lighting by the use of time intensity controls and the design which has been developed to maximise the natural light within the building, particularly the sales and workshop areas. The introduction of HVAC systems to monitor and reduce energy use throughout the building will also be given consideration.
- The building will be designed to reduce CO₂ emissions and also to eliminate CFCs with both the building operation and with the use of non CFC products/materials in its construction.
- The lighting emitting from the development will be minimised to ensure that minimum lighting levels are provided for security and safety, giving due regard to the elimination of light pollution.

The main principles for the sustainability of the scheme will be:

1. The use of sustainable building materials where possible.
2. Reduction of CO₂. As a result of the installation of:
 - Lighting Efficacy = 75lm/w
 - Improved building air permeability.
 - High efficiency HVAC plant.
 - Energy efficient gas fired LTHW heating plant providing Heating & Domestic Hot Water systems.
 - Energy efficient Air Source Heat Pump providing Heating, Cooling.
 - Energy efficient gas fired radiant tube heaters providing Heating,
 - Local occupancy controlled extract ventilation to sanitary accommodation.
 - High efficiency heat recovery supply and extract ventilation to Showroom, Sales offices, General offices and staff areas.
 - Passive Infra-Red control of low energy lighting to sanitary areas, circulation spaces, offices and staff areas.
 - Efficient centralised HVAC controls and sub metering of energy use.
3. Sustainable transportation.

4. **Heating Strategy:**
An energy efficient apartment space heating & cooling installation.
Sales areas and offices Heating Seasonal Efficiency – (A.S.H.P) COP = 3.5 = 350%
Sanitary and circulation areas Heating Seasonal Efficiency – (LTHW boilers) = 90%+
D.H.W.S Seasonal Efficiency – (LTHW boilers) = 90%+
HVAC Controls = Variable Speed Pumps & Fans, Metering/Lighting - Central Time & Temperature Control, Local Temperature Control, Optimum Start Stop Controls.
5. **Supplementary Systems:**
HVAC controls - to control HVAC services systems.
Circulation Pumps, Distribution pipe work, Valves, Emergency Controls and Ancillaries.
Domestic Hot Water Services, circulation pumps, controls and valves.
MCWS & Heating system Expansion Kits.
Main Electrical Switchboard
Comms room and main data intake

Sustainability will be a guiding principle throughout the detailed design and installation stage for the proposed accommodation which will progress key issues such as energy minimisation, efficient use of resources, recycling and enhancement of the natural and built environment.

Conclusion

We are not currently aware of any renewable energy policy requirements from the Planning Authority; however we have already assessed a range of options considering both environmental and financial sustainability. Our approach considers technologies recognised by the BRE as qualifying low/zero carbon technologies when assessing renewable energy contribution.

The above included consideration of solar technologies as a component of electricity generation, however from a review of the building roof structure, the existing roof structure would not be adequate to support the installation of any notable Solar PV system without significant structural works and costs (which would be prohibitive to the scheme development).