



Hammond Rutts  
Investments Limited

Outline Planning Application  
for Haverhill Business Park  
Cambridge

Sustainable Design  
and  
Construction

Outline Planning Submission



**Client Name:** Hammond Rutts Investments Limited

**Client Address:** The Pinnacle  
170 Midsummer Boulevard  
Milton Keynes  
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**Property:** Haverhill Business Park  
Cambridgeshire  
CB9 7AA

**Project Reference:** 3800

**Issue:** Planning Submission Rev B

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**Prepared by:** MW

**Checked by:** RNI

**Validated by:** RNI



## **INTRODUCTION**

The purpose of this document is to provide an overview of the sustainable design and construction strategy to accompany the outline planning application.

## **OUTLINE STRATEGY**

### **Energy Efficiency**

The buildings will incorporate a variety of energy efficiency measures within both the fabric envelope and the building services installation. Examples of the energy efficiency measures that will be incorporated are as follows:

- Enhancements to the building fabric envelope thermal performance by introducing thermal insulation to achieve lower capacity heating systems thereby reducing energy consumption
- Providing new high performance glazing in order to reduce solar heat gains thereby lowering the size of cooling plant and hence reducing energy consumption and carbon dioxide emissions for the operational building
- Selection of high efficiency plant together with using high efficiency motors serving pumps, compressors and fans
- Heat recovery within the mechanical ventilation plant
- Increasing the size of air distribution ductwork in order to reduce the system resistance thereby allowing smaller fan motors to be used reducing energy consumption
- Increasing the thermal insulation performance on distribution ductwork to reduce standing heat losses/gains
- Providing occupancy detection and automatic daylight dimming within the office area lighting control system
- Using low energy high efficiency lamp sources to the office and warehouse areas is proposed.
- Maximising the use of day lighting within the building
- Improved building air leakage

### **Renewable Energy Sources**

The alternative renewable energy sources assessment has concluded the following:

- Wind turbines were not considered viable due to their visual impact and that in urban areas non-laminar wind flow occurs as a result of turbulence due primarily to adjacent buildings. There is growing evidence of urban wind turbines failing to perform in line with manufacturer's estimated outputs and as a result wind turbines are likely to produce only modest power outputs with corresponding low carbon dioxide emission reduction within urban sites.
- Biomass boilers could potentially provide heating to the buildings however they are not considered to be suitable for this development due to fuel delivery implications and air quality issues.
- Ground water cooling will necessitate boreholes through to the chalk aquifer. This imposes a significant capital cost with inherent technical risks on the achievable flow rate, Environment Agency licences and overall commissionability.
- Ground source heating and cooling will necessitate boreholes through to the chalk aquifer or pipework in separate boreholes. This imposes a significant capital cost with inherent technical risks on the achievable performance, Environment Agency licences (when using the aquifer) and overall commissionability.
- Elements such as photovoltaic cells, solar thermal water heating panels and air source heat pumps in their variable refrigerant flow (VRF) format can be considered further as the design of the



development progresses however the provision of such systems will be subject to specific development design detailing and economic feasibility.

### **CHP**

For combined heat and power to be viable there needs to be a consistent base electrical and heat demand within the building. As the development comprises industrial / warehouse units the domestic hot water heat demand is low as well as the heating demand being relatively low and as a result it is not considered that CHP will be viable.

### **Water Conservation**

The various appliances within the building will be selected to reduce water consumption by adopting elements such as low flow taps, low flow showers, urinal flow controls, dual flush low volume WC cisterns and water metering.

### **Cyclist Facilities**

The buildings will incorporate covered cycle storage facilities together with showers in the core area of each unit.

### **Ecology/Bio-Diversity**

The landscape areas of the development will be planted with species as shown on the proposed planting layout drawing, including bat and bird nesting boxes.

### **Pollution**

The approach will be to utilise zero or low global warming potential materials wherever possible within the building construction.

### **Materials**

The use of recycled materials will be assessed as part of the overall selection process for the building. The intention is to use the WRAP assessment tool wherever possible to assist in the selection of materials. Also reference will be made to the BRE Green Guide to Specification where appropriate.

### **Construction Process**

The contractor selected to build the scheme will be a member of the Considerate Constructors Scheme and hence will need to adopt processes such as waste recycling, minimising power usage, minimising water usage, recycling materials, etc.

### **Waste Management**

There will be clearly designated waste recycling areas/stores provided as part of the overall refuse collection strategy for the development.

### **Noise**

The building and its associated services installations will comply with the Haverhill planning requirements.

### **Light Pollution**

The external lighting will be designed using appropriately selected luminaires to meet current best practice to reduce light pollution.