

MLM

Outline Sustainability Strategy

For

Airport Business Park

Business Park and Rugby Club

Southend

Produced for

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1 Executive Summary

This report outlines the sustainability strategy for the Business Park and Rugby Club Developments. The Business Park is located in the land that is allocated in the recently adopted London Southend and Environs Joint Area Action Plan (2014) (hereafter "the JAAP") for a business park. The JAAP is one of a number of plans prepared jointly by Rochford District Council ("RDC") and Southend-on-Sea Borough Council ("SBC"). The JAAP has been developed in accordance with the Local Development Framework of both RDC and SBC and conforms to the provisions of the National Planning Policy Framework which seeks to support sustainable economic development, such as now proposed. The Rugby Club, is located in the land allocated in the recently adopted London Southend and Environs Joint Area Action Plan (2014) (hereafter "the JAAP") for the new sports facility.

The Sustainability Statement is divided into two parts:

- Policy and Sustainability Standards.
- Sustainability Approach.

The first part provides an overview of the site and Planning Policies currently applicable to this development as set out by the Southend-On-Sea Council, the Environs Joint Area Action Plan (JAAP) and Land of Rochford District Council. The report then demonstrates how these policies are to be met in principle. In accordance with Policies ENV7, ENV8 and ENV10 of the Land of Rochford District Council, the requirements of the Supplementary Planning Documents have also been addressed.

The body of this report outlines the sustainability measures that are to be adopted to exceed the Building Regulations Parts G, L, M and Q. In summary, the proposed Business Park and Rugby Club developments will aim to meet the targets set out by Rochford District Council, Southend on Sea Borough Council and the JAAP.

The commercial parts of the development are to be divided up into units, all of which are to follow the Key Principles of BREEAM

For each of the building types in the Business Park the objective is to target at least 65% credits, against the BREEAM Principle and the Rugby Club target is at least 70% credits against the BREEAM Principles.

The average CO₂ savings achieved over Part L Building Regulations (2015) is set at 10% carbon reduction by the use of renewable or low carbon sources on-site. These figures reflect regulated energy use only in accordance with Part L Building Regulations.

2 Site Description

Business Park

Outline application with all matters reserved other than access for the development of land at Cherry Orchard Way to create a business park to comprise use classes B1, B2 and ancillary uses to include A1, A3, A4, C1 and B8, landscaping of access road, and demolition of the existing Rugby Club.

The site is in a strategic location, in the immediate vicinity of a regional airport and situated 1.2km south-west of Rochford town centre and 3.6km north of Southend-on-Sea town centre. The Site is bounded by Cherry Orchard Way to the west, a principal route out of Southend-on-Sea, and Aviation Way to the south.

Rugby Club

Full planning permission for re-provision of rugby pitches and Outline Planning Permission for the erection of a club house, provision of car parking, floodlighting and landscaping with all matters reserved."

The map below shows the location of the proposed developments in relation to its surroundings.

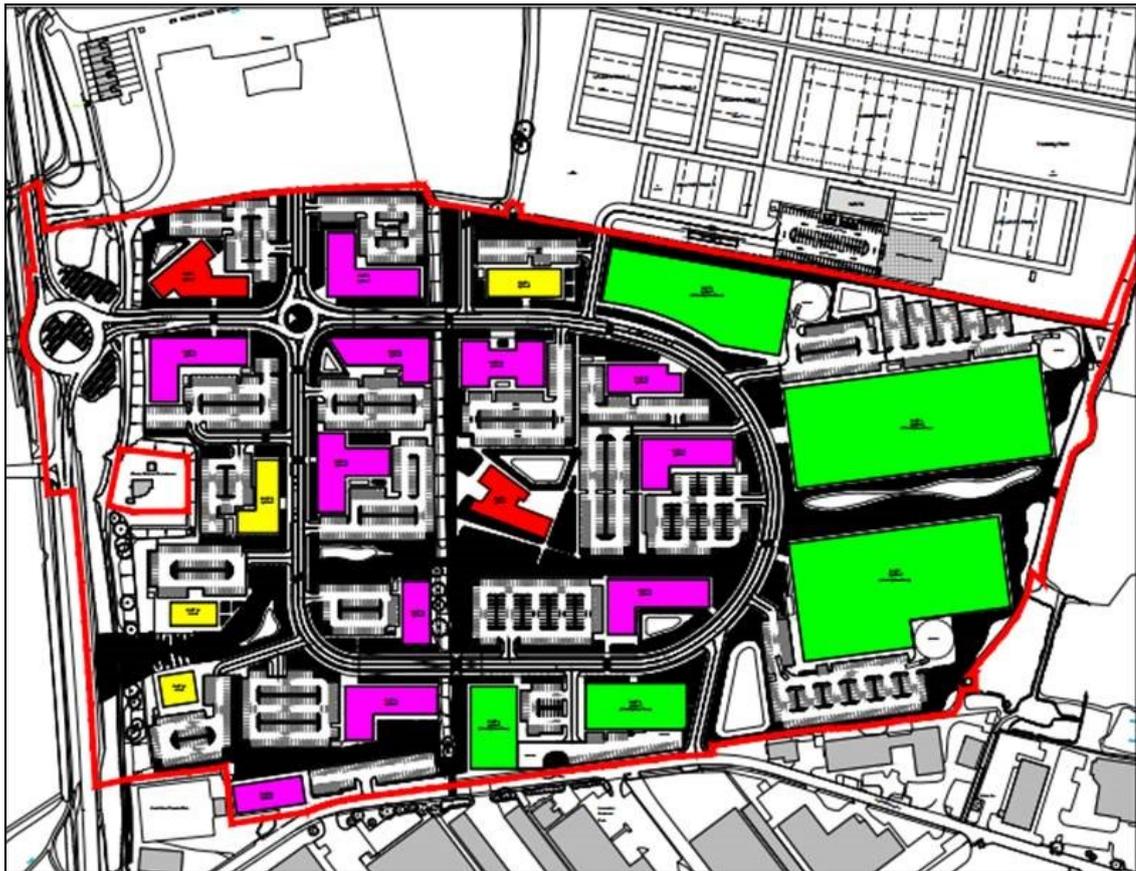


Figure 1 Site layout

3 Planning Policies

The Business Park and Rugby Club developments are in line with the requirements set out by the by the Southend-On-Sea Council, the Environs Joint Area Action Plan (JAAP) and Land of Rochford District Council.

London Southend Airport and Environs Joint Area Action Plan (JAAP) – December 2014

London Southend Airport and Environs Joint Area Action Plan sets out recommendations for the following spatial policies:

Policy ENV7 – Environmental Sustainability

All new development must meet at least the BREEAM rating of 'excellent'. Both Councils will expect to see active use of rainwater harvesting and water recycling systems and SuDS through the JAAP area as well as the use of renewable technologies, where appropriate and the application of other techniques such as green roofs and walls to further contribute to sustainability.

Sustainable Design Assessment tools will be used to ensure climate change mitigation measures are maximised within developments (this policy will seek to achieve Code for Sustainable Homes Level 4 and an Excellent rating for BREEAM Assessments).

Rochford District Council – Local Development Framework Core Strategy

Rochford District Council – Local Development Framework Core Strategy sets out recommendations for the following spatial policies:

- **Policy ENV8 – On-Site Renewable and Low Carbon Energy Generation**

Development will be required to be accompanied by an Energy Assessment to demonstrate its compliance with the following:

Developments of five or more dwellings, or non-residential developments of 1,000 square metres or more should secure at least 10% of their energy from:

- **Policy ENV4 – Sustainable Drainage Systems SuDS**

Development over 10 units will be required to incorporate run-off control via SuDS to ensure run-off and infiltration rates do not increase the likelihood of flooding.

4 Environs Joint Area Action Plan (JAAP)

The London Southend and Environs Joint Area Action Plan (2014) provides additional information to support the implementation of the Local Development Framework. The JAAP does not set new policy, however it can be taken into account as a further material consideration. It is applicable to all development types, with specific information on different building types where applicable.

This section addresses issues which are relevant to the proposed development.

1 Maximise use of Natural Systems

Windows will be positioned to allow sufficient daylight to enter the rooms.

Solar gains will be utilised on facades and shading strategies will be incorporated into the building design if overheating is an issue.

Facilities will be provided for car parking and cycle storage.

2 Conserve Energy, Materials, Water and other Resources

An Energy Assessment will be carried out for the development.

The Energy Statement will utilise the Energy Hierarchy to determine the appropriate energy strategy for the proposed development:

- Passive design/Fabric First Approach.
- Solar water heating and photovoltaics.
- CHP.
- District systems.
- Heat pumps.
- Efficient gas condensing boilers.

Energy efficiency will be maximised through the specification of:

- An efficient building fabric with low U-values.
- High levels of air tightness.
- The use of low energy light fittings outdoor lighting which will be low energy and incorporate daylight or timer controls.

The Energy Statement will outline the most feasible energy strategy for the development in relation to the type of renewable technology suitable for the proposed developments.

Careful use of resources will be incorporated, and the proposed development will include the following:

- All timber specified will be sourced responsibly such as FSC or similar.
- All insulation materials will have a Global Warming Potential of less than 5.
- The use of new aggregates will be minimised on site, on site demolition waste will be used as aggregate where possible.

Commercial space will look to reduce its water consumption by at least 55% over baseline use.

Potable water use will also be reduced through rainwater harvesting which will supply used in toilets.

All dwellings and commercial spaces will receive water meters.

3 Reduce the Impacts of Noise, Pollution, Flooding and Micro-climatic Effects

Local air pollution will be reduced by

- Limiting the number of car parking spaces.
- Providing cycle storage facilities.
- Adopting best practice dust mitigation techniques throughout construction.

A Flood Risk Assessment will be carried out for the development. Information from the Environment Agency website indicates to be in an area with a low probability of flooding.

Sufficient drainage will be incorporated to ensure water does not collect during wet weather. Sustainable Drainage Systems, SuDS will be incorporated where possible. The proposed development will reduce surface water run-off due to the integration of green spaces and green roofs.

Noise will be reduced between dwellings. Sound insulation will be improved by at least 5dB over current Building Regulations 2015.

4 Ensure Developments are Comfortable and Secure for Users

All major mechanical and electrical plant will be kept in dedicated plant rooms with easy access for maintenance.

An Architectural Liaison Officer (ALO) or Crime Prevention Design Advisor will be consulted to ensure the development complies with Secured by Design standards.

5 Conserve and Enhance the Natural Environment, Particularly in Relation to Biodiversity

A Suitably Qualified Ecologist (SQE) will be consulted to improve the biodiversity on the site and to ensure there is no loss in the existing biodiversity. Green space on the site will be provided, as well as green roofs for the office and hotel. Please refer to separate Ecology report.

6 Promote Sustainable Waste Behaviour in New and Existing Developments, including Support for Local Integrated Recycling Schemes, CHP Schemes and Other Treatment Options

Demolition waste will be minimised, reused and recycled, where practicable. The specification will include a Site Waste Management Plan (SWMP).

A waste and recycling scheme will be established in line with the requirements set out by the Local Authorities.

5 Meeting the Sustainability Standards

Sustainability Tools

The residential component of this development will be assessed against the Building Regulations 2015 and BREEAM Principles. The following sections provide an overview of one of the most widely used sustainability assessment method in the UK.

Meeting the Sustainability Standards

Within the development, the aim of the Design Team is to meet the Building Regulation 2015 requirements for the proposed development and Rugby Club.

The commercial component of the proposed development will aim to adopt BREEAM Key Principles to meet as many sustainability measures as possible.

5.1 BUILDING REGULATIONS

The Building Regulations are the national standard for the design and construction of sustainable developments. It was established by the Government in close working consultation with the Building Research Establishment (BRE) and Construction Industry Research and Information Association (CIRIA). We will measure the sustainability of each property against the design categories, which will allow for a sustainable approach.

Each Building Regulation Part requires new developments to be compliant with their sustainable design principles.

- **Part Q (Security: Dwellings):** the residential dwellings will provides reasonable provision to resist unauthorised access to any dwelling; and any part of a building from which access can be gained to a flat within the building.
- **Part L, (Conservation of fuel and power):** Each property will be design to meet the Part L 1A and 2A 2015.
- **Part G (Sanitation, Hot Water Safety and Water Efficiency):** New dwellings should be designed to ensure that a maximum of 105 litres of water is consumed per person per day.
- **Part M (Access to and Use of Buildings):** All residential properties will be designed to Life time Homes standards (accessible and adaptable dwelling). Non-residential unit will be design in-line with the Building regulation Part M Volume 2 Buildings other than dwellings.

5.2 BREEAM

BREEAM (Building Research Establishment's Environmental Assessment Method) is the world's leading, and most widely used environmental assessment method for non-domestic buildings. It is an environmental performance standard which new non-domestic buildings can be assessed against.

Compliance

Many aspects of BREEAM, relate to the finer details of the design which are not yet fixed and the commitments may not be suitable for these type or units to achieve. A full BREEAM Pre-Assessment would therefore be inappropriate for the flexible commercial buildings this development aims to provide.

The BREEAM assessment method still represents Sustainability Principles that the commercial units in the development will target to achieve. For this reason, the BREEAM Key Principles are presented in the following pages, in order to highlight how these principles will be included within the design and deliverance of the proposed developments.

The Use of BREEAM

The aim of the Design Team is to apply key BREEAM 'Very Good' and 'Excellent' principles for non-residential buildings across the development and not undertake the formal BRE process on each site.

The Key Principles in BREEAM 2014 have been outlined below:

Management

Sustainable Procurement

To ensure delivery of a functional and sustainable asset designed and built in accordance with performance expectations.

The buildings should seek to cover two issues under the construction and handover and/or aftercare sections. These issues relate to the commissioning of the building and quality of the building fabric.

Responsible Construction Practices

To recognise and encourage construction sites which are managed in an environmentally and socially considerate, responsible and accountable manner.

The Considerate Constructor Scheme should be used by the Contractor to significantly exceed compliance with the criteria of the scheme.

Stakeholder Participation

To design, plan and deliver accessible functional and inclusive buildings in consultation with current and future building users and other stakeholders.

A Building User Guide is to be provided to all users of the building, covering all functions of the building and site related information.

Health and Wellbeing

Visual Comfort

To ensure daylighting, artificial lighting and occupant controls are considered at the Design Stage to ensure best practice visual performance and comfort for building occupants.

All fluorescent and compact fluorescent lamps should be fitted with high frequency ballasts.

Overheating

The heat island effect is caused by the reduction in green space through urbanisation and the large amount of hard surfaces that provide high thermal mass. To mitigate this effect the proposed development might implement green roof on the office block where appropriate. The sheds or industrial units will not include green roof. The green roof should have an effect of evaporation and evapotranspiration this will allow the air to cool. Furthermore by providing a cooler surface at roof level the green roof can reduce the need for air conditioning during periods of higher than normal temperatures. These combined effect can result in a reduction of the urban heat island effect. Full detail of the location of the green roof could be provided at the detailed design stage.

Water Quality

To minimise the risk of water contamination in building services and ensure the provision of clean, fresh sources of water for building users.

All water systems in the building will be designed in compliance with the measures outlined in the Health and Safety Executive's 'Legionnaires' disease, the control of legionella bacteria in water systems". Approved Code of Practice and Guidance, 200054 and, where relevant, other industry/sector best practice guidance.

Energy

Reduction of CO₂ Emissions

To recognise and encourage buildings designed to minimise operational energy demand, consumption and CO₂ emissions. The Energy Performance Ratio for New Constructions (EPRNC) should be calculated and an improvement of BER over TER achieved. For commercial units and hotel the aim is to achieve an A rated EPC under Building Regulation Part L2A 2015 (Conservation of Fuel and Power). Additionally the development will exceed a 10% carbon reduction assessed on a plot by plot basis by the use of renewable or low carbon sources on-site.

Energy Monitoring

To recognise and encourage the installation of energy sub-metering that facilitates the monitoring of operational energy consumption.

Space heating, domestic hot water, humidification, cooling, fans, lighting, small power, and any other major energy consuming items are to be monitored using BEMS or separate accessible sub-meters.

Low or Zero Carbon Technologies

To reduce carbon emissions and atmospheric pollution by encouraging local energy generation from renewable sources to supply a significant proportion of the energy demand.

Water

Water Consumption

To reduce the consumption of potable water for sanitary use in new buildings from all sources through the use of water efficient components and water recycling systems.

A 40% improvement or more in water consumption in litres/person/day compared to a notional baseline performance should be aimed by the development design.

Sufficient drainage should be incorporated to ensure water does not collect during wet weather. Sustainable Drainage Systems, SuDS would be incorporated where possible. The Sustainable Drainage Systems should be designed to ensure that the peak rate of run-off over the development lifetime, allowing for climate change, will be no greater for the developed site than it was for the pre-development site. This should comply at the one year and 100 year return period events. The proposed development should reduce surface water run-off due to the integration of green spaces and green roofs where feasible (this section needs to be reviewed with the SuDS Report).

Water Monitoring

To ensure water consumption can be monitored and managed and therefore encourage reductions in water consumption.

A water meter is to be specified on the mains water supply to each building.

Materials Responsible Sourcing

To recognise and encourage the specification of responsibly sourced materials for key building elements.

All timber used on the project should be sourced in accordance with the UK Government's Timber Procurement Policy.

New construction materials should be selected, where feasible, with a low environmental impact. In addition, materials should be sustainably procured and sourced. A range of material specification options should be proposed to determine the most appropriate for the scheme. However, the Design Team has committed to follow the Green Guide to help specify materials with a low environmental impact, where feasible.

The Green Guide is a reference tool, providing guidance on the relative environmental impacts for a range of different building elemental specifications, based on Life Cycle Assessment and using the Environmental Profile Methodology.

In addition, a commitment might be made by the Project Team to responsibly source materials used on-site. This would include, where feasible, non-timber elements to be ISO14001 or BES6001 certified and timber to be sourced from FSC or PEFC certified sources.

Waste

Construction Waste Management

To promote resource efficiency via the effective management and reduction of construction waste.

Non-hazardous construction waste generated by the building's design and construction is to meet or exceed the 13.3m³ or 11.1 tonnes of waste per 100m² benchmark.

Operational Waste

To recognise and encourage the provision of dedicated storage facilities for a building's operational-related recyclable waste streams, so that this waste is diverted from landfill or incineration.

There is to be dedicated space for the segregation and storage of operational recyclable waste.

Land Use and Ecology

Mitigating Ecological Impact

To minimise the impact of a building development on existing site ecology. A suitably qualified Ecologist should be appointed to determine the habitat types, their area and their richness before and after the development.

Proposed development should enhance its biodiversity by increasing the range of habitats available. This might be achieved through the following measures:

- Retention of the existing hedgerow running north/south across the site;
- Introduction of trees throughout the site and the use of a high percentage of native species;
- Introduction of a range of grassland/meadow habitats with a maintenance regime which supports their establishment and development;
- Use of a high percentage of native hedges and shrubs.

The detailed proposals can be found in the ecological surveys. Priority will be given to enhancing habitats which are characteristic of the local area.

6 Conclusion

This Outline Sustainability Strategy has been developed for both the Business Park and the Rugby Club. The Rugby Club and Business Park will aim to adopt BREEAM Key Principles to meet as many Sustainability Measures as possible.

The proposed Rugby Club, Commercial Units and Hotel of the Business Park will be designed to achieve an A rated EPC under the Building Regulation Part L2A 2015.

Additionally the Development will meet a 10% carbon reduction for each plot through the use of renewable or low carbon sources on-site.