

# THE RIVER DON DISTRICT

PLANNING APPLICATION  
MAY 2008

## SUSTAINABILITY STATEMENT



British Land

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**River Don District**

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Sustainability Statement

ISSUE

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Sustainability Statement

May 2008

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# 1 Introduction

## 1.1 Background

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This report has been prepared by Ove Arup & Partners Ltd, on behalf of British Land plc, in support of an outline planning application for the River Don District in Sheffield.

British Land's Corporate Responsibility Policy sets out the framework for the way the company manages its impacts on the workplace, marketplace, environment and the communities in which it operates, and aims to continually improve performance. The company is committed to achieving high standards of sustainability in its development projects, and has established a procedure to ensure that sustainability principles are embedded throughout the design process. This procedure is documented in the British Land Sustainability Brief, which is applied to all major development projects (<http://www.britishland.com/crdevelopment.htm>).

This report describes how sustainability principles have been embedded into the River Don District Masterplan through the application of the Sustainability Brief, and appraises the overall performance of the project against British Land's Guiding Principles, sustainability policy and best practice.

The report is set out as follows:

- Section 2* Provides a description of the site and the proposed development.
- Section 3* Sets out key national, regional and local sustainability policy.
- Section 4* Describes the approach to sustainable design and assessment.
- Section 5* Presents the findings of the sustainability appraisal.
- Section 6* Summarises and concludes the report.



## 2 Background

### 2.1 Site Description

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The application site comprises approximately 25ha of previously-developed land, situated within the River Don District in the northern portion of the Lower Don Valley in Sheffield. The application area is primarily located within the neighbourhood areas of Darnell, Burngreave, Brightside and Tinsley. The site is located in an area with a former industrial heritage but is now largely derelict and vacant.

A former rail embankment runs along the northern boundary of the site, with Meadowhall Shopping Centre directly to the north across Meadowhall Way. The west side of the site is bounded by the River Don. There are industrial areas to the south and south east of the site, and to the west across the river. The nearest residential area is Brightside, to the north west of Meadowhall.

### 2.2 Description of the Proposed Development

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Proposals for the River Don District are included within the planning application in the following documents:

- Design and Access Statement – this describes the background and context, and sets out key objectives for the application, with reference to specific constraints and opportunities.
- Parameter Plans – these identify parameters for the location, massing and type of development within the application.
- Regulatory Text – this controls the layout of strategic flood defences, highway improvements, public access points and connections, green connections, public and private spaces and key views.
- Building Code – this sets out Building Design Principles for the public realm and buildings, which will be carried through into the detailed design of the scheme.
- An illustrative Masterplan - this provides an example of how the development could be designed to incorporate the proposed uses.

The proposed scheme will provide a new mixed use city district comprising primarily office and residential development, within five plots:

- Plots 1 and 2 – mixed use including mainly residential with office, hotel and retail uses;
- Plots 3 and 4 – commercial office development with a limited amount of other commercial and residential development; and
- Plot 5 – hotel with retail/commercial uses.

All plots include associated infrastructure, car parking and open spaces. Meadowhall Way will be realigned and extended to join up with Weedon Street in the north west corner of the site.

A new riverside park will be created on the riverbank on the west side of the site. This will include habitat enhancement and formal and informal recreational areas.



## 3 Sustainability Policy Context

### 3.1 National Policy

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#### 3.1.1 Securing the Future (2005)

In March 2005, the Government issued an updated strategy for sustainable development entitled 'Securing the Future - The UK Government Sustainable Development Strategy'. The new strategy is focused on delivering sustainability and is closely aligned with specific delivery mechanisms through policy statements and public service agreements. The strategy identifies a set of guiding principles to form the basis of policy in the UK, and includes:

- Living within environmental limits;
- Ensuring a strong, healthy and just society;
- Achieving a sustainable economy;
- Promoting good governance; and
- Using sound science responsibly.

Priority areas identified in the strategy include:

- Sustainable consumption and production – achieving more with less, by looking at how goods and services are produced and the impacts of products and materials across their life cycles. This also considers means of reducing inefficient use of resources and breaking the link between economic growth and environmental degradation.
- Climate change and energy – seek to secure a profound change in the way we generate and use energy, and in other activities that generate climate changing gases.
- Natural resource protection and environmental enhancement – a better understanding of environmental limits, environmental enhancement and recovery where the environment is most degraded, is required to ensure a decent environment for everyone.
- Sustainable communities – creating communities that embody the principles of sustainability at a local level by giving communities more power and say in the decisions that affect them.

#### 3.1.2 Planning Policy Statement 1: Creating Sustainable Communities

Planning Policy Statement 1 sets out the overarching planning policies on the delivery of sustainable development through the planning system. The policies set out in this PPS may be material to decisions on individual planning applications.

The PPS identifies key principles that should be promoted through development plans. These include:

##### **Social Cohesion and Inclusion**

Development plans should promote development that creates socially inclusive communities. Plans should:

- Ensure that the impact of development on the social fabric of communities is considered and taken into account;
- Seek to reduce social inequalities;

- Address accessibility (both in terms of location and physical access) for all members of the community to jobs, health, housing, education, shops, leisure and community facilities;
- Take into account the needs of all the community, including particular requirements relating to age, sex, ethnic background, religion, disability or income;
- Deliver safe, healthy and attractive places to live; and,
- Support the promotion of health and well being by making provision for physical activity.

### **Protection and Enhancement of the Environment**

Plan policies and planning decisions should be based on:

- Up-to-date information on the environmental characteristics of the area;
- The potential impacts, positive as well as negative, on the environment of development; and
- Recognition of the limits of the environment to accept further development without irreversible damage.

### **Prudent use of Natural Resources**

This means enabling more sustainable consumption and production and using non-renewable resources in ways that do not endanger the resource or cause serious damage or pollution. The broad aim should be to ensure that outputs are maximised whilst resources used are minimised.

### **Sustainable Economic Development**

This section includes requirements for planning authorities to:

- Recognise that economic development can deliver environmental and social benefits;
- Recognise the wider sub-regional, regional or national benefits of economic development and consider these alongside any adverse local impacts;
- Ensure that suitable locations are available for industrial, commercial, retail, public sector (e.g. health and education) tourism and leisure developments, so that the economy can prosper;
- Provide for improved productivity, choice and competition, particularly when technological and other requirements of modern business are changing rapidly;
- Recognise that all local economies are subject to change;
- Actively promote and facilitate good quality development, which is sustainable and consistent with their plans; and
- Ensure the provision of sufficient, good quality, new homes (including an appropriate mix of housing and adequate levels of affordable housing) in suitable locations, whether through new development or the conversion of existing buildings. The aim should be to ensure that everyone has the opportunity of a decent home, in locations that reduce the need to travel.

### **Integrating Sustainable Development in Development Plans**

Planning authorities should carefully consider the interrelationship between social inclusion, protecting and enhancing the environment, the prudent use of natural resources and economic development – for example, by recognising that economic development, if properly planned for, can have positive social and environment benefits, rather than

negative impacts, and that environmental protection and enhancement can in turn provide economic and social benefits.

These principles have also been reflected in other national planning policy documents such as Planning Policy Statements and White Papers (including the Urban White paper).

### 3.1.3 Sustainable Communities – Building for the Future

The principles of sustainable development have been incorporated in the Government's vision for sustainable communities, set out in *Sustainable Communities – building for the future*, which was launched in 2003. The Plan sets out a long-term programme of action for delivering sustainable communities. It aims to tackle housing supply and demand issues, and the quality of public spaces.

The aim is to build communities that:

- Are economically prosperous;
- Have decent homes at a price people can afford;
- Safeguard the countryside;
- Enjoy a well-designed, accessible and pleasant living and working environment; and
- Are effectively and fairly governed with a strong sense of community.

## 3.2 Regional Policy

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3.2.1 Yorkshire and Humber Plan, Draft for Public Consultation, December 2005  
The Yorkshire and Humber Plan<sup>1</sup>, currently in draft form, is the Regional Spatial Strategy for the Yorkshire and Humber Region. It includes a broad development strategy for the region, setting out regional priorities in terms of location and scale of development.

The Plan identifies key spatial strategies for the Region, to improve the quality of life, prosperity and the health of current and future generations. One of these priorities is to *'transform economic, environmental and social conditions in the older industrialised parts of South Yorkshire, West Yorkshire and the Humber'*.

A series of seven distinct sub areas is identified and used in the Plan to set specific priorities tailored to meet the needs of those areas. The approach for the South Yorkshire sub area is *'to continue the transformation of the sub area's economic, environmental and social conditions with a key emphasis on the main urban centres'*.

The Plan sets out high level strategies for: Housing; the Economy; the Environment; and the Regional Transport Strategy. The strategic aims of the Plan include:

- Provide sufficient homes to house the additional households expected to form across the Region – with over 15,000 new homes being provided a year up to 2011, rising to over 16,000 a year from 2011 and over 19,000 a year from 2016 to 2021.
- Secure more competitive economic conditions by planning in a way that promotes a modern and successful economy.
- Avoid development in high flood risk areas, safeguard water resources and maintain high standards of water quality.
- Increase energy efficiency and increase renewable energy capacity.
- Safeguard and enhance biodiversity, geological heritage, the historic environment and distinctive landscapes.
- Ensure adequate and accessible health care facilities and reduce waste production.

- Reduce travel by both positive interventions, such as improved public transport, or by demand restraint, and promote modal shift from the car.

### 3.3 Local Policy

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#### 3.3.1 Sheffield City Council Unitary Development Plan (1998)

The Sheffield Unitary Development Plan (UDP) forms a framework for development in the city. It includes policies relating to the environment, the development and use of land, the design of buildings, and transport.

The UDP sets out a Strategy which aims to promote a:

- Better environment;
- More thriving city;
- More accessible environment; and
- More caring environment.

In order to achieve these objectives, the UDP aims to create a city which:

- Looks after the needs of disadvantaged people;
- Develops in a way that is environmentally sustainable; and
- Encourages regeneration before growth generation.

Under the new arrangements for the planning system, a local development framework is being created which will be a portfolio of local development documents. Once adopted, the SDF will replace the Unitary Development Plan (UDP). From 28th September 2007 some policies in the UDP have expired, whilst others have been 'saved'.

#### 3.3.2 Sheffield City Council Sustainability Guidance

Sheffield City Council has published Sustainability Guidance on its website. This provides a guide as to how the Council expects developers to approach sustainability in their projects, and reflects the sustainability standards that will be set out in the emerging SDF policies.

The guidance asks developers to identify how their proposals will:

- Support and help revitalise the local economy;
- Reinforce Sheffield's neighbourhoods and communities;
- Provide a range of transport options and inclusive access;
- Protect and enhance Sheffield's natural environment and resources; and
- Integrate high quality design and construction.

Further guidance is given in each of these areas as summarised below.

##### Economy

- Businesses and industry should be located where they can be effectively reached by a range of transport modes and where they can help consolidate or revitalise existing centres or neighbourhoods.
- Developers of major employment-generating schemes should ensure that as many jobs as possible are taken up by local people.

##### Neighbourhood and Communities

- Reinforcing the role of District and Neighbourhood Centres is a key component in achieving one of the big ambitions of the Council for every neighbourhood to be successful.

- Development should create places that people want to live in, and ensure that there is sufficient access to services and facilities within the local area.
- Having an appreciation and understanding of the qualities and characteristics of the surrounding area is important in contributing towards retaining local identity and a sense of place.
- Developments should create balances, diverse and inclusive communities, and help to meet the identified need for affordable housing in the City
- Developments should *'create safe and accessible environments where crime and disorder or fear of crime does not undermine quality of life or community cohesion'* (PPS 1)

#### Movement and Inclusion

- Reducing the reliance on vehicles and associated transport-related pollution and carbon emissions, through encouraging efficient, effective movement by a wide range of transport modes is a crucial aim in creating a sustainable Sheffield.
- Sheffield seeks to promote walking and make the experience safe, attractive and convenient. New schemes should form part of a network of good quality and safe pedestrian links linking to the surrounding neighbourhood and to public transport.
- All significant traffic-generating or large-scale developments will be required to prepare and implement a Travel Plan in support of development proposals.
- Inclusive design is critical in delivering sustainable communities that meet the needs of all members of society, where nobody is excluded, whether by disability or any other characteristic.

#### Environment and Resources

- New developments will be required to evaluate their relationship to the network and provide or enhance linkages to the network.
- The protection of natural habitats and maintaining high levels of biodiversity are an essential component of sustainable development.
- Developers must ensure that there are no adverse effects on water flow or quality, and water must be used efficiently, with opportunities taken to recycle water where possible.
- All developments must comply with EA guidance with regard to climate change and flooding.
- Developers should assess the nature of the proposed use and the pollution levels in the area, and seek to preserve or improve the existing levels of air quality.
- Developers must satisfy the planning authority that there will be no unacceptable risks to health or the environment from the proposed works or use, for future occupiers and those carrying out the development.
- All developments that produce waste must be designed and laid out to accommodate waste storage and to encourage recycling.
- Developments should incorporate sustainable urban drainage systems (SUDS) wherever possible.

#### Design and Construction

- Most larger-scale developments are required to provide at least 10% of their energy needs from renewable sources. Emerging SDF policies will require 20%.
- Sheffield expects developers to demonstrate how their proposals have made reference to Passive Solar Design principles within their proposals.

- Green roofs are encouraged and emerging SDF policies will require major developments to incorporate green roofs unless there are good reasons not to.
- Sheffield requires a high quality of design to ensure that all new developments are visually attractive in terms of architecture and contribute towards producing places that are distinctive, well used, durable and adaptable.
- Sheffield requires that development contributes towards legibility, so that people can orientate themselves easily, navigate around and feel safe.
- New buildings should be easily adapted to meet changing circumstances, ensuring long-term viability.

## 4 Approach to Sustainability

### 4.1 The British Land Sustainability Brief

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The British Land Sustainability Brief sets out a process for continually improving sustainability performance throughout the design and construction of a development project. This process includes setting and implementing sustainability objectives and targets during the design and construction of each project:

Step 1: Initial Sustainability Briefing

Step 2: Sustainability Review

Step 3: Set Objectives and Targets

Step 4: Progress Review and Sustainability Reporting

Step 5: Sign off and Lessons Learnt

This report covers Steps 1 to 3 in the above process. Step 4 is also covered in the review of initial sustainability aspirations identified in Step 1, and will be ongoing throughout the reserved matters, detailed design, construction and operational stages of the project.

The Brief identifies guiding principles, key design standards and good practice guidance which can be used by design teams to establish and prioritise sustainability objectives and targets. The principles, standards and guidance have been written with reference to industry standards, practices and standardised assessment methods, and are documented under the following five sustainability headings:

**A. Site and Neighbourhood:** Focuses on existing or planned characteristics that may provide opportunities or constraints to development. Things to consider in this section include planning issues, whether the site is on brownfield/contaminated land, the ecological value of the site, environmental conditions including ambient noise, microclimate, daylight and sunlight, environmental wind, heritage and archaeology, local character and economy issues, and transport options.

**B. Resource Consumption:** Concerns a development's use of resources, including energy, water, materials and waste management.

**C. Environmental Quality:** Covers controlling processes during design, construction and operation of a building in order to minimise the effects on the surrounding environmental quality, such as emissions to air, noise and vibration, landscape and water protection.

**D. User and Occupant Satisfaction:** Concerns aspects related to users and occupants of the development, including access, provision of amenities, comfort, security, health and safety, employment, training and human rights.

**E. Stakeholder Relations and Dialogue:** Concerns the management of sustainability aspects relevant to stakeholders of a development, including the local community, potential users and occupiers, and other organisations, agencies and individuals with a stake in the development.

In the early stages of the project, British Land worked with Arup to identify the sustainability aspirations for the development. A sustainability briefing meeting was held in August 2007 to identify topic areas that were considered likely to be of particular importance, and set minimum standards of performance for certain aspects of the scheme. The key priorities and aspirations identified at this stage are shown in Table 1 below.

**Table 1 Sustainability Briefing for the River Don Masterplan**

Issue	Aspiration	Priority	Other Comments / Actions / Key Performance Indicators
General	Achieve BREEAM 'excellent' rating in offices	High	To be reported as a KPI
	Code for Sustainable Homes level 3 rating for housing	High	To be reported as a KPI
A1. Biodiversity	Ecological enhancement	High	Consider green roofs, use opportunities to increase biodiversity and habitat value through landscape strategy, link strategic wildlife corridors.
A9. Transport	No significant traffic related impacts (air quality, congestion)	High	Minimise car usage and promote sustainable transport modes through masterplan design and travel plan.
B1. Energy	Carbon emissions at least 20% below Part L	High	To be reported regularly as a KPI
	Maximise use of natural resources where practicable	High	To be reported regularly as a KPI
B2. Materials	Minimum of 25% recycled content of materials by value	High	To be reported regularly as a KPI
	100% of wood to be obtained from sustainable sources	High	To be reported regularly as a KPI
D4. Connectivity	Consider linkages with Meadowhall and the transport hub	High	Provide high-quality physical link(s) to Meadowhall and rail / bus/ tram connections

A series of sustainability review meetings was held during the masterplanning process in 2007-08. The purpose of these reviews was to brief the design team on British Land's sustainability aspirations, identify strategic objectives and set challenging but achievable targets, guided by the sustainability issues set out under the five Sustainability Headings in the Brief. The evolving proposals were reviewed against these targets and objectives throughout the masterplanning process.

#### 4.2 Other Relevant Reports

During the masterplanning process, a number of studies have been undertaken by specialist consultants, which have considered a wide range of sustainability issues. These studies are documented in the reports described below, which are included in the planning application.

##### Energy Statement

The Energy Statement identifies the options available to achieve British Land's obligations for renewable energy supply, and to deliver the company's aspirations for significant reductions in carbon emissions beyond Building Regulation requirements.

Based on standard energy benchmarks, the Energy Statement shows that the energy demands of the development, comprising heating, cooling, hot water and electrical services, will discharge 23,000 tonnes of carbon dioxide into the atmosphere annually. By generating 7000MWh of energy from renewable sources (10%), the annual carbon dioxide emissions can be reduced by 5%. The Statement also demonstrates how carbon emissions will be further reduced by designing the development to maximise energy efficiency.

A variety of options for renewable energy supply are presented, together with design principles to reduce energy consumption and building emission rates through passive measures.

## Transport Assessment

A detailed Transport Assessment has been undertaken by Peter Brett Associates addressing all modes of transport including road, rail, canal, public transport, walking and cycling facilities. The Transport Assessment is included within the planning application documents.

## Flood Risk Assessment

The development area is identified by the EA as being at risk of flooding from the River Don, on the western boundary of the site. Government policy with respect to development in flood risk areas requires that planning applications be supported by a Flood Risk Assessment (FRA), to be carried out in accordance with Environment Agency (EA) guidance and the minimum requirements set out in PPS 25<sup>ii</sup>.

A sequential approach must be adopted to minimise risk by matching vulnerability of land to flood risk, utilising sustainable drainage systems (SUDS), and ensuring that all new development is appropriately flood resilient.

British Land has commissioned a FRA for the proposed development, which included a detailed reassessment of the flood flows and depths using hydraulic modelling. The FRA report and Sequential and Exception Tests, which have been produced to meet the requirements of PPS25, are included within the planning application documents and demonstrate that the site can be protected from flooding without detrimental affect to third parties and developed as proposed.

## Carbon Statement

An analysis of the carbon emissions generated by the development has been undertaken and a Carbon Statement is included in the planning application documents.

The overall carbon impact is equivalent to a less than 0.2% increase on the current CO<sub>2</sub> emissions in Sheffield.

## Environmental Statement

An Environmental Impact Assessment has been undertaken to meet the requirements of the Town and Country Planning (EIA) Regulations 1999 (as amended). The findings of the assessment are described in the Environmental Statement (ES), which sets out the environmental impacts of the development and mitigation measures to remove or reduce any adverse effects. The assessments have been undertaken in consultation with the relevant authorities and with reference to the relevant legislation, policy and guidance. The topics covered within the ES are:

- Traffic and transport;
- Air quality;
- Drainage;
- Flooding;
- Noise and vibration;
- Ground conditions and contamination;
- Ecology;
- Landscape and visual;
- Socio-economic;
- Historic Environment; and
- Archaeology.



## 5 Sustainability Appraisal

### 5.1 Methodology

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The assessment is presented under the five sustainability headings and sub-headings contained in the British Land Sustainability Brief (see 4.1 above).

The strategic objective(s) set by the River Don District design team are set out under the sustainability headings, together with quantitative targets where relevant.

The Brief identifies guiding principles for each aspect of sustainability, which have been used as the basis of the appraisal of sustainability performance. The appraisal also takes into account relevant sustainability policy and guidance.

A number of the issues identified in the Sustainability Brief have been scoped out of the appraisal, because there is insufficient information at the outline application stage. These are:

- D3 Comfort, health and wellbeing – this relates to detailed design of the internal and external spaces within the development.
- D7 Equal opportunities and diversity – this relates to contracts and operational management.
- D8 Health and safety – this relates to contracts and operational management.
- D9 Human Rights and Ethics – this refers to supply chain management during construction and operation.
- E4 Employees – this relates to contracts and operational management.
- E5 Users and occupants – this relates to detailed design of the internal and external spaces within the development.

These issues relate to the way the construction and/or operation of the development will be managed. They will be taken forward through the application of the Brief during the detailed design and pre-construction phases of the project.

### 5.2 Sustainability Heading A: Site And Neighbourhood

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#### A1 Biodiversity

Biodiversity is assessed against the following British Land Guiding Principle:

*To conserve, enhance and create habitat for flora and fauna, particularly protected species that may be found on the site.*

The objectives set by the project team for this area are:

*Objective A1.1 - Achieve no net loss of biodiversity over the site as a whole, and contribute to the achievement of local biodiversity action plans.*

*Objective A1.2 - Enhance the habitat value of the retained element of the former rail embankment and new riverside areas through integrated landscape and ecological design.*

*Objective A1.3 - Improve water-based habitats*

British Land has set performance targets in relation to the following issues:

- a proportion of trees and plant species within the formal landscaped areas to be native, food providing species;
- species habitat creation alongside the River Don;

- provision of bat and bird boxes on buildings adjacent to the riverside and rail embankment;
- the proportion of extensive brown roofs within the development;
- enhancement of the retained element of the rail embankment;
- a proportion of the total Riverside Park area comprising wildflower grassland;
- extending riverside and embankment habitats into the site; and
- provision of water based habitat within the site.

### **Sustainability Review**

In the River Don Valley, the main wildlife corridors are the River Don and Sheffield-Tinsley Canal. Within the site itself there is a mosaic of habitats including ruderal vegetation, grassland, scrub and immature woodland supporting a range of plant, invertebrate and bird species. The invertebrate population on the site is considered to be important at the local level, although no nationally important or protected species were identified. The site is also potentially used by bats as a foraging area.

The development will result in losses of the existing habitat within the site. The habitats and species affected are not considered to be important at the regional or national scale, but the development will affect local biodiversity and habitat value.

British Land has adopted strategies to address ecological impacts associated with the development. The Landscape Strategy for the site, set out in the Design and Access Statement, includes the creation of significant new parks, formal and informal open space, areas for recreation and brown roofs, connected through to the wider open space network. Habitats lost as a result of the development will be recreated within the site, and enhancement measures will focus on the riverside area to maximise ecological benefits and connectivity between habitats.

Through the implementation of the Sustainability Brief, British Land has committed to a number of specific targets to ensure that habitat enhancement is integrated into the development. In addition to the targets listed above, the ES sets out the following mitigation strategies:

- Minimising unavoidable habitat losses to the former rail embankment;
- Enhancement of the remaining embankment by re-shaping, landscaping and sowing with appropriate seed mixes;
- Incorporation of brown roofs to compensate for the loss of herb-rich grassland communities;
- Extensive tree planting within the development, including native species, to compensate for the loss of woodland habitats;
- Creation of a major parkland area along the riverside, with species-rich neutral grassland as part of a mosaic with native and non-native scrub and trees; and
- Management of the embankment and riverside park areas to promote biodiversity.

### **Sustainability Appraisal**

The partial loss of the embankment and brownfield habitats on the site will be addressed through ecological enhancement measures within the design. Although there will be a reduction in the total area of the former railway embankment, the connectivity along the embankment will be improved. Brown roofs will be included on buildings throughout the site, particularly adjacent to other habitat areas where their value to wildlife will be greatest. The use of native, food producing plants in the landscaping will compensate for habitat loss, and the riverside park will introduce a significant new area of habitat within the site.

Taking account of the measures included in the illustrative proposals and British Land's commitment to ecological enhancement within the detailed design process, the scheme is considered to be consistent with British Land's Guiding Principle to '*conserve, enhance and create habitat for flora and fauna, particularly protected species that may be found on the site*'.

Ongoing ecological management and monitoring will be needed to ensure that the sustainability aims described in this section are achieved and a Biodiversity Action Plan will also be produced to support the Ecology strategy.

## A2 Local Amenity

Local Amenity is assessed against the following British Land Guiding Principle:

*To design a development that contributes towards a pleasant environment for all those using the development and surrounding area.*

The objectives set by the project team for this area are:

*Objective A2.1 - Locate buildings and public spaces to minimise impacts of noise and air emissions from the surrounding road network and industrial sites.*

*Objective A2.2 - Minimise air emissions from the construction and operation of the development (including traffic).*

British Land has set performance targets in relation to the following issues:

- The creation of a favourable external noise environment at new homes, schools, health centres and community facilities based on PPG24 Noise Exposure Categories and WHO guidelines for community noise;
- Ensuring appropriate air quality at new homes, schools, health centres and community facilities, based on national air quality standards; and
- The level of additional air emissions from the new development will not compromise the ability of the local authority to meet national air quality objectives.

## Sustainability Review

### *Air Quality*

The development area is affected by significant traffic and industrial air pollution from local roads and from the steelworks at Sheffield Forgemasters International (SFI). Poor air quality has the potential to impact on the quality of the environment in the new residential and mixed use development. Local amenity of odour emissions from the Howco plant was also assessed.

The impact on local air quality has been assessed in the ES, in terms of nitrogen dioxide and fine particulate matter concentrations, as these are the main pollutants associated with traffic, biomass boilers and the steelworks. Detailed modelling predicts acceptable NO<sub>2</sub> concentrations, below the annual objective of 40ug/m<sup>3</sup>, for the majority of the development footprint area of Plots 1-5 in 2007.

Through the life of the development, air quality is predicted to improve and the annual NO<sub>2</sub> objective should be achieved for the entire building area as the development proceeds. The phasing of residential and other sensitive development (such as a crèche or doctors surgery) on Plots 1 and 2 will take account of the predicted improvement in NO<sub>2</sub> concentrations and to ensure that no exposure to concentrations above the objective value is introduced.

The predicted increase in annual mean concentrations of NO<sub>2</sub> and fine particulate matter at existing receptors as a result of the operation of the new development, including additional

traffic, was calculated in the ES. This is considered to be negligible, and within the error of the modelling.

In terms of construction effects from the development, there are no existing sensitive receptors close to the site, and together with appropriate monitoring and dust control measures it is therefore unlikely that there will be any dust complaints or an increase in fine particulate matter concentrations where there is relevant exposure.

#### *Noise*

Detailed noise surveys have been undertaken across the development area including those generated by traffic and adjacent industry. The affects of this noise, together with predicted traffic and other noise have been analysed. Performance criteria for building in relation to noise, in particular industrial noise in proposed residential areas have been agreed with the Local Authority Environment Health Officers. The agreed criteria in residential bedrooms are 45 dB LAmax (Forgemasters noise) and 30 dB LAeq,T (Howco noise). Design measures are included in the Design and Access Statement indicating methods by which these levels can be achieved.

### **Sustainability Appraisal**

An assessment undertaken for the ES has shown that the development will not impact on the air and noise environment at existing receptors. However, the development presents challenges in terms of introducing residential and other sensitive development in a small area where the current air quality and noise environment is poor. Phasing of the development, improvements in vehicle emission levels, careful siting of different uses and incorporation of appropriate designs, such as recessed balconies, orientation, screening and ventilation systems, will ensure acceptable noise and air quality conditions are achieved.

#### A3 Flood Risk

Flood Risk is assessed against the following British Land Guiding Principle:

*To protect the floodplain and ensure that flood risk at the site and elsewhere is not increased as a result of the development.*

The objectives set by the project team for this area are:

*Objective A3.1 - Prevent or compensate for loss of existing floodplain.*

*Objective A3.2 - Mitigate the effects of climate change on local flooding through the use of SUDS, porous paving and landscaping and other measures.*

British Land has set performance targets in relation to the following issues:

- The area of flood plain within the site; and
- Surface run-off rates.

### **Sustainability Review**

The development area is identified by the Environment Agency as being at risk of flooding from the River Don, on the western boundary of the site. A detailed flood risk assessment has been undertaken, taking account of climate change, which has concluded that the site is able to be protected sufficiently for the development to take place. This has necessitated the incorporation of a number of measures:

- Improvements to the existing informal flood defences;
- Creation of a flood alleviation channel and an element of flood storage on playing fields and open space within the site;

- Measures to improve flow, such as level adjustments to sections of Five Weirs Walk adjacent to the river channel; and
- Raising habitable ground floors above the 1 in 200 year flood level.

A Drainage Strategy has been developed for the site, and is documented in the Environmental Statement. The treatment of individual plots is appropriate to their current and future usage. Plots 1, 2 and 5 are currently undeveloped, and the proposed surface water discharge will be equivalent to the 'greenfield' runoff rate. Plots 3 and 4 are currently partially developed, and peak run-off rates from these plots will be substantially reduced. Overall, there will be a net reduction in surface water discharge to local watercourses of approximately 50 litres/sec across the site as a whole. Run off rates have been agreed with SCC and will be conditioned as part of the planning application.

British Land is committed to using sustainable drainage systems (SUDS) on the site. The options for SUDS are limited by the high water table and low porosity of the soils, as well as potential contamination. However, some SUDS methods are feasible, including the use of swales, ponds, geocellular tanks, oversized pipes, rainwater harvesting and green roofs.

### **Sustainability Appraisal**

Development within areas at risk of flooding is contrary to guidance issued by Government and the Environment Agency. Therefore, the proposals have been subject to a comprehensive assessment of flooding and drainage issues, and a detailed mitigation strategy has been developed and agreed with the local authority and relevant agencies. The result is that the development and surrounding roads will be taken out of the flood zone at the appropriate point in the regeneration programme, and drainage of the site will be improved. The proposed development is therefore considered to fully address drainage and flooding issues, and is consistent with British Land's Guiding Principle to '*protect the floodplain and ensure that flood risk at the site and elsewhere is not increased as a result of the development*'.

#### **A4 Heritage**

Heritage is assessed against the following British Land Guiding Principle:

*To protect, and enhance wherever possible, existing heritage including historic buildings, conservation areas, archaeology and the historic environment.*

The objectives set by the project team for this area are:

*Objective A4.1 - The architectural design will protect the site and setting of adjacent listed buildings and buildings of special interest. The design will aim to balance Sheffield's future needs with the need to reflect the site's industrial history.*

*Objective A4.2 - Manage construction impacts on archaeology in accordance with local authority requirements and developer driven mitigation designs.*

No targets have been set against these objectives, as it is not considered feasible to define measurable targets. These issues will be addressed in detail at the Reserved Matters stage by Sheffield City Council in consultation with South Yorkshire Archaeology Service.

### **Sustainability Review**

The ES has assessed the heritage value of the site. Former developments comprise steel works constructed during the 19<sup>th</sup> and 20<sup>th</sup> centuries, with standing buildings remaining on Plots 3 and 4 and other plots retaining elements of former buildings preserved in the boundary walls. Other local features such as the former railway embankment and the bridges contribute to the historic grain of the site. None of the structures to be demolished on the site appear on the Sites and Monuments Register or are listed. The nearest listed building is the former tram depot at the corner of Sheffield Road and Weedon Street, and a

former public house on Carbrook Street is considered to have some local historic significance.

The development will affect the setting of nearby buildings of historic significance. The Parameters Plans specify height restrictions adjacent to the former public house and tramshed buildings to ensure that the settings of these buildings are respected in the design. The final design of the scheme will determine its visual impact on the historic built environment. Based on the massing specified in the Parameter Plans, the proposals are considered in the ES to be likely to improve the setting of these buildings. The proposed development is considered to fit in with the recent historic pattern of development on the site, which for the last century has been densely urbanised with a range of industrial and office buildings.

Where appropriate, the remains of buildings within the development site will be preserved through record by appropriate archaeological investigations undertaken prior to construction. A Written Scheme of Investigation for this work will be agreed in advance with Sheffield City Council.

Specific targets have not been identified for heritage, since the impacts of the scheme on built heritage are considered to be subjective.

### **Sustainability Appraisal**

The ES states that the mitigation proposed will result in minimal adverse impacts of heritage resources, with improvement to the urban landscape potentially contributing positively to the setting of local historic buildings. Additionally, the ES has proposed that archaeological investigations be undertaken in agreement with SCC prior to reserved matters applications being submitted. This is considered to be consistent with SCC policy and British Land's Guiding Principle to '*protect, and enhance wherever possible, existing heritage including historic buildings, conservation areas, archaeology and the historic environment*'.

#### A5 Land Use

Land use is assessed against the following British Land Guiding Principle:

*To make the most efficient use of previously-developed land and contribute towards relieving pressure on greenfield areas.*

The objectives set by the project team for this area are:

*Objective A5.1 - Utilise brownfield and previously-developed land to its full potential.*

*Objective A5.2 - Protect human health and the environment from adverse effects of contaminated land.*

No targets have been set for these objectives as it is not considered feasible to define measurable targets. The masterplan led approach has considered options and to achieve the best use of the land, in consultation with SCC. This issue of contamination will be dealt with through compliance with EA pollution prevention guidance and health and safety legislation.

### **Sustainability Review**

The current site is previously-developed land, largely unused or in temporary use for car parking and storage. Only the western part of Plot 2 has no known previous development. The density of the illustrative proposals is consistent with the development's mid-urban location.

The development of a mixed use masterplan on the site is consistent with the principles of sustainable development. It will relieve pressure on greenfield land and provide regeneration benefits within Sheffield. However, the potentially contaminated nature of the site gives rise to potential sustainability issues.

The Environmental Statement has identified variable levels of contamination across the site, associated with its past uses, including metals, asbestos, organic and inorganic pollutants. Hazardous substances such as asbestos and dioxins are present in varying quantities across the site. The detailed design will need to take account of potential ground contamination. This will include avoiding the reuse on site of contaminated topsoils and subsoils, use of piling techniques that prevent the mobilisation of contaminated materials. The ES provides information on the standards and procedures that will be implemented to ensure health and safety standards are rigorously applied during construction.

### **Sustainability Appraisal**

The proposal to develop this area of Sheffield is supported in local, regional and national sustainability policy, and will bring much needed regeneration to an under utilised urban area on previously-developed land. The value of the land to local communities will be significantly increased, and the physical environment enhanced. The illustrative proposals are considered to be entirely consistent with British Land's Guiding Principle to '*make the most efficient use of previously-developed land and contribute towards relieving pressure on greenfield areas*'.

#### A6 Local Character, Distinctiveness & Pride

Local Character, Distinctiveness & Pride is assessed against the following British Land Guiding Principle:

*To build high quality developments which enhance the character and distinctiveness of the areas in accordance with the local identity culture and social heritage.*

The objectives set by the project team for this area are:

*Objective A6.1 - Deliver a high quality development that promotes civic pride.*

*Objective A6.2 - Deliver a mixed use community*

No targets have been set for these objectives as it is not considered feasible to define measurable targets.

*Objective A6.3 - Enhance the character and accessibility of the riverside area through landscaping, footpaths, cycleways and sports/community facilities to encourage recreational use.*

British Land has set a performance target in relation to the following issues:

- The number of people using the riverside as an informal leisure space, pedestrian and cycle route.

### **Sustainability Review**

The redevelopment that has already taken place in the area around the site following the collapse of the Sheffield steel industry has resulted in a change in the character of the Don Valley. Retail and office developments have replaced heavy industry, and the mixed office and residential development proposed reflects the changing character of the area. The existing vacant site detracts from the character of the surrounding areas and creates a barrier for local communities. If delivered to a high standard, the redevelopment of the site will address these issues, and improve the character of the local area, providing a hub to integrate new and existing communities.

British Land is committed to delivering a high quality development on the site, which will enhance this area of the River Don Valley, and will be well used and enjoyed by local communities. A key aspect of this will be the creation of a park on the riverside, which will significantly improve this area and create a new route and leisure resource, and a new public square with local facilities around it.

The proposals have been developed in consultation with officers from SCC, planning, including urban design and heritage officers. The Building Codes set out design principles for the site edges, buildings and streetscapes, as well as site landscaping, to guide the detailed design. The aim of these Codes is to ensure that the scheme is delivered to a high standard of design.

### **Sustainability Appraisal**

Whilst it is almost inevitable that development of the site will improve the current situation, the extent to which local character, distinctiveness and pride will be enhanced will depend on the quality of design, which can only be loosely defined at the masterplanning stage. British Land has a track record of delivering high quality sustainable developments, and was recently voted 'Sustainable Developer of the Year' in the annual Building Sustainability Awards. The application documents make clear the company's commitment to quality of design. On this basis it is expected that the Guiding Principle to '*build high quality developments which enhance the character and distinctiveness of the areas in accordance with the local identity culture and social heritage*' will be achieved.

#### A7 Local Economy / A8 Regeneration

Local economy and regeneration effects are assessed against the following British Land Guiding Principles:

*To build developments that contribute towards local economic growth and unlock the growth potential of areas.*

*To build developments that encourage the regeneration of local areas.*

The objectives set by the project team for this area are:

*Objective A7.1 - Increase local employment, boost the local economy and facilitate regeneration.*

British Land has set performance targets in relation to the following issues:

- Favourable consideration of contractors proposals at tender stage which demonstrate measures to encourage the use of local construction workforce;
- Favourable consideration of contractors proposals at tender stage which demonstrate measures to encourage the use of local materials and suppliers; and
- Some office space to be designed for flexibility to enable use by SMEs and business start-ups.

### **Sustainability Review**

Sheffield has under performed economically in comparison with a number of other regional cities, and the property market suffers from a low supply of high quality housing and low levels of uptake. Sheffield is taking steps towards economic regeneration through significant improvements to the City Centre environment and development of new office areas.

The proposed development will provide high quality housing and a decentralised office location which has qualities that are likely to attract businesses from growth industry sectors, which will help to retain graduates within Sheffield. Benefits include good accessibility by public and private transport across a wide range of labour markets, plus a range of other uses that will support business development.

As described in D6 below, the ES estimates the combined net job creation of 619 FTE at the local level, and 504 FTE at the regional level over the period of the construction phase and an estimated 5,724 net direct jobs at the local level, and 5,467 net direct jobs at a regional level, would be created during operation. These jobs can also be expressed in terms of their Gross Value Added (GVA). In terms of GVA, the local jobs generated can be seen as contributing some £205 million in GVA per year locally and £218m regionally. This is considered to make an

important contribution to reducing the GVA gap between Sheffield and its competitor cities, and specifically help address the productivity improvement targets set out in the Sheffield Economic Masterplan.

### **Sustainability Appraisal**

The assessment undertaken for the ES has demonstrated that the proposals will make a significant contribution towards the local economy and employment opportunities. The illustrative proposals are therefore considered to be strongly supportive of the British Land Guiding Principles:

*To build developments that contribute towards local economic growth and unlock the growth potential of areas; and*

*To build developments that encourage the regeneration of local areas.*

#### A9 Transport

Transport effects are assessed against the following British Land Guiding Principle:

*To minimise vehicle journeys associated with the development and to improve accessibility to the site by a choice of travel modes.*

The objectives set by the project team for this area are:

*Objective A9.1 Enhance opportunities for travel by non-car modes within and around the site and wider area. Minimise the use of private cars and ensure that trips generated by the development do not exceed the capacity of the local and strategic road network, taking into account other planned development.*

British Land has set performance targets in relation to the following issues:

- Properties within 400m of tram/bus stops;
- Journeys to and from the site by walking / cycling; and
- Journeys by non-car modes.

### **Sustainability Review**

The site is well suited for a mixed use development, as it is easily accessible by a range of transport modes. The northern part of the site is within walking distance of the Meadowhall public transport interchange, which includes Supertram, heavy rail and buses. An assessment of public transport capacity undertaken for the ES concluded that there was sufficient capacity on the three public transport modes to provide attractive travel options to key destinations for new residents and employees.

The roads around the site are heavily trafficked and there is a potential for the new development to increase congestion on the local road network. The Transport Assessment has shown some slight impacts on roads that currently have low traffic flows or links that will accommodate direct access routes to and from the site as a result of the operational development. Construction traffic would be controlled by a Code of Construction Practice and would not have any significant impact on the road network.

Walking and cycling has been taken into account in the site layout, which provides high quality routes across the site to Meadowhall Shopping Centre and the public transport interchange. A continuous green link will run through the site and link all of the development plots, and the embankment between Sheffield Road and the newly provided riverside park will be enhanced for pedestrians. In addition, a number of crossing points will also be provided in association with traffic calming measures. The Five Weirs Walk, a canal towpath and cycle path that follows the River Don for eight kilometres, will be maintained and enhanced. Cycleways will be provided along Weedon Street to help link the masterplan

area into Five Weirs Walk whilst a cycle and pedestrian route around the office campus will also be provided.

British Land has developed an outline Green Travel Plan which will continue to be refined throughout the design period. Some of the main points are outlined below:

- Parking – The levels of parking will be capped and fully managed within the area.
- Public Transport – The area is already well served by public transport but further improvements are proposed including the Bus Rapid Transit, (BRT) as well as improvements to interchanges.
- Lorry Management – Clear routes will be defined during construction that will have the minimal affect on the area particularly with regard to safety. The potential for delivering materials by rail will also be investigated.
- Travel Plan Information Pack – This will include pedestrian and cycle maps to encourage these modes of travel as well as train timetables to make residents and employees fully aware of alternatives.
- Car Sharing – The potential of creating a Car Sharing database will be explored to link employees and residents that have similar trip origins and destinations with the option of car sharing.
- Taxis – Information on taxis will be provided so that employees working anti-social hours will be given a safe means by which to return home.
- Working Practices – Employees will be given the opportunity to work flexible hours or to work from home, therefore reducing the need to travel during peak times and also not to travel whatsoever.

Other initiatives that are being considered in relation to lower emissions, include:

- Fleet emission improvement agreements.
- Residential parking set aside for Car Clubs or low emission vehicles.
- Customer parking set aside for low emission vehicles.
- Provision of electric charging bays or low emission fuelling points.

A feasibility study was undertaken to consider options for non-road transport of construction materials, to reduce the impact of construction traffic. Rail and canal transport were considered, but were found to be unfeasible due to the lack of connecting infrastructure.

### **Sustainability Appraisal**

The site will generate significant additional traffic movements in an area of busy roads. However, there are a number of sustainable travel options, which make the site highly accessible and therefore well suited for development. The proposal for a mixed use development will reduce the need to travel, as facilities for residents and employees will be provided locally.

As the area is already well served by public transport, the proposals do not include the provision of additional public transport infrastructure. The Green Travel Plan includes a range of measures that will encourage the use of existing public transport, walking and cycling, in accordance with British Land's Guiding principle *'to minimise vehicle journeys associated with the development and to improve accessibility to the site by a choice of travel modes'*.

### 5.3 Sustainability Heading B: Resource Consumption

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#### B1 Energy

Energy performance is assessed against the following British Land Guiding Principle:

*To limit the impact of the development upon the global climate through the minimisation of carbon dioxide emissions arising from the manufacture of materials, their transportation, installation and construction as well as the energy used once the development is occupied.*

The objectives set by the project team for this area are:

*Objective B1.1 - Minimise use of natural resources where practicable.*

British Land has set performance targets in relation to the following issues:

- reduction of carbon emissions beyond the requirements of the Building Regulations Part L2: 2006;
- energy supply to be met from renewable sources;
- BREEAM Excellent rating for offices; and
- Code for Sustainable Homes level 3 rating for residential development

#### **Sustainability Review**

The Energy Statement identifies potential means by which the development will achieve the above energy targets. A hierarchical approach has been taken, beginning with a commitment to design the buildings in such a way that energy usage for heating, cooling, lighting and ventilation is minimised. The second stage is the provision of energy efficient building services, including measures to limit operating times, with consideration of low-carbon energy generation. Finally, the strategy will incorporate renewable energy technologies to achieve the specified targets wherever possible.

Renewable energy options on the site are constrained by a number of factors. Previous studies have shown wind power to be unfeasible. Possible options include various combinations of technologies such as biomass heating plant, hydro-electric power, a heat pump system utilising the proposed water feature, and solar hot water. Biomass boilers could provide good returns in terms of carbon reduction. If pursued, careful consideration will be given to ensure that biomass boiler plant and deliveries do not compromise SCC's efforts to improve air quality in the development area. British Land is also in discussion with the E.ON proposed biomass plant in close proximity to the site, with regard to the possible use of waste heat from the plant.

Carbon reduction through reductions on transport emissions and embodied energy in materials are discussed in Sections A9 and B2 respectively.

#### **Sustainability Appraisal**

British Land has pledged to achieve carbon emissions at least 20% better than Building Regulations within the new development, and to investigate further reductions during detailed design. The company has demonstrated in previous development projects that it is committed to carbon reduction. The Regent's Place commercial development in London used energy efficient design to achieve a reduction of more than 30% below Building Regulation requirements for carbon emissions, and incorporated photovoltaic cells and solar water heating to provide on-site renewable energy.

It is considered that the River Don District proposals will achieve a high level of performance in terms of carbon reduction, as is increasingly expected of large scale development projects, and will be consistent with British Land's Guiding Principle to *'limit the impact of the development upon the global climate through the minimisation of carbon dioxide emissions*

*arising from the manufacture of materials, their transportation, installation and construction as well as the energy used once the development is occupied'.*

## B2 Materials

Materials impacts are assessed against the following British Land Guiding Principle:

*To reduce environmental impacts and enhance benefits to the local economy through careful selection storage and handling of materials used to construct the development.*

The objectives set by the project team for this area are:

*Objective B2.1 Minimise use of natural resources*

British Land has set performance targets in relation to the following issues:

- Recycled material incorporated into the design;
- All timber used to be for certified sustainable sources;
- Green Guide ratings for windows and internal partitions; and
- A proportion of cement in concrete mixes to be replaced with sustainable alternatives.

## Sustainability Review

The construction of a major development project will use large quantities of materials which will inevitably entail embodied energy and environmental impacts associated with extraction, processing, manufacture and transport. These impacts can be reduced by using sustainable sourced materials.

At the masterplanning stage, the precise materials that will be used to construct the development are not determined. The Building Codes place a strong emphasis on the use of durable materials that will minimise the need for replacement.

By identifying the targets above, British Land has demonstrated that it is committed to ensuring that sustainability is taken into account in the selection of materials for the development, and to reducing embodied energy and environmental impacts.

## Sustainability Appraisal

The use of sustainable materials cannot be assessed at this stage, but will be assessed throughout the detailed design process. British Land will include the above targets within future design briefs and, through the application of the Sustainability Brief to the detailed design process, will aim to achieve the Guiding Principle to '*reduce environmental impacts and enhance benefits to the local economy through careful selection storage and handling of materials used to construct the development*'.

## B3 Waste

Waste is assessed against the following British Land Guiding Principle:

*To facilitate implementation of the waste hierarchy of 'reduce, reuse and recycle' during construction and operation.*

The objectives set by the project team for this area are:

*Objective B3.1 Implement waste hierarchy (reduce, reuse, recycle) in construction and operation.*

British Land has set performance targets in relation to the following issues:

- Reduction in construction waste below national average (as defined in BRE document 'Developing a Strategic Approach to Construction Waste');

- Reducing the proportion of construction and demolition waste to landfill;
- Balancing cut and fill to minimise waste; and
- Production of detail Waste Management Plans for all construction contracts.

### **Sustainability Review**

The proposed development will generate significant volumes of waste during both construction and operation. The generation of waste is an inevitable effect of any large scale development project.

However, there are a number of factors that will reduce the impact of waste from the project:

- The site contains few existing buildings, meaning that demolition waste will be relatively low. Masonry from the demolition of existing buildings will be crushed and used within the site wherever possible;
- All contractors will be required to produce a waste management plan detailing how they will minimise waste generation and maximise reuse and recycling.

The site contains contamination, particularly on the embankment, which could potentially prevent the reuse of material within the site. Material that is unsuitable for reuse will be disposed of to a licenced landfill facility if on-site remediation is not feasible. It is anticipated that fill material will need to be imported onto the site to achieve the required levels for flood mitigation.

The operational waste generated by the offices, housing and other uses on the site will place additional demands on Sheffield's waste management authorities. Any potential capacity issues will need to be identified at the detailed design stage and discussed with the waste authorities and SCC. The detailed design will ensure that sufficient space is allocated for segregation and storage of operational waste within each plot.

### **Sustainability Appraisal**

In order to achieve best practice in waste management and minimisation, both in construction and operation, and to comply with British Land's Guiding Principle, waste will need to be addressed further at the detailed design and construction stages.

#### **B4 Water**

Water impacts are assessed against the following British Land Guiding Principle:

*To increase efficiency of water use within the development and minimise water demand.*

The objectives set by the project team for this area are:

*Objective B4.1 Use water efficiently and obtain a proportion of supplies from recycled water and/or rainwater harvesting systems.*

British Land has set performance targets in relation to the following issues:

- Water for toilet flushing and other uses (e.g. irrigation) to be obtained from rainwater harvesting; and
- Use of water efficient appliances and fittings throughout the development.

### **Sustainability Review**

Residential properties will be the main consumers of water, and the hotel, office, leisure, retail and other uses will also contribute to the consumption of water by the development. Irrigation of landscaped areas will use water, although this will be minimised through the selection of native and drought resistant species where possible.

Water use within the development will be minimised by utilising rainwater harvesting systems on rooftops, to meet a proportion of non-potable water supplies. In addition, all fittings and appliances will be water-efficient.

The proposal to use SUDS will give opportunities to further reduce water consumption, for example by using water from attenuation ponds for irrigation of landscaped areas.

During construction, water will be used for processes such as concrete batching, wheel washing and dust suppression.

### **Sustainability Appraisal**

British Land is committed to reducing water usage within the operational development and will specify measures such as rainwater harvesting and efficient fittings to achieve this. Although the development will increase demand for potable and non-potable water supplies, it is considered that the proposals achieve the Guiding Principle to '*increase efficiency of water use within the development and minimise water demand*'. Further work will be undertaken at the detailed design stage to ensure that water efficiency is maximised during both construction and operation.

## 5.4 Sustainability Heading C: Environmental Quality

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### C1 Emissions to Air

Air quality impacts are assessed against the following British Land Guiding Principle:

*To minimise the emissions of indoor and external air pollutants associated with the development.*

The objectives set by the project team for this area are set out in A2 above:

*Objective A2.1 - Locate buildings and public spaces to minimise impacts of noise and air emissions from the surrounding road network and industrial sites.*

*Objective A2.2 - Minimise air emissions from the construction and operation of the development (including traffic).*

British Land has set performance targets in relation to the following issues:

- Ensuring appropriate air quality at new homes, schools, health centres and community facilities, based on national air quality standards; and
- The level of additional air emissions from the new development will not compromise the ability of the local authority to meet national air quality objectives.

### **Sustainability Review**

The predicted increase in annual mean concentrations of NO<sub>2</sub> and fine particular matter at existing receptors as a result of the operation of the new development, including additional traffic, was calculated in the ES. This is considered to be negligible, and within the error of the modelling.

In terms of construction effects from the development, there are no existing sensitive receptors close to the site, and therefore there are unlikely to be any dust complaints or an increase in fine particular matter concentrations where there is relevant exposure. Dust control measures during construction will minimise the impact of construction emissions on occupants of the phased development.

Air quality impacts from existing sources are discussed in A2 above.

### **Sustainability Appraisal**

The impacts of the development on air quality at existing receptors has been assessed in the ES as negligible, and as such the development is considered to be consistent with

British Land's Guiding Principle *'to minimise the emissions of indoor and external air pollutants associated with the development'*.

## C2 Landscape

Landscape impacts are assessed against the following British Land Guiding Principle:

*To develop intuitive, imaginative, high quality designs which respond positively to their environment and the people who will use them.*

The objectives set by the project team for this area are:

*Objective C2.1 Develop a Landscape Strategy to provide a high quality environment for people and wildlife.*

British Land has set performance targets in relation to the following issues:

- Maintaining biodiversity on the site (see A1); and
- Increasing the use of the riverside and embankments for leisure use (see A6).

### **Sustainability Review**

The Landscape Strategy sets out the high level principles to be taken forward through the detailed design. The strategy recognises the status of the River Don Valley as a main gateway to Sheffield and aims to create a contemporary and inspiring environment. The landscaping will consist of connected open spaces, including a new public square, and a diverse mix of landscape and nature conservation enhancements. The relationship between the site and the river has been a key consideration in the development of the landscape strategy and the massing and orientation of buildings.

The proposals include significant new parks, formal and informal open spaces, which are connected through to the wider open space network surrounding the site. The main feature will be the riverside park, which will make the riverside area a more accessible and pleasant environment for local people, whilst enhancing its habitat value.

### **Sustainability Appraisal**

The assessment of landscape and townscape effects is subjective, and the effects of a development depend on a wide range of factors that cannot be clearly defined at the masterplanning stage. British Land has consulted widely with SCC and other bodies in the development of landscaping strategy for the site, and is committed to creating a high quality environment which will significantly improve the site's contribution to the local townscape. Based on the illustrative proposals, and British Land's commitment to continual sustainability review, it is expected that the scheme will be consistent with the Guiding Principle to *'develop intuitive, imaginative, high quality designs which respond positively to their environment and the people who will use them'*.

## C3 Noise and Vibration

Noise and vibration impacts are assessed against the following British Land Guiding Principle:

*To minimise the effect of noise and vibration from operation of the development upon neighbours.*

The objectives set by the project team for this area are (see A2):

*Objective A2.1 - Locate buildings and public spaces to minimise impacts of noise and air emissions from the surrounding road network and industrial sites.*

British Land has set performance targets in relation to the following issues:

- The creation of a favourable external noise environment at new homes, schools, health centres and community facilities based on PPG24 Noise Exposure Categories and WHO guidelines for community noise.

### **Sustainability Review**

The extent of survey and performance criteria have been agreed with the Local Authority Environmental Health Officers and potential mitigation measures assessed.

The incorporation of the following measures will result in acceptable noise levels within the development:

- commercial and less sensitive uses are located adjacent to provide screening for the more sensitive land uses within the development
- the location of houses with gardens takes account of the noise environment;
- buildings are designed to meet noise standards by use of orientation, recessed balconies, façade treatments, enhanced glazing and mechanical ventilation.

### C4 Surface and Groundwater

Surface and ground water impacts are assessed against the following British Land Guiding Principle:

*To ensure that the development does not have a negative effect upon the quality of surface water and to enhance the water environment where possible.*

The objectives set by the project team for this area are:

*Objective C4.1 Use Sustainable Urban Drainage concepts throughout the development to manage site run-off.*

*Objective C4.2 Use Sustainable Urban Drainage methods to manage surface water run-off rates.*

British Land has set performance targets in relation to the following issues:

- Maintaining or enhance the quality of surface and ground water; and
- Reducing the rate of surface water run-off.

### **Sustainability Review**

The proposed development will take place adjacent to the River Don and as such there is a potential for contamination associated with the construction works to enter the River. This will be controlled through a Code of Construction Practice, which will ensure that Environment Agency guidelines on pollution prevention are adhered to at all times.

A Flood Risk Assessment has been developed, which includes proposals for the attenuation of run-off from the site, including Sustainable Drainage Systems (SuDS). A new water feature will be created within the development, which will be designed to encourage biodiversity. In addition, the banks of the River Don within the new riverside park will be managed for biodiversity, creating a more natural water environment.

### **Sustainability Appraisal**

The incorporation of SuDS measures, new water feature and improvements to the riverside environment, together with appropriate pollution controls within the Code of Construction Practice, will ensure that there is no reduction in the quality of surface and ground water as a result of the development.

## 5.5 Sustainability Heading D: User and Occupant Satisfaction

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### D1 Access / D2 Facilities

Access and facilities impacts are assessed against the following British Land Guiding Principles:

*To ensure the development is fully accessible by all.*

*To design developments that incorporate sufficient facilities to meet the daily requirements of users of, and visitors to, the site.*

The objectives set by the project team for this area are:

*Objective D1.1 Provide access to a full range of key facilities needed by the local community.*

British Land has set performance targets in relation to the following issues:

- Distance of dwellings from public transport and basic local shops.

### **Sustainability Review**

The proposed new residential development, on currently unoccupied land, will place additional demand on community facilities, in particular health and educational facilities. Consultation with SCC and the Primary Care Trust has indicated that existing health and education services will be able to accommodate the new population, although secondary schools near the site are close to capacity. The need for any additional educational provision, either within or outside the site, will be identified through ongoing discussions with SCC.

Other community facilities located within the new neighbourhood centre will be determined during the reserved matters applications and detailed design. There is a potential for the development to compete with other neighbourhood facilities, and this will be taken into account in ongoing discussions and consultations. The aim of the development is to provide facilities which meet the demands of the local communities, rather than competing with existing facilities.

The Design and Access Statement and Design Codes include a commitment to provide a fully accessible and inclusive development.

### **Sustainability Appraisal**

At the outline planning stage there is limited information on the facilities and services within the proposed development. However, the illustrative proposals show a clear intent to provide a full range of facilities, which will be carefully planned for the benefit of both the new and existing population. Fully inclusive accessibility is also a clear aim, stated within the Design Codes. At this stage, it is considered probable that the development will deliver significant improvements for the local area in terms of access and facilities.

### D4 Connectivity

Connectivity impacts are assessed against the following British Land Guiding Principle:

*To maintain and enhance linkages with surrounding communities, local facilities and support increased use of surrounding spaces.*

The objectives set by the project team for this area are:

*Objective D4.1 Provide high quality routes through and across the site for vehicles, cycles and pedestrians, linking to the strategic network, and improve links with Meadowhall shopping centre.*

British Land has set performance targets in relation to the following issues:

- A reduction in journey time across the site for pedestrians and cyclists.

### **Sustainability Review**

The development of the site will significantly improve connections between the existing communities of Tinsley, Darnall and Brightside. The site currently forms a barrier on the south side of Meadowhall, and will be opened up by new vehicle and pedestrian links running north-south and east-west.

For pedestrians, there will be two new routes through the site avoiding roads, via the former railway embankment and new riverside park. There will also be routes through the heart of the site via a new public square, which may be used to host markets and other events. These areas will be important facilities for the surrounding communities, providing increased opportunities for interaction. Cycle routes through the site have been designed to link with the wider strategic cycle network (see A9).

### **Sustainability Appraisal**

The proposed development will open up the site and improve physical links for pedestrians, cycles and vehicles, and provide public spaces which will give local communities more opportunity to interact with one another. Based on these factors the development is considered to have a significant positive effect on connectivity within the Lower Don Valley, and support British Land's guiding principle *to maintain and enhance linkages with surrounding communities, local facilities and support increased use of surrounding spaces*.

#### D5 Crime and Security

Crime and safety impacts are assessed against the following British Land Guiding Principle:

*To create spaces where people feel safe and secure, where crime levels are low and where managed security is minimised through good design.*

The objectives set by the project team for this area are:

*Objective D5.1 Reduce fear of crime and minimise opportunities for crime and antisocial behaviour.*

British Land has set performance targets in relation to the following issues:

- clear sight lines and appropriate levels of lighting for pedestrian and cycle routes; and
- implementation of 'secure by design' principles throughout the site.

### **Sustainability Review**

Responses to public consultation have shown that crime and security are high among the priorities of local people. In recognition of this, the illustrative proposals place a strong emphasis on security both in management and design of public and private spaces. There is a proposal to provide security wardens or equivalent supervision in public parks, car parks and other public spaces. 'Secure by Design' principles will be incorporated into all areas of the site, including lighting strategies, planting and landscaping, the alignment and location of pedestrian routes and orientation of buildings and entrances. Discussions are ongoing with the SCC regarding the future management and potential adoption of open spaces and highways.

### **Sustainability Appraisal**

At the masterplanning stage, the level of design information is not sufficient to assess security issues in detail, but the Design and Access Statement sets out clear principles to deliver a secure environment. Therefore it is anticipated that the proposals will support the guiding principle *'to create spaces where people feel safe and secure, where crime levels are low and where managed security is minimised through good design'*.

## D6 Employment Issues

Employment issues are assessed against the following British Land Guiding Principle:

*To create additional jobs and a more diverse range of employment opportunities.*

The objectives set by the project team for this area are:

*Objective D6.1 Work with The Source and other regional and local facilities to provide employment and training opportunities for the local community.*

British Land has set performance targets in relation to the following issues:

- A proportion of construction (i.e. contracted) employment will be drawn from the local community (See A7).

### **Sustainability Review**

The proportion of economically active people in the areas around the development area is lower than the district, regional and national average.

The proposed development will create significant employment opportunities in a currently underutilised area by creating a mixed use development with significant office stock in addition to leisure and retail opportunities.

Based on calculations undertaken for the ES, it is estimated that 6,700 person years of employments will be created by the construction of the project. This equates to the creation of 619 gross full time jobs. After taking account of displacement and deadweight considerations, it is estimated that the scheme will generate 504 net jobs at the regional level. Additionally, an estimated 101 additional full time jobs will be created within the Yorkshire and Humber region arising from the indirect and induced effects of construction activity. Employment growth will arise locally through services and supplies to the construction process benefiting local suppliers and sub-contractors.

During the operation of the development it is estimated in the ES that, taking account of displacement and other factors, the total new permanent employment will be 5,724 local jobs and 5,467 regional jobs. It has been assumed that 85% of these jobs will be taken up by local residents, and 90% from within the Yorkshire and Humber region.

Despite conservative assumptions, the ES has shown that the proposed development has the potential to make a substantial contribution to the local and regional economy.

## D10 Public Realm

Impacts on the public realm are assessed against the following British Land Guiding Principle:

*To enhance the provision of high quality public realm within the local area.*

The objectives and targets set by the project team for this area are:

*Objective D10.1 Enhance the public realm*

British Land has set performance targets in relation to the following issues:

- See C2, D4 and D5.

### **Sustainability Review**

The new residential and landscaped areas will provide a new area of public realm. There is also a potential for the commercial district to contribute to the public realm, although this is dependent on the occupiers' access requirements, which will be determined at a later stage in the design process.

A central square is proposed, which will be set amongst a mix of residential, retail and community uses. The vision for this space is for a vibrant environment, with cafes, outdoor

activities and public events. The Design and Access Statement designed sets out British Land's commitment to the highest quality of design in this and other public areas.

Between the Neighbourhood Centre and Meadowhall Way the former railway embankment will be remodelled and reshaped, supplemented by new planting to maintain a green edge to the site. This will enable public access to the embankment, providing a new route and new area of public realm.

The new riverside park will provide a major new area of publicly accessible green space, with opportunities for both formal and informal recreation. Areas for formal play will be located along the river edge, accessible to nearby communities and benefit from passive surveillance from residential buildings. Children's play facilities will be accommodated to meet the residential need. Fishing platforms will be constructed within the riverside park area, and other recreational facilities such as tennis courts and football pitches will be provided within the development.

### **Sustainability Appraisal**

The existing site is currently inaccessible and does not contribute to the public realm. With the proposed development, most or all of the site will become accessible, and new spaces will be created with the specific aim of improving the environment for local people. In addition, British Land is committed to a high level of design, and has a proven track record of delivering high design quality on its previous projects.

The proposals are therefore considered to have a positive effect on the public realm and to be consistent with British Land's Guiding Principle '*to enhance the provision of high quality public realm within the local area*'.

#### D11 Training and Education

Training and education are assessed against the following British Land Guiding Principle:

*To facilitate an increase in training provision and skills base within the local area.*

The objectives and targets set by the project team for this area are:

*Objective D11.1 Enhance education opportunities in the design, construction and operation of the masterplan.*

British Land has set performance targets in relation to the following issues:

- Use and development of accredited construction training through the Source Training Centre and other local and regional facilities; and
- Liaison with developers, owners and residents to ensure awareness of training facilities and to encourage the development of new training to suit local needs.

### **Sustainability Review**

The communities in the area immediately adjacent to the site are comparatively poorly educated, with a higher proportion of residents with no qualifications than at district, regional or national levels. The scheme provides a significant opportunity for people within these communities to develop new skills, either in construction related areas or through the new employment opportunities provided within the operational development.

As the owners of the Meadowhall shopping centre, British Land sits on the board of the Source Training Centre, adjacent to Meadowhall. The centre is a public-private partnership, guided by a steering group of retailers, schools and community representatives. It provides tailored training programmes aimed at equipping local people with skills to meet the needs of local employers. British Land is in holding ongoing discussions with The Source to identify opportunities for training courses relating to the construction and operation of the proposed development and has proposed a comprehensive package of employment and training initiatives.

The illustrative proposals do not include any specific training facilities, although they do incorporate flexible space, which has the potential to accommodate training facilities among other community uses.

### **Sustainability Appraisal**

The proposals will provide major new opportunities for training for the local community, with direct links to new employment opportunities. As such it is considered very important to support local and regional educational policy as well as the British Land guiding principle to *facilitate an increase in training provision and skills base within the local area.*

## 5.6 Sustainability Heading E: Stakeholder Relations and Dialogue

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### E1 All Stakeholders / E2 Agencies and Organisations

Stakeholder impacts are assessed against the following British Land Guiding Principles:

*To ensure that all stakeholders are given sufficient opportunity to comment on and input to the design and construction of the development.*

*To ensure consultation is initiated and maintained with all relevant agencies and organisations such as heritage groups, local water providers, environmental organisations and planning authorities as appropriate.*

The objectives set by the project team for this area are:

*Objective E1.1 Involve statutory and non statutory organisations in decision making.*

No specific targets have been set for these objectives as it is not considered feasible to define measurable targets. The project aims to comply with best practice in public and stakeholder engagement, with early and ongoing consultation that is clear and accessible, and followed up with feedback and further involvement.

### **Sustainability Review**

A comprehensive consultation strategy has been developed, taking account of Sheffield City Council's good practice principles. The consultation strategy and responses are described in the Statement of Community Involvement (SCI).

The consultation strategy included a range of measures aimed at reaching the widest possible audience. These included:

- Wide publicity prior to public exhibitions;
- Exhibition held in a highly accessible location within the Meadowhall shopping centre;
- Translated documents and large print documents made available on request; and
- A web site to maximise the reach of the consultation strategy and provide further information.

A number of forums were set up to engage with community and stakeholder representatives from the local areas of Tinsley, Darnall and Handsworth.

Professional technical consultation took place with a wide range of organisations, primarily through the EIA process. This included regulatory authorities such as the Highway Authority, Environment Agency, Natural England and English heritage, and the South Yorkshire Archaeological Service.

Bi-weekly meetings were held with Sheffield City Council's planners, transport and highways divisions, environmental, heritage, education and housing officers. Rotherham Metropolitan Borough Council were also consulted, as the borough boundary is close to the site and the borough is therefore likely to be affected by the proposals.

### Sustainability Appraisal

The comprehensive consultation strategy developed and applied by British Land is considered to be consistent with both SCC guidance on consultation, and British Land's guiding principles.

#### E3 Community

The effects of the development on the local community are assessed against the following British Land Guiding Principle:

*To undertake engagement with local communities from early in the design stage so as to foster close working relationships, to gain a better understanding of the potential impact of the development upon the local community and to improve the development proposals by allowing changes to be made to draft schemes before planning applications are submitted to local authorities.*

The objectives set by the project team for this area are:

*Objective E3.1 Engage with local communities in the development of the masterplan.*

No targets have been set for these objectives as it is not considered feasible to define measurable targets. British Land is committed to community engagement and maximising local community benefits on all its development projects.

### Sustainability Review

Local communities have been involved in the masterplanning process through the local community forums, and public exhibition. Feedback shows that the majority of local people support the principle of redeveloping the existing site, although there are some concerns regarding the integration of the new population and the effects on local services and facilities in the surrounding areas.

Consideration of local communities has been a key factor in the development of the proposals. Measures to increase community integration include:

- Encouragement of local involvement in the development through training and employment opportunities (see D6 and D11);
- Creation of a new neighbourhood centre, which will form a community hub for the new and existing population in surrounding communities;
- Ongoing consultation to establish the appropriate level of community facilities and services within the development, so that the development will meet the needs of the new and existing community without adversely affecting existing facilities in the local area (see D1/D2);
- Incorporation of flexible space, which will allow the development to respond to the needs of the local community;
- Provision of new parks and outdoor spaces for the benefit of existing and future communities (see D10); and
- Provision of physical links between the existing communities of Tinsley, Darnall and Brightside.

### Sustainability Appraisal

The redevelopment of a currently unused site will provide new facilities, increase the usage of existing community facilities, and link adjacent communities that are currently cut off by the empty site. The proposed development is therefore considered to deliver significant community benefits, and to support the British Land's Guiding Principle in relation to local communities.

## 6 Summary and Conclusions

The redevelopment of the vacant River Don District site is consistent with general sustainability principles in a number of respects:

### Social benefits

- The proposals will improve physical links between the existing local communities and provide new community facilities and public spaces. Consultation responses have shown that the majority of people are in favour of the development.
- British Land will work with The Source at Meadowhall to provide new training opportunities for local communities.

### Economic benefits

- The proposals will bring new employment opportunities, provide new homes, and will be a catalyst for regeneration of this part of Sheffield, which suffers from high unemployment.

### Land use

- By bringing underused, previously-developed land back in to use, the development will promote regeneration of this urban area whilst also relieving development pressure on greenfield sites.

As with any major development project, the proposals will have a number of potential adverse impacts linked to the increase in emissions, use of resources and loss of habitat. In addition, the environmental conditions at the site present challenges for creating an appropriate environment for residential and other sensitive development types.

British Land has sought to address these issues through the application of sustainable design principles in the masterplanning process, by applying the Sustainability Brief and undertaking regular reviews. In addition, potential environmental and social impacts were identified in the EIA, and mitigation measures were incorporated into the proposals through an iterative process.

British Land's approach to sustainability is demonstrated in a number of commitments that are documented within this Sustainability Statement and other application documents:

- Creation of significant new areas of high quality public space;
- Commitment to minimising the use of natural resources and application of the waste hierarchy (reduce, reuse, recycle) in construction;
- Commitment to efficient use of water in both construction and operation;
- Reduction in carbon emissions to below Building Regulation requirements, with ongoing target setting and monitoring;
- Habitat enhancement, with the aim of achieving no net loss of biodiversity on the site;
- Achieving appropriate air quality and noise conditions at sensitive locations within the new development; and
- Development of a Travel Plan to reduce the effects of the development on the local road and public transport networks and encourage sustainable travel.

<sup>i</sup> The Yorkshire and Humber Plan, Draft For Public Consultation, December 2005

<sup>ii</sup> Planning Policy Statement 25 – Development and Flood Risk, DCLG 2006