

## 14.0 WASTE

### 14.1 INTRODUCTION AND METHODOLOGY

- 14.1.1 An assessment of the likely significant effects of the Project with regard to waste has been undertaken by FPCR Environment and Design Ltd. This Chapter follows a standard study pattern by setting out the baseline conditions, details of the proposed development, followed by an identification of the potential environmental effects.
- 14.1.2 In its executive summary, the **Regional Waste Strategy** for the East Midlands suggests that, ***“If we continue to allow the amount of waste we produce to increase, we may need to manage up to 39 million tonnes of waste every year by 2021. Even if the Region achieves all the targets which have been set for the reduction, recycling and recovery of wastes, the total arisings are predicted to increase to a minimum of 27 million tonnes per annum in 2021.”***
- 14.1.3 The Strategy goes on to say that, ***“As the amount of waste we produce increases, the available options for disposing of our waste are reducing. At present the vast majority of our waste is buried in landfills, but new controls on landfilling together with a shortage of available space in existing or planned landfill sites, means that the region has around 10 years of landfill capacity remaining.”***
- 14.1.4 Recent waste figures demonstrate that, ***“Households in Leicestershire produce over 375,000 tonnes of waste each year. This amount continues to increase year by year.”*** As landfill tax is set to continue to rise, it is vital that as many households as possible are encouraged to recycle in order to decrease the quantity of waste going to landfill and reduce the amount of tax payable by the local authority. Evidence suggests that waste management behaviour is strongly influenced by plot design and the design and construction of buildings. Residential developments that include provision for recycling containers generally tend to have higher recycling rates than those without it. Similarly, industrial developments offering facilities for effective waste segregation, storage and handling, result in higher rates of recycling and legislative compliance.
- 14.1.5 This Chapter considers the waste arisings resulting from the construction phases of the Project as well as the waste arisings that will occur on completion of the Project. Measures to mitigate the effects of these waste arisings are incorporated in the Project design.
- 14.1.6 The waste types are classified as:-
- **Municipal**; waste arising from households and schools
  - **Commercial and Industrial**; waste arising from commerce, and industrial processes
  - **Construction**; waste arising from the construction of the infrastructure, housing, business premises etc.
- 14.1.7 Agricultural waste is also mentioned and refers to waste arising from farming activities.

## 14.2 PLANNING CONTEXT

14.2.1 The principal documents relevant to this assessment include:-

- National Waste Strategy, 2007
- Planning Policy Statements (PPSs)
- East Midlands Regional Plan (Regional Spatial Strategy), March 2009
- Leicestershire, Leicester and Rutland Waste Local Plan 1995 – 2006 (Adopted September 2002)
- Leicestershire and Leicester Waste Development Framework (LLWDF): Core Strategy and Development Control Policies up to 2021 (Adopted February 2009)
- Leicestershire Municipal Waste Management Strategy: Core Strategy and Action Plan, May 2006
- LCC 2010-11 Service Plan for Waste Management.

Relevant aspects of each of these documents are outlined below.

### **National Waste Strategy, 2007**

14.2.2 The DEFRA **Waste Strategy** sets out the Government's vision for sustainable waste management in England and Wales. It gives an overview of policy and sets several national targets to reduce household, industrial and commercial waste, including:-

- To recycle or compost at least 40% of household waste by 2010, 45% by 2015 and 50% by 2020;
- To reduce biodegradable municipal waste landfilled to 53%, 67% and 75% by 2010, 2015 and 2020 respectively;
- To reduce the amount of industrial and commercial waste going to landfill to 80% of 2004 levels by 2010;
- To halve the amount of construction and demolition waste going to landfill by 2012.

14.2.3 To contribute in achieving the national targets listed above, all local authorities have been set challenging statutory recycling performance targets by the Government.

14.2.4 In 2006 the Government published **A Review of England's Waste Strategy** which states that household waste is rising by 1.5% each year, a reduction on the 3% growth based on 2002 figures. The overall aim of the Strategy is to try and ensure that England has a sustainable waste management system by 2020.

### **PPS10 – Planning for Sustainable Waste Management**

14.2.5 **PPS10** sets out the objective of Government policy regarding waste as protecting human health and the environment by producing less waste and by using it as a resource wherever possible. Through more sustainable waste management, moving the management of waste up the 'waste hierarchy' of reduction, reuse, recycling and composting, using waste as a source of energy, and only disposing as a last resort, the Government aims to break the link between economic growth and the increasing environmental impact of waste.

14.2.6 With reference to good design paragraphs 35 and 36 state:-

*“Good design and layout in new development can help to secure opportunities for sustainable waste management, including for kerbside collection and community recycling as well as for larger waste facilities. Planning authorities should ensure that new development makes sufficient provision for waste management and promote designs and layouts that secure the integration of waste management facilities without adverse impact on the street scene or, in less developed areas, the local landscape.”*

*“Waste management facilities in themselves should be well-designed, so that they contribute positively to the character and quality of the area in which they are located.”*

**Planning for Sustainable Waste Management: Companion Guide to PPS 10**

14.2.7 The companion guide provides practice guidance on the implementation of policies set out in **PPS10**. With reference to good design paragraph 8.31 states:-

*“Sustainable waste management opportunities will be secured through good design and layout in both waste and non-waste related proposals. Non-waste related development might incorporate recycling facilities such as bring banks, provide dedicated facilities to enable the collection of recyclable materials, or contribute towards community waste management facilities such as green waste composting sites or civic amenity sites.”*

**East Midlands Regional Plan (Regional Spatial Strategy), March 2009**

14.2.8 **Policy 1 – Regional Core Objectives** states that, *“To secure the delivery of sustainable development within the East Midlands, all strategies, plans and programmes having a spatial impact should meet the following core objectives:-*

*g) To protect and enhance the environment through:-*

- *....reducing the amount of waste produced and increasing the amount recycled or otherwise beneficially managed....”*

14.2.9 **Policy 38 – Regional Priorities for Waste Management** states that, *“All Waste Collection Authorities and Waste Disposal Authorities should achieve a minimum target for the recycling and composting of Municipal Solid Waste of 30% by 2010 and 50% by 2015....Development Frameworks should provide for the minimisation of waste in the construction of and operation of new development, and encourage on-site waste management facilities....Waste facilities should also be sited to avoid the pollution or disturbance of designated nature conservation sites of international importance. Increased traffic levels on roads near to sensitive sites should also be avoided.”*

**Leicestershire, Leicester and Rutland Waste Local Plan 1995 – 2006 (Adopted September 2002)**

14.2.10 The **Waste Local Plan (WLP)** sets out policies for the management and disposal of all waste in Leicestershire. Few policies are saved, the majority have been replaced by new policies contained within the **Waste Core Strategy**. Saved Policy WLP1 is of most relevance to the Project and is briefly outlined below:-

**Policy WLP 1: Waste Minimisation**

- 14.2.11 This policy encourages waste minimisation initiatives to achieve an overall reduction in the amount of all types of waste taken to final disposal and includes the re-use and recycling of both household and commercial/industrial waste and the re-use and recycling of construction and demolition waste. Policy WLP 1 would be covered by a Site Waste Management Plan.

**Leicestershire and Leicester Waste Development Framework: Core Strategy and Development Control Policies up to 2021 (Adopted February 2009)**

- 14.2.12 During 2003-2004 Leicestershire and Leicester generated more than 4 million tonnes of waste. Of this, approximately 11% was municipal waste, 35% commercial and industrial waste, 53% construction and demolition waste and 1% clinical, hazardous and controlled agricultural wastes.

- 14.2.13 The WDF identifies three main waste streams; municipal, commercial and industrial and construction and demolition which are forecast to increase at an annual rate of 2-3%.

- 14.2.14 Recycling rates during 2003-2004 were in the order of:

- 23% municipal waste (2006/07 data shows this figure increased to 42%)
- 30% commercial and industrial waste
- 49% construction and demolition waste

- 14.2.15 Proposed **Core Strategy** policies relevant to the Project are briefly outlined below.

**WCS1: Waste Management Capacity**

- 14.2.16 The strategy is, *“to provide sufficient waste management capacity to manage the equivalent of the waste arising in the framework area and as a minimum achieve the targets for recycling, composting, reuse and landfill diversion set in the Leicestershire Municipal Waste Strategy.”*

**WCS5: Reuse, Recycling, Waste Transfer and Composting Facilities**

- 14.2.17 The strategy is, *“to allow new waste management development, provided the proposal does not cause unacceptable harm to the environment or communities.”*

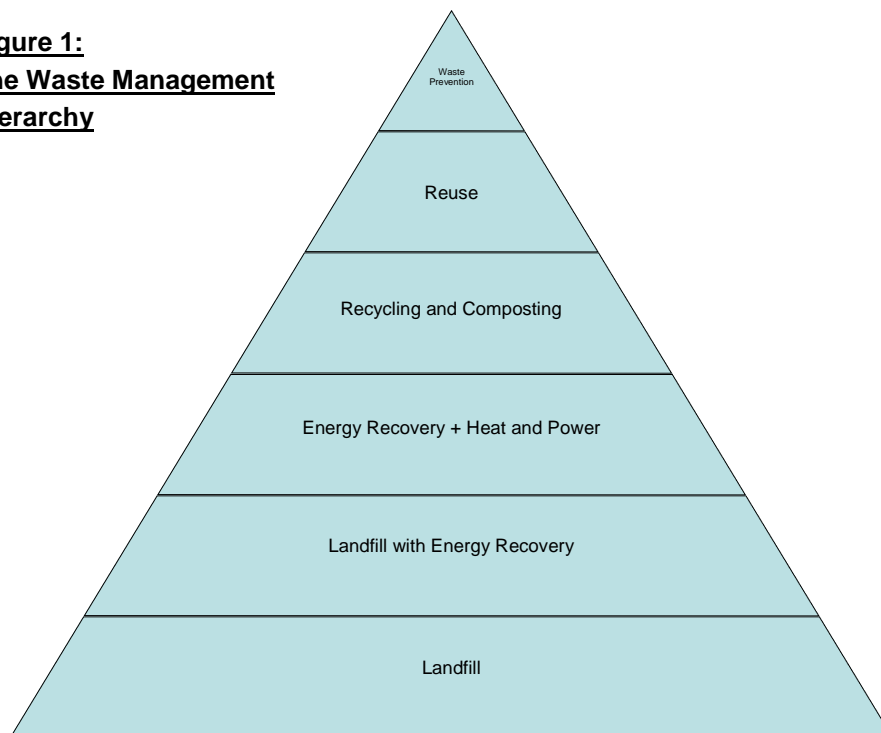
**Leicestershire Municipal Waste Management Strategy: Core Strategy and Action Plan, May 2006**

- 14.2.18 The **Leicestershire Municipal Waste Management Strategy (LMWMS)** is a joint strategy for the Leicestershire Waste Management Partnership; Leicestershire County Council and 7 District and Borough Councils, including Blaby District Council.

- 14.2.19 Under the Landfill Allowances Trading Scheme (LATS) Leicestershire County Council has a fixed number of permits each year to landfill biodegradable waste until 2020 with the number of permits reducing annually. This could potentially have a significant impact on the cost for waste management in Leicestershire, which landfilled more than 260,000 tonnes of municipal waste in 2004/05, LCC would be fined for every tonne of biodegradable waste sent to landfill without a permit.

14.2.20 The main objective of the Strategy is to drive waste up the management hierarchy, shown below.

**Figure 1:**  
**The Waste Management Hierarchy**



The table below summarises annual municipal waste generation per person within Blaby district:-

	<b>Household waste per person (kg)</b>	<b>Regularly collected per person (kg)</b>	<b>Recycling per person (kg)</b>	<b>Residual waste per person (kg)</b>
Blaby District	603	374	184	420

14.2.21 The Strategy sets out the Partnership’s Core Objectives and Strategic Policies for waste management until 2020 and beyond and is accompanied by an Action Plan which outlines how the objectives, as set out below, are intended to be met.

- Manage materials in accordance with the Waste Management Hierarchy – in order of preference, prevention, re-use, recycle/compost, recovery, disposal – except where costs are prohibitive, or where the environmental consequences can be demonstrated to be negative;
- Manage resources and waste in a way that meets the needs of Leicestershire’s residents now without compromising the ability of future generations to meet their own needs;
- Deliver quality services which offer value for money overall, in the long term as well as the short term;
- Ensure that services are flexible enough to allow new technological developments and new legal requirements to be accommodated, and to ensure that the desire to move waste up the Waste Management Hierarchy is not compromised;
- Work together to research and develop coordinated services and infrastructure for waste collection, treatment, transfer and disposal;

- Aim to manage residual waste within the County where this is consistent with the proximity principle and to manage all other waste at the nearest appropriate facility by the most appropriate method or technology;
- Consider approaches to managing waste from commercial and industrial sources where this contributes to the overall environmental, social and economic wellbeing of Leicestershire Residents;
- Lobby and work with others, in particular on the issue of waste prevention, including commercial, statutory, non-governmental, academic and community based or not-for-profit organisations in pursuit of the Partnership's vision of sustainable waste and resource management;
- Work closely with the community and community sector to educate residents in waste-related matters and encourage engagement with waste prevention and reuse initiatives;
- Promote the economic and employment opportunities of sustainable waste management where this is consistent with the principles of sustainable development and best value; and
- As local authorities, set an example by preventing, re-using, recycling and composting our own waste and use our buying power to positively encourage sustainable resource use.

14.2.22 Strategic policies are contained within the **LMWMS** to assist in delivering the objectives listed above. Policies of particular relevance to the Project are briefly described below:-

#### **Household Waste Prevention and Reuse**

14.2.23 **Policy 2:** *“The Leicestershire authorities will prioritise actions which promote and deliver waste reduction and re-use. The principal focus of this activity will be on the household waste stream, but the authorities will support initiatives affecting non-household waste where managed by the local authorities.”*

14.2.24 **Policy 3:** *“Kerbside collections of garden waste are well established, popular services that are an effective means for delivering higher rates of recycling and composting and diverting biodegradable waste from landfill. In order to reflect the primacy of waste prevention, the Leicestershire authorities will move towards a long-term service that:-*

- *Incentivises residents to home compost;*
- *Provides support to ensure that residents home compost successfully; and*
- *Disincentivises the set out of material for collection that could beneficially be composted at home, by either:-*
  1. *Introducing or increasing charges for collection services;*
  2. *Reducing the size of the collection container, or;*
  3. *Reducing the frequency of collection.”*

#### **Dealing with Non-Household Municipal Waste**

14.2.25 **Policy 4:** *“The Leicestershire authorities will take measures to minimise the landfilling of the non-household element of municipal waste, either through continuing to collect such material and managing it in different ways and/or by reducing collection of it in the first place.”*

### Recycling and Composting

14.2.26 **Policy 5:** *“Jointly, the Leicestershire authorities will aim to put in place appropriate services and infrastructure to achieve recycling and composting rates of:*

- 50% of municipal waste by 2010; and
- 58% of municipal waste by 2017.”

14.2.27 **Policy 6:** *“The Leicestershire authorities will provide leading edge, convenient kerbside collection services so as to maximise the opportunity for separate collection of dry recyclables and organic waste subject to acceptable cost constraints. The authorities will also work towards developing recycling schemes for smaller waste streams such as litter and street sweepings.”*

### Residual Waste

14.2.28 **Policy 9:** *“The Leicestershire authorities will work together to reduce the amount of residual municipal waste generated per person on a continuous basis so as to deliver the following targets:*

- 325kg in 2010;
- 310kg in 2015; and
- 295kg in 2020.”

### Incentivising Participation

14.2.29 **Policy 15:** *“Consistent with its desire to move waste up the hierarchy, the Leicestershire authorities will continuously review, with a view to implementation, the range of initiatives available to them to incentivise:*

- Waste prevention/reuse; and
- Greater participation by residents in separate collection services.”

### Action Plan: Leicestershire Municipal Waste Management Strategy, 2006

14.2.30 Under recycling and composting, the Action Plan suggests that, *“The key initiative that will drive up recycling rates and biodegradable waste diversion more than any other will be the introduction of a weekly kitchen food waste collection to households....”*

14.2.31 With regard to residual waste management the **Action Plan** states that, *“By the start of 2011/12, the Partnership will have to have the capacity to divert at least 45-50,000 tonnes of biodegradable waste from residual waste if the objective of self-sufficiency in landfill allowances is to be maintained. By the start of 2015/16, that will have to have increased to at least 70-75,000 tonnes.”*

### Waste Prevention and Reuse

14.2.32 The Strategy proposes ten prevention and reuse initiatives which, as a combined programme, are expected to reduce waste generation by more than 30,000 tonnes per

annum by 2020. A dedicated waste prevention team oversee delivery of the programme, now into its third year, which is briefly described below:-

1. **Home Composting:** a 10 year plan of intensive promotion and support to make home composting 'the natural thing to do' for 220,000 households by 2019;
2. **No Junk Mail Promotion:** over the course of the strategy 16% of households will take steps to reduce the amount of junk mail they receive;
3. **Enforcement on Commercial Waste in Household Streams:** a coordinated enforcement campaign to reduce the disposal of commercial waste in household collected and RHWS waste streams;
4. **Real Nappies:** build on the success of the existing initiative with an increased financial incentive for parents and continuing promotion;
5. **Grass-cycling:** associated with home composting encouraging households to leave cuttings in situ after mowing;
6. **Furniture and Electrical Goods (WEEE) Reuse:** installing a reuse container at each RHWS to be emptied by local furniture reuse charities;
7. **Wood Banks:** installing containers at RHWSs for the collection and storage of reusable timber;
8. **Paint Reuse:** extending the existing paint reuse scheme operating in Blaby with collection points at each RHWS and distribution points in most districts will provide county-wide coverage;
9. **Second Hand Sunday:** the facilitation of community events to redistribute second-hand items will result in relatively low levels of diversion but will be a highly public activity that will contribute to raising awareness of waste and resource issues;
10. **Community Composting:** establishment of ten community based composting schemes.

14.2.33 The prevention and reuse initiative programme will enable the amount of material collected and reused to be quantified and recorded, helping to improve the programme's efficiency and effectiveness over time.

14.2.34 **Action Plan Item 3.0: Recycling and Composting Action Plan** states that, *"Leicestershire residents already have an impressive record in recycling and composting and Leicestershire is one of the best performing counties in terms of recycling rates in England. The Strategy builds on that track record, with the aim of reaching a recycling rate of 57% of municipal waste by 2017....This Action Plan concentrates on the waste that can be separated at source for recycling and composting, either through collection systems or by providing facilities at Recycling Household Waste Sites and 'bring banks'."*

14.2.35 **Action Plan Item 4.0: Residual Waste Action Plan** states that, *"in order to meet the Strategy objectives of maintaining self-sufficiency of landfill allowances, of recovering value from residual waste and of minimising the environmental impact of final disposal, it will be necessary to put in place arrangements to treat residual waste through one or more of the following methods:-*

- *Mechanical treatment, to separate residual waste into different categories and to recover materials for recycling;*



- *Biological treatment, to stabilise biodegradable wastes, to recover materials or biogas and to reduce weight, volume and moisture content;*
- *Thermal treatment, to recover heat and/or energy.”*

#### **Leicestershire County Council 2010-11 Service Plan for Waste Management**

14.2.36 LCC Environment and Transport Department are responsible for management of waste across the county. The overriding aim is:-

*‘To manage Leicestershire’s municipal waste in an efficient and effective way with reduced environmental impact whilst working within the policies laid down in the Government’s National Waste Strategy 2007.’*

14.2.37 This will be achieved through:-

- Working in partnership with the District Councils to implement **Leicestershire Municipal Waste Management Strategy (LMWMS)**;
- Arranging for the disposal, treatment, recycling and composting of municipal waste;
- Operating 14 Recycling and Household Waste Sites (RHWSs);
- Promoting waste minimisation, recycling and composting initiatives with the District Councils;
- Promoting and supporting education and awareness initiatives;
- Providing a range of specialist services including the disposal of clinical and hazardous household waste.

14.2.38 The Plan sets out a list of key priorities with a summary of what has been achieved during the preceding year and a list of objectives for the forthcoming year. The priorities are briefly outlined below:-

- **Priority 1:** Delivering Waste Management’s strategic and statutory day to day services;
- **Priority 2:** Delivering the County Council’s obligations under the Landfill Directive including procurement of new treatment facilities;
- **Priority 3:** Reducing waste and increasing recycling and composting;
- **Priority 4:** Ensuring the provision of efficient and effective services;
- **Priority 5:** Having a robust approach to engagement that ensures the needs of our customer are at the forefront of our decision making;
- **Priority 6:** Improving equality of opportunity for our customers and workforce to services and employment;
- **Priority 7:** Reducing the environmental impact of our activities and making the necessary adaptations for climate change;
- **Priority 8:** Ensuring the delivery of the corporate People Strategy.

#### **Blaby District Council LDF Core Strategy Submission Version July 2009**

14.2.39 **Policy 21** – Waste promotes the importance of waste minimisation stating that, “*New developments should seek to:-*

- *Encourage a hierarchy of waste management giving priority to waste prevention, re-use, recycle/compost, recovery, disposal;*
- *Ensure that the design of new developments and services are flexible enough to allow new technological developments to be accommodated;*
- *Secure waste management facilities that are close to new areas of development (particularly in relation to the SUE);*
- *Educate residents in waste-related matters and encourage engagement with waste prevention and reuse initiatives.”*

### 14.3 BASELINE CONDITIONS

#### Agricultural Waste Arisings

14.3.1 Development is proposed on current green field land in agricultural use. The Environment Agency describes agricultural waste as, “any substance or object from premises used for agriculture or horticulture, which the holder discards, intends to discard or is required to discard. It is waste specifically generated by agricultural activities and can include:-

- *Empty pesticide containers;*
- *Old silage wrap;*
- *Out of date medicines and wormers;*
- *Used tyres;*
- *Surplus Milk.”*

14.3.2 Agricultural waste generated by the farms within the application site is currently collected by a registered private waste management company. Therefore details of agricultural waste arisings is not available.

#### Domestic Waste Arisings in Leicestershire (excluding Leicester)

14.3.3 In 2003/04 figures show that Leicestershire collected 332,855 tonnes of municipal waste. In 2005/06 this figure increased to over 375,000 tonnes. The following table, obtained from LCC’s **Waste Needs Assessment, June 2008**, illustrates municipal waste figures up to 2020 with recycling targets as set out in the **LMWMS**.

	2009/10	2014/15	2019/20
Forecasted total municipal waste (tonnes)	425,150	462,550	462,550
Target for recycling (tonnes)	212,575 (50%)	245,152 (53%)	268,279 (58%)

14.3.4 The following table details the percentage of recycled household waste within Blaby District in 2000/01, 2005/06 and 2009/10 for comparison.

	% of household waste recycled		
	2000/01	2005/06	2009/10
Blaby District Council	15%	15%	27%

- 14.3.5 The increased housing provision proposed within the Project should not be allowed to have any negative effect on this recycling rate.
- 14.3.6 BDC would be the Waste Collection Authority (WCA) for the Project, responsible for collection and LCC are the Waste Disposal Authority (WDA) responsible for disposal, they can only dictate where residual waste is disposed of.
- 14.3.7 Blaby District Council currently collects from 39,000 households within the district each week, working in zoned areas; i.e. Enderby on a Tuesday, Leicester Forest East on a Wednesday etc., providing the following waste collection services:-

Bin/Container per household	Frequency of collection per household
1 x 140ltr black lidded refuse bin	weekly
1 x 140ltr green lidded paper/card bin	fortnightly
1 x 55ltr green box for plastic/cans and foil	fortnightly
1 x 44ltr green box form mixed glass	fortnightly

- 14.3.8 Householders can opt to pay for a larger refuse bin and can also have a larger paper/card bin free of charge if required. They are entitled to as many plastic, can and glass boxes as they require at no extra cost.
- 14.3.9 In addition to the services listed above, Blaby also run an opt-in garden waste collection. Householders can pay an annual fee for the rental of either a 140ltr brown lidded bin or a 240ltr brown lidded bin, this fee includes the collection costs.
- 14.3.10 Leicestershire County Council operates 14 Recycling Household Waste Sites (RHWSs) within the county, these diverted 72% of household waste from landfill in 2009/10. District and Borough councils provide some 300 'bring bank' recycling points of which Blaby operates 24.
- 14.3.11 Whetstone RHWS, managed by Leicestershire County Council, is the closest RHWS to Lubbesthorpe. The Scoping response from BDC states,

*"...Based on 2008/09 figures it is estimated that the additional dwellings would amount to a 7.5% increase in the number of dwellings that may use the Whetstone Recycling and Household Waste site....The potential traffic impacts on the existing road networks should also be considered with respect to RHWS usage. Residents from the development are likely to use the Whetstone RHWS via Enderby Road (B582), which is already one of the busiest roads in the region. This extra traffic may place additional pressures on this road, especially at busy times. The future RHWS provision at Whetstone is expected to be under review soon, the outcome of which will determine options for redevelopment and the site's capacity."*

- 14.3.12 Although the RHWS may need additional infrastructure to accommodate the proposed housing growth, it is important to note that if a comprehensive recycling system, such as the RecycleBank Scheme described in the Project Design section below, is implemented, it is probable that residents would need to visit the RHWS less frequently. **Chapter 15: Traffic and Transport** assesses the potential impact on the existing road network in relation to increased usage of Whetstone RHWS.

### Commercial and Industrial Waste Arisings

14.3.13 Commercial and industrial waste arisings vary considerably between industries, areas and individual businesses, depending on their waste management practices.

14.3.14 The following table, obtained from LCC's **Waste Needs Assessment, June 2008**, illustrates commercial and industrial waste forecasted figures up to 2020 with recycling targets as set out in the **East Midlands Regional Waste Strategy**. Unlike municipal waste, these figures cover the Leicestershire and Leicester area.

	2009/10	2014/15	2019/20
Forecasted total commercial and industrial waste (tonnes)	1,429,750	1,420,250	1,384,150
Target for recycling (tonnes)	596,600 (42%)	592,800 (42%)	577,600 (42%)

14.3.15 Blaby District Council currently collects 700 tonnes of general waste and 200 tonnes of glass per annum from businesses and offices however this is only a very small fraction of Blaby's commercial waste arisings since most of Blaby's commercial and industrial waste is currently collected by registered private waste management companies.

### Construction Waste Arisings

14.3.16 In any construction project, there will be a variety of different wastes to be dealt with. Coupled with these is an array of guidance and legislation on how the waste is to be dealt with, combined with ever increasing prices for legitimate disposal of waste due to increasing standards of environmental protection at waste management sites and the Government LATS.

14.3.17 Not only is waste becoming increasingly expensive to dispose of, it also amounts to a waste of valuable resources. As landfill becomes more scarce we have to start being more innovative with what we do with our waste and work towards more effective management of it.

14.3.18 As far as practicably possible fill material on site should comprise of existing materials recycled from the site itself. This reduces the requirement for importing and exporting material and the associated environmental effects.

14.3.19 The table below, obtained from the LCC **Waste Needs Assessment, June 2008**, illustrates construction and demolition waste figures up to 2020 with recycling targets as set out in the **East Midlands Regional Waste Strategy**. Similar to commercial and industrial waste these figures cover both the Leicestershire and Leicester area.

	2009/10	2014/15	2019/20
Forecasted total construction and demolition waste (tonnes)	2,360,750	2,480,450	2,480,450
Target for recycling (tonnes)	1,165,650 (49%)	1,225,500 (49%)	1,225,500 (49%)

14.3.20 The **Waste Needs Assessment** was updated in October 2010 to take account of new permissions granted for the extension in duration and implementation of inert landfills in

Leicestershire. It provides an up to date assessment of the capacity for waste management in the City and County. Waste arisings data contained within the 2008 version remains current. The **Waste Needs Assessment, October 2010** is included at **Appendix 14A**.

### Forecasting Methodology

#### Municipal Waste

- 14.3.21 During 2009/10 an average of 0.931 tonnes of waste per household was collected within the Blaby District and an average of 0.34 tonnes of waste per household within Leicestershire was delivered to Recycling and Household Waste Sites. These figures were then multiplied by the number of houses to be built, with an assumption that waste arisings increase by 2% per year. Average figures were used for the calculation of school waste arisings, with primary schools producing 18 tpa with 370 pupils, and secondary schools producing 70tpa with 1,300 pupils. These figures were then multiplied by the number of schools to be developed.
- 14.3.22 As the methodology is time-dependent, assumptions have been made regarding the amount of time needed for the construction of the development and completion dates. A reasonable assumption was made that a proportion of the housing and school construction would be completed by 2015 and that the remainder would be completed by 2026. This creates an 'average' completion date of 2021 on which the calculations can be based.

#### Commercial and Industrial Waste

- 14.3.23 DEFRA's UK statistics show that, "*Municipal, commercial and industrial, and construction and demolition waste totalled around 225 million tonnes in 2002/03....municipal waste made up about a sixth of this waste, industry and commerce accounted for just over a third, and construction and demolition made up about half.*" From this we can deduce that for every tonne of household waste produced, a further 5 tonnes was generated by the commercial, industrial and construction sectors; 2 tonnes commercial and industrial waste, and 3 tonnes by the construction industry.
- 14.3.24 Again, an assumption has been made that waste arisings would continue to increase by 2% each year as stated in the WDF.

#### Construction Waste

- 14.3.25 As previously outlined, the objective of Government policy on waste, as set out in **PPS10**, is to, "*protect human health and the environment by producing less waste and by using it as a resource wherever possible.*" Local Authorities have Duty of Care for household waste and businesses have Duty of Care for any waste generated by them. Consequently, the development of construction waste that arises during the Project would be subject to Duty of Care and would need to be managed accordingly. To ensure the waste hierarchy is adhered to, local authorities are given statutory recycling targets as outlined above. Other measures promoted by the Government besides the landfill tax escalator include, packaging regulations, waste awareness campaigns, and producer responsibility legislation which specifies minimum recycling and recovery targets for certain materials.

14.3.26 Key documents to help maximise resource efficiency and recovery of materials in the construction and demolition industry are:-

- Site Waste Management Plan (SWMP)
- Code for Sustainable Homes

14.3.27 The **Site Waste Management Plan Regulations, 2008** places initial responsibility for the production of a SWMP on the client which must be in place prior to its implementation. It is designed to improve resource efficiency, waste minimisation and recycling within the construction industry, thus reducing its impact on landfill and fly-tipping. It should also allow site managers to provide evidence of compliance with statutory procedures such as the duty of care and waste transfer licensing. The Plan must:-

- Describe each waste expected to be produced;
- Estimate the quantity of each type of waste;
- Identify the waste management action for each type of waste including reusing, recycling, recovery or disposal.

14.3.28 The Project proposes to implement facilities that are in accordance with the **LMWMS**. Environmental effects have been considered within the design and the SWMP would be designed to:-

- Minimise waste generation during construction;
- Segregate, recycle, reuse where possible and appropriately dispose of all construction waste;
- Provide facilities within the Project that encourage recycling, composting and appropriate disposal of municipal waste in accordance with local and national policy.

14.3.29 **Developing a Strategic Approach to Construction Waste, 2006**, jointly produced by DEFRA, BRE and AEA, found that an average of 9.6 tonnes of waste is produced per dwelling during a typical housing construction (this benchmark EPI is based on 23 reference projects which produced an average of 19.2m<sup>3</sup> waste per 100m<sup>2</sup> floor area). Therefore, based on 4250 dwellings, an estimated potential 40,800 tonnes of waste would be generated during the construction of the homes on this Project if best practice was not followed. Building to best practice would reduce the amount of waste produced so the total waste would be lower than the amount estimated. Adherence to a SWMP would ensure best practice, reducing the waste to a level significantly lower than conventional construction waste arisings. Prior to on-site mitigation measures this would impact on depleting valuable landfill capacity and increased transport and disposal costs resulting in a moderate adverse effect.

## 14.4 PROJECT DESIGN

### Potential Effects

14.4.1 The potential effects of the Project through waste generation arise from the construction and operational development phases:-

- **Construction effect;** direct production of excessive waste and potential failure to meet local and national waste reduction and recycling targets through uncontrolled construction operations;
- **Operational effect;** direct production of excessive waste and potential failure to meet local and national waste reduction and recycling targets through inadequate provision for recycling and composting within the Project.

### **Municipal Waste**

#### **Household**

- 14.4.2 Studies indicate that household recycling rates increase when householders find it easy to recycle and minimal effort is needed. The Project includes requirements that houses will be designed to contain adequate space for storing wheeled bins and recycling bins as appropriate.
- 14.4.3 The site falls within three of the Blaby District Parishes; Enderby, Narborough and Leicester Forest East. It is anticipated that the early phases of the development would be absorbed into existing collection crews initially. Once the Project is completed the collection rounds would need to be restructured to fully accommodate it.

#### **Bring Bank Sites**

- 14.4.4 BDC would consider that small 'bring bank' sites be incorporated into the district and local centres once the Project is complete. These would include provision for recycling items such as glass, plastic bottles, aluminium cans, paper/card and textiles. Exact details would be in accordance with BDC requirements.

#### **Abbey Farm**

- 14.4.5 A community composting facility would be encompassed within the proposals to be managed as part of the Abbey Farm complex. Households not wishing to home compost would be invited to 'opt-in' to a kitchen waste collection to help deliver recycling and composting targets.

#### **Schools**

- 14.4.6 All school buildings and grounds should be planned to allow for separate collection of paper, plastics and green waste. A secure outdoor compound should be provided for the storage of segregated bins that is large enough to accommodate separate 1100 litre bins. Secondary schools would need space for at least ten bins and primary schools would need space for five bins. The WCA does not charge schools for their recycling collections.
- 14.4.7 It is important that recycling infrastructure is highly apparent and visible within schools to instil strong waste management principles in students. This would also have a beneficial long term effect of reduced waste arisings and increased recycling rates.
- 14.4.8 There is also opportunity to link educational composting schemes with the community composting facility proposed at Abbey Farm.

### RecycleBank Scheme

- 14.4.9 An American initiative; RecycleBank, founded in 2004 has recently been trialled in the UK by 6,500 households within the Royal Borough of Windsor and Maidenhead, launched in June 2009, seeing residents increase their recycling by an impressive 35%. The success of the scheme has led to it being introduced on a phased basis, starting in June this year, to more than 60,000 households across the borough. It is anticipated that the scheme will be wholly in place by early 2011. A second trial by 10,000 households within Halton Borough in Cheshire, during the period October 2009 to April 2010, has also proved a great success.
- 14.4.10 The scheme is designed to increase recycling rates by incentivising householders to recycle rubbish and items they no longer need, thus reducing the amount of waste sent to landfill. It is a mixed waste service, also called 'single stream recycling'. Paper, cardboard, plastic bottles, glass and metal are all placed into a single bin rather than separate bins or boxes, making recycling much easier for residents which is imperative to ensure their participation and encourage higher recycling rates in the longer term. The recycling centre then separates the waste.
- 14.4.11 The amount of recycled material from each home is measured using an electronic tag attached to the wheelie bin. Weight is recorded by equipment in the collection vehicle and points are then rewarded to the household based upon the quantity of recycling; currently 5.5 points are rewarded for every kilogram of household recyclable waste. Reward points are viewed via an online account and redeemed at both local and national reward partners including retailers, restaurants and leisure services, or they can be donated to local schools and charities. Some 116 national companies have already formed partnership with RecycleBank, in supporting this programme there is great potential to bring economic benefits to local businesses too.
- 14.4.12 Central Government are supportive of the RecycleBank programme, Caroline Spelman, Secretary of State for the Environment, Food and Rural Affairs recently stated, "***Windsor and Maidenhead have got it right by rewarding people for voluntarily doing the right thing....that is how we can change behaviour, improve the environment and get people to play their part in a Big Society.***"
- 14.4.13 It is proposed that the RecycleBank scheme is implemented at Lubbesthorpe as the development phases come forward. Householders would 'opt-in' to the programme for which there would be no additional charge. Blaby District Council and their environmental services contractor would work in partnership with RecycleBank and the scheme would form part of the normal weekly waste collection routine that BDC currently operate. Depending on its success at Lubbesthorpe there is the potential to roll out the scheme across the district in the longer term.
- 14.4.14 Initial expenditure is likely to include the capital costs for new bins and retro-fitting bin lifts and weigh cells on collection vehicles. There may also be additional costs associated in the transportation of waste to recycling centres. However, over the longer term, financial benefits would not only include savings in waste disposal costs (diverting waste from expensive landfill, though RecycleBank take a share of the money saved on landfill tax as profit) but also recycling companies stand to make more money from increased processing.



## Commercial and Industrial Waste

### General

- 14.4.15 The Project requires space to be provided for skips where segregated materials can be stored and conveniently accessed by waste management companies. Space would be provided for the legal and safe storage of any hazardous wastes as necessary.
- 14.4.16 BDC offer a comprehensive trade waste service (chargeable) for general waste and recycling of different materials. The WCA cannot force new businesses to employ this service as they are entitled to have their waste collected by whomever they choose, as long as it is a registered waste carrier. Commercial and industrial waste is currently collected from both BDC and registered private waste management companies.

### Retail

- 14.4.17 The Project also requires sufficient space to be provided for the storage and collection of waste associated with each building, particularly recyclable materials such as packaging.

### Construction Waste

- 14.4.18 Waste arisings can be considerable throughout the construction phase, therefore it is fundamental that waste considerations are taken into account from the outset. Through careful management of materials, including the use of standard sizing and prefabricated units, as well as avoidance of over-specification of materials and services the generation of waste can be significantly reduced during the construction phase.
- 14.4.19 A thoroughly co-ordinated approach to the design and construction of the Project within the supply chain would encourage designs which generate less waste. The Project would implement a Sustainable SWMP which would reduce the waste arisings to a level below that of a conventional development.
- 14.4.20 The Plan would be developed in accordance with the following documents:-
- **DEFRA, *Non-Statutory Guidance for Site Waste Management Plans*, April 2008**
  - **Building Research Establishment, *SmartWaste Plan tool*, February 2008**
  - **Construction Resources and Waste Platform (CRWP), *Site Waste Management Plan tool*, March 2008**
  - **NHBC/WRAP, *SWMP templates – specific for the house building sector*, March 2008**
  - **DTI, *Site Waste Management Plans Code of Practice and Guidance*, July 2004**
- 14.4.21 It would provide:-
- Improved control of risks relating to materials and wastes on site;
  - A useful tool in dealing with queries from regulators and other interested parties;
  - A mechanism with which to demonstrate to clients how waste is managed to minimise both risk and cost;

- A tool to help fulfil the requirements of quality and environmental management systems;
- A system to improve the management of materials and reduce costs through materials supply, storage and handling, as well as waste management for recovery or disposal.

### Mitigation

- 14.4.22 The mitigation strategy would be in accordance with national and local waste policy.
- 14.4.23 To enable a healthy recycling rate to be achieved that is in line with national guidance, a range of mitigation measures are proposed. These include increasing awareness of design related recycling opportunities, as well as the provision of recycling and composting facilities. The Project aims to set a high standard for good practice recycling initiatives.
- 14.4.24 A simple 'Waste User Management Guide' would be provided to all residents and occupiers of the Project covering key environmental policies and objectives and how they can contribute towards sustainability and meeting local, and therefore national, waste recycling targets. It could also invite opportunities to create further local initiatives. This guide could include information such as:-
- Building design, plot arrangement and facilities to enable waste segregation;
  - Composting provision;
  - Details of the WCA collection services;
  - Community recycling facilities
- 14.4.25 Adequate provision should be ensured for refuse storage and collection, reference should be made to the **Code for Sustainable Homes** and particularly to **BS5906 – Code of Practice for the Storage and on-site Treatment of Solid Waste from Buildings**. Siting and design requirements to be considered during the design development are set out below:-
- Sufficient storage space at individual dwellings, sited appropriately and near to the waste collection point;
  - Communal waste storage areas for flats, containing 1100 litre wheeled bins for general waste and segregated recyclables, directly accessible for refuse vehicles;
- 14.4.26 Collection arrangements would need to be agreed with BDC as the waste collection authority and LCC as the waste disposal authority.
- 14.4.27 Assuming successful implementation of the mitigation strategy, the residual operational effect of the Project in terms of waste production is assessed as being low adverse in the long term.

## 14.5 ASSESSMENT OF EFFECTS

### Construction Effects

#### Earthworks

- 14.5.1 Vegetation to be removed would be cut down, shredded and chipped prior to being taken off site for composting or reuse as mulch.
- 14.5.2 Topsoil would be stripped and stockpiled discreetly within the site. It is anticipated that 100% of the topsoil would be reused in the completed Project.
- 14.5.3 Sub-soils would be cut and filled in a controlled manner to avoid contamination or water logging which may render the material unsuitable for reuse. It is anticipated that 100% of the sub-soil would be reused in the completed Project.
- 14.5.4 Any identified contaminated material would be treated in situ where possible for reuse. Material with the potential to cause harm to flora or fauna would be removed to a suitably licensed site.
- 14.5.5 The main effect during the construction phases would arise from material generated during the site clearance and earthwork stages. A balance of cut and fill across the site would be sought, keeping the import and export of material to a minimum. The effect of the earthworks stage prior to mitigation and reuse of material within the Project is considered to be moderate adverse overall.
- 14.5.6 Throughout the construction phases there is potential for raw material waste which would require disposal off-site. Waste streams that may be generated from building construction, internal fit-outs, electrical works and landscaping are likely to include:-
- Concrete, bricks;
  - Wood, metals, glass, plastics;
  - Soil;
  - Pallets, cardboard, packaging;
  - Other residual general site waste.
- 14.5.7 The potential unmitigated effect from off-site disposal of waste generated by the Project could result in increased traffic movement. If no recycling facilities are implemented on site, off-site traffic movements and landfilled waste would increase resulting in a moderate adverse effect.
- 14.5.8 Contractors working on the Project would be expected to employ a series of measure to mitigate potential construction effects including:-

#### Avoidance of waste

- Good site quality control
- Careful storage of materials
- Extensive off-site pre-fabrication through Modern Methods of Construction (MMC) wherever feasible, avoiding unnecessary waste through more efficient production

- Use FSc timber where timber construction is utilised
- Procurement of materials from local and sustainable resources

#### Reduction of waste

- Careful design to minimise waste production
- Reduction of packaging from suppliers
- Monitoring of site energy and water consumption

#### Reuse of waste

- Return packaging to suppliers i.e. pallets
- On-site reuse of topsoil, sub-soil and hardcore

#### Recycling of waste

- Return off-cuts of materials to suppliers i.e. plasterboard
- Preference should be given to products with a high recycled content

#### Disposal of waste

- Provision of segregated skips to assist with off-site recycling

14.5.9 Contractors should ideally also subscribe to industry good practice such as the Considerate Contractors Scheme.

14.5.10 Following mitigation measures contained in the SWMP, the overall short term waste effect is assessed as **low adverse**.

#### Municipal Waste Arisings

##### Household

14.5.11 The Project can be expected to generate approximately 4,920 tonnes of household waste annually from the housing development, if the proposed housing produces a similar quantity of waste per head as the households within the district, and waste generation continues to increase at 2% per year. In addition approximately 1797 tonnes of waste could be expected to be delivered to local Recycling and Household Waste Sites annually.

14.5.12 The household waste from the Project is not considered to have a likely significant effect on the waste disposal capacity for LCC.

##### Schools

14.5.13 The schools to be built are anticipated to produce 106 tonnes of waste per annum by 2021. Provision of space for recycling facilities would encourage the schools to recycle thus reducing the amount of waste going to disposal. The resulting residual waste for disposal is not likely to have a significant effect on collection or disposal of waste.

### Commercial and Industrial Waste Arisings

- 14.5.14 An increase of commercial and industrial waste arisings of 2% per annum is taken as representative. When taken with the expectation that the business premises will be completed by the end of 2021 a total of 14,760 tonnes of commercial and industrial waste can be expected to arise from new business activities in the Project each year upon completion. It is likely that competent recycling and resource efficiency drives will occur by the commercial and industrial sector and that this would allow significant reduction in waste arisings. It is not likely that commercial and industrial waste arisings would have a significant effect on collection or disposal of waste, as such there are not considered to be any resultant significant adverse effects.

### Cumulative Effects

- 14.5.15 This section assesses the likely significant effects of the Project when considered in the context of other future projects.
- 14.5.16 Sustainable Urban Extensions are proposed at Barwell and Earl Shilton. Cumulative effects involving these SUEs are unlikely to occur since they are both within Hinckley and Bosworth Borough and waste would be managed by the local authority. Therefore cumulative effects have not been considered further in this Chapter.

## 14.6 STATEMENT OF EFFECTS

- 14.6.1 The location of the Project and its holistic approach to the implementation of appropriate and sustainable design tied in with the implementation of target standards and appropriate mitigation would ensure that there are no unrealistic or unnecessary waste effects during the construction and operation phases of the Project.
- 14.6.2 During 2021, the total waste arisings forecasted to be generated by the Project is 21,583 tonnes of inert and non-inert waste. Future waste management capacity is tabulated in LCC's **Waste Needs Assessment, October 2010**. This suggests that there would be sufficient capacity for the waste generated by the Project and is included at **Appendix 14A**.
- 14.6.3 The Project would be built to current standards for Sustainable Homes which involves waste reduction practices and management of resources in an efficient manner. Therefore it is considered to have a lower effect than any conventional development. Careful design of housing and central recycling and composting facilities as well as industrial facilities would encourage sustainable waste management practices by householders and businesses. Use of recycled content in construction materials, implementation of the RecycleBank scheme, a dedicated composting area (a possible site for this is Abbey Farm), bring banks at the district and local centres and the provision of a Site Waste Management Plan will all contribute towards complete sustainable waste management of the Project. Blaby District Council, as waste collection authority would have the capacity available to deal with the estimated volumes of waste arisings that would be generated as a result of the Project. Therefore, it is considered that the Project would not result in any significant adverse environmental effects in terms of waste.