Herefordshire Council

Herefordshire Minerals and Waste Planning Assessment

Final Report

28 May 2009

Entec UK Limited

Report for

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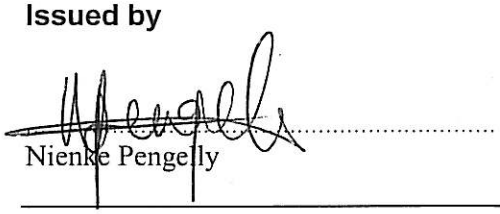

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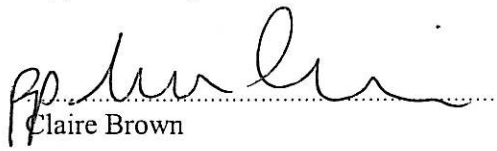

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No.	Details	Date
1	Draft Interim Report	Dec 2008
2	Draft Final Report	March 2009
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Contents

1. Introduction

1.1 Background

As a result of the Planning and Compulsory Purchase Act 2004, a new form of development plan has been introduced, which will replace the adopted Herefordshire Unitary Development Plan (March 2007). The new development plan will take the form of a Local Development Framework (LDF) that will consist of a collection of development plan documents, which together and in conjunction with the Regional Spatial Strategy will form the development plan for Herefordshire. The Core Strategy is one of these documents and will set out the overall spatial development strategy, including the framework for the provision of minerals and waste developments in Herefordshire.

In developing the Core Strategy and in particular the minerals and waste framework, it is important to establish an evidence base; not only to provide the minerals and waste policy context but also to review existing minerals extraction, waste management facilities and waste arisings within Herefordshire, what the demand for minerals and growth in waste arisings are likely to be in the future, and the subsequent requirement for future mineral workings and waste management facilities over the period of the Local Development Framework.

1.2 The Purpose and Structure of this Document

The document seeks to set out the following:

- The establishment of the minerals and waste policy context for the Local Development Framework, specifically the Core Strategy, considering European, national, regional and local policies (Part A);
- A review of the requirement for future minerals over the period of the Local Development Framework (Part B);
- A review of the requirement for future waste management facilities over the period of the Local Development Framework (Part C).

The list of abbreviations frequently used throughout the report is included in Appendix A.

Part A - Policy Context

2. Minerals Policy Context

2.1 Overview

The extraction of minerals in Herefordshire is influenced by a range of national, regional and local policies and strategies which are considered in this section. Due to their nature, minerals can only be extracted where they are found and it is important to plan appropriately for their extraction to ensure a steady and adequate supply. There are a number of policies and guidance that have spatial implications for the provision of an adequate and steady supply of minerals. These stem from national planning policies, notably Minerals Policy Statement 1, and national guidelines on future aggregates provision. These spatial requirements need to be considered in policy formulation, the safeguarding of existing minerals reserves, and the identification of potential future mineral resources.

2.2 National Minerals Planning Policy

National planning policy for minerals extraction is set out in a series of specific guidance and policy statements. These Minerals Policy Statements (MPSs) and Minerals Planning Guidance notes (MPGs) provide more detailed advice, although Planning Policy Guidance (PPGs) notes and Planning Policy Statements (PPSs) are also applicable.

2.2.1 Minerals Policy Statement 1

Minerals Planning Statement 1 (MPS1) *Planning and Minerals* (November 2006) and its accompanying practice guide sets out the Government's key overarching policies and principles which apply to all minerals. It provides advice and guidance to planning authorities and the minerals industry, with the aim to ensure an adequate and steady supply of minerals to meet the needs of society and the economy. Specifically, it requires Mineral Planning Authorities to:

- Ensure, so far as practicable, the prudent, efficient and sustainable use of minerals and recycling of suitable materials, thereby minimising the requirement for new primary extraction;
- Provide for the maintenance of a 7 year landbank for sand and gravel and a 10 year landbank for crushed rock, as far as is practicable from outside Areas of Outstanding Natural Beauty and World Heritage sites;
- Make provision for the sub-regional apportionment of the current National and Regional Guidelines for land-won aggregates in the approved Regional Spatial Strategy. Provision should take the form of specific sites, preferred areas and/or areas of search;
- Identify sites, preferred areas and/or areas of search in Local Development Documents, having taking account of environmental considerations, to provide greater certainty of where future sustainable mineral working will take place;

- Safeguard mineral resources as far as possible by defining Mineral Safeguarding Areas (MSAs) to alert prospective applicants for non-minerals development to the existence of valuable mineral resources;
- Safeguard existing, planned and potential rail heads, wharves and associated storage, handling and processing facilities for the bulk transport of minerals by rail or inland waterways.

Its annexes provide more detailed guidance in relation to four sectors of the minerals industry, namely, aggregates; brick clay; natural building and roofing stone; onshore oil and gas, and the underground storage of natural gas. In addition, it is recognised that there are a range of other minerals that are worked in England, many of these being economically important. Appropriate provision for the supply of these is important even though specific guidance is not provided.

2.2.2 Minerals Policy Statement 2

MPS2 *Controlling and Mitigating the Environmental Effects of Mineral Extraction in England* (October 2006) sets out the policies and considerations in relation to the environmental effects of minerals extraction that the Government expects Mineral Planning Authorities to consider when preparing Development Plan Documents. Annex 1 specifically deals with dust, whilst Annex 2 deals with noise.

2.2.3 Minerals Policy Statement 7

MPS7 *The Reclamation of Mineral Workings* (November 1997) deals with policies, consultations and conditions which are relevant to achieving effective reclamation of mineral workings. It should be read in conjunction with the general guidance set out in other guidance notes/statements.

It sets out the contribution which reclaimed mineral sites can make to the Government's policies for sustainable development, land use and other policies in the wider countryside. It advises on the scope of information which should be provided with applications for new mineral developments, to enable relevant planning conditions to be drawn up and resulting site reclamation to be achieved. It provides advice on preparation of schemes of conditions for restoration, aftercare, and after-use that owners/operators of older mineral sites may need to draw up for future reviews of such sites. It emphasises the importance of the roles played by the management of site activities by mineral operators and by development control monitoring and enforcement by local authorities, in achieving successful site reclamation; advises on financial provision in relation to securing restoration of mineral workings; and contains more detailed advice, in Annexes, on soils, reclamation, aftercare and after-use.

A brief summary of the other relevant MPGs and MPSs is provided in Table 2.1.

Table 2.1 Other MPSs/MPGs

MPS/MPG	Summary
MPG 2 *Applications, Permissions and Conditions* (July 1998)	Provides advice on those aspects of the development control system of particular relevance to minerals and on the preparation and determination of individual planning applications. This has in part been replaced by Annexes 1 and 2 of MPS2.
MPG 4 *Revocation, Modification, Discontinuance, Prohibition and Suspension Orders* (August 1997)	Gives guidance on the orders and effects of the Town and Country Planning (Compensation for Restrictions on Mineral Working and Mineral Waste Depositing) Regulations 1997.
MPG 5 *Stability in Surface Mineral Working and Tips* (January 2000)	Provides advice to local authorities, landowners, mineral operators and other developers on the exercise of planning control with respect to stability in surface mineral workings and tips and on good practice in the design, assessment and inspection of excavated slopes and tips.
MPG 8 *Planning and Compensation Act 1991 - Interim Development Order Permissions (IDOs): statutory provisions and procedures* (March 2001)	Concerned with mineral permissions granted under IDOs on or after 22 July 1943 in respect of development which had not been carried out before 1 July 1948.
MPG 9 *Planning and Compensation Act 1991 - Interim Development Order Permissions (IDOs): conditions* (March 1992)	Gives advice on the considerations to be taken into account by applicants and minerals planning authorities in preparing and determining the conditions to which registered IDO permissions should be subject.
MPG 10 *Provision of Raw Materials for Cement Industry* (November 1991)	Provides advice to minerals planning authorities on the exercise of planning control over the provision of raw material for the cement industry.
MPG 14 *Environment Act 1995 - review of mineral planning permissions* (October 2004)	Gives advice to mineral planning authorities and the minerals industry on the statutory procedures to be followed and the approach to be adopted to the preparation and consideration of updated planning conditions in the review process.
MPG 15 *Provision of Silica Sand in England* (September 1996)	Provides advice to provide an adequate and steady supply of silica sand while ensuring extraction is consistent with social, economic and environmental sustainability.

2.2.4 National and Regional Guidelines for Aggregates Provision in England

Draft Revised National and Regional Guidelines for Aggregates Provision in England were published by the Government in May 2008. When adopted, this will set out the amount of aggregates that should be provided for, by region, between 2005 and 2020. The West Midlands region needs to produce 370 million tonnes (mt) of aggregates during the period 2005-2020. The guidelines assume that 100 mt will be provided from alternative aggregate sources such as demolition waste and 23 mt will be imported from Wales (mainly Powys). As such, 247 mt of primary aggregates will be needed from the West Midlands - 165 mt of sand and gravel and 82 mt of crushed rock.

Further discussion on the implications of these draft revised guidelines and what this means for the sub-regional apportionment for Herefordshire are discussed in Part B of this report.

2.3 Other National Planning Policy (Planning Policy Statements/Planning Policy Guidance Notes)

Planning Policy Statement 1 (PPS1) *Delivering Sustainable Development* (January 2005) sets out the overarching planning policies on the delivery of sustainable development through the planning system and other national policies compliment these. PPS1 sets out the basic principles of planning for sustainable development as follows:

"Planning should facilitate and promote sustainable and inclusive patterns of urban and rural development by:

- *Making suitable land available for development in line with economic, social and environmental objectives to improve people's quality of life;*
- *Contributing to sustainable economic development;*
- *Protecting and enhancing the natural and historic environment, the quality and character of the countryside, and existing communities;*
- *Ensuring high quality development through good and inclusive design, and the efficient use of resources;*
- *Ensuring that development supports existing communities and contributes to the creation of safe, sustainable, livable and mixed communities with good access to jobs and key services for all members of the community."*

These principles should be cascaded down through regional, strategic and local level plans and frameworks.

A brief summary of the other relevant national planning policy documents, Planning Policy Statements (PPSs) and Planning Policy Guidance notes (PPGs), which have been considered are listed in the Table 2.2.

Table 2.2 Other PPSs/PPGs

PPS/PPG	Summary
PPS 1 Supplement *Planning and Climate Change* (December 2007)	This PPS sets out how planning should contribute to reducing emissions and stabilising climate change and take into account the unavoidable consequences. Tackling climate change is a key Government priority for the planning system.
PPS 9 *Biodiversity and Geological Conservation* (August 2005)	PPS 9 sets out planning policies on the protection of biodiversity and geological conservation through the planning system. The policy includes the broad aim that planning, construction, development and regeneration should have minimal impacts on biodiversity and enhance it wherever possible and will need to be taken into consideration in the identification of sites for waste management facilities.
PPS 12 *Local Spatial Planning* (June 2008)	PPS 12 sets out the Government's policy on the preparation of local development documents which will comprise the local development framework. This policy has been taken into consideration in the preparation of the Core Strategy.

Table 2.2 (continued) Other PPSs/PPGs

PPS/PPG	Summary
PPG 13 *Transport* (April 2001)	The objectives of PPG 13 are to integrate planning and transport at the national, regional, strategic and local level and to promote more sustainable transport choices both for carrying people and for moving freight. The policies are part of the Government's overall approach to reduce congestion and pollution and achieving better access to development and facilities.
PPG 15 *Planning and the Historic Environment* (September 1994)	PPG 15 sets out Government policies for the identification and protection of historic buildings, conservation areas, and other elements of the historic environment as well as the planning system's role in their protection.
PPG 16 *Archaeology and Planning* (November 1990)	PPG 16 sets out national policy in terms of archaeological remains on land and how they should be preserved or recorded both in an urban setting and in the countryside.
PPS 23 *Planning and Pollution Control* (November 2004)	PPS 23 complements the new pollution control framework under the *Pollution Prevention and Control Act 1999* and the *PPC Regulations 2000.* It is concerned with controlling and minimising pollution through the planning system as part of the Government's commitment to sustainable development.
PPG 24 *Planning and Noise* (October 2004)	PPG 24 guides local authorities on the use of their planning powers to minimise the adverse impact of noise. It outlines considerations to be taken into account in determining planning applications both for noise-sensitive developments and those activities which generate noise.
PPS 25 *Development and Flood Risk* (December 2006)	PPS 25 seeks to ensure that flood risk issues are addressed in development plans and in the consideration of planning applications. It covers flood risk arising from both river and coastal flooding and from additional run-off from development in any location.

2.4 Regional Planning Policy

2.4.1 Regional Spatial Strategy

Planning policy and guidance for the West Midlands region is set out in the Regional Spatial Strategy (RSS). Extant policy is contained within *Regional Spatial Strategy for the West Midlands* (January 2008), which was first issued as Regional Planning Guidance (RPG) in June 2004. At that time a number of issues were identified for further work and subsequently divided into three blocks, each forming a partial revision of the RSS, namely:

- Phase 1 - The Black Country;
- Phase 2 - including housing and employment;
- Phase 3 - including environment issues.

The extant RSS now incorporates the changes to the RSS as a result of the Phase 1 revision. The RSS also incorporates the Regional Transport Strategy and provides a spatial framework to inform the preparation of local development frameworks and local transport plans. It provides a

broad strategy for the development and use of land in the West Midlands that is relevant to 2021 and beyond.

In terms of minerals, the aim of the extant RSS policies is to encourage the prudent use of available mineral resources and to maintain an appropriate on-going supply. It is recognised that there are a number of regionally important minerals within the region (Etruria marl, gypsum, silica sand and limestone), whilst other mineral resources are of regional importance, notably building stone, brickshale and fireclay (the latter two of which are important to the region's brick industry). The relevant RSS mineral policies are set out in Table 2.1.

Regional policies for minerals are due to be considered as part of the third phase of the revision of the RSS currently programmed to start during 2009. Nevertheless, an indicator for future mineral demands can be taken from the housing allocations and growth points currently identified in the RSS. The extant RSS housing allocation for Herefordshire is 16 600 dwellings, however, this figure has been increased to 17 800 dwellings in the Draft Phase Two Revision of the RSS as published in December 2007[1]. The examination into the revised RSS is due to take place between April and June 2009. If adopted as proposed, the increased housing allocations are likely to have an impact on sub-regional apportionment figures in that they may need to be revised, thus impacting on existing landbanks.

Table 2.3 RSS Minerals Policies

Policy	Summary
M1: Mineral Working for Non-Energy Minerals	Appropriate provision should be made in the West Midlands for the supply of nationally and regionally significant minerals, taking account of: i) The need to secure the best balance of community, social and environmental and economic interests, consistent with the principles of sustainable development; ii) The need to maintain landbanks of permitted reserve of non-energy minerals; iii) The contribution that alternative sources of material or imports from outside the region should make; iv) Other national and regional policies; and v) The provision made for aggregates in Policy M2.

[1] The 2008 Nathaniel Lichfield & Partners study (known as the NLP study), commissioned by the Government Office for the West Midlands, identified that an additional 1 200 dwellings could be accommodated within Herefordshire to be allocated in rural areas. The Council's Cabinet has already endorsed this figure, subject to the outcome of the RSS examination.

Table 2.3 (continued) RSS Minerals Policies

Policy	Summary
M1: Mineral Working for Non-Energy Minerals (continued)	Development plans should: i) Identify and safeguard mineral resources to ensure that appropriate levels of planned and future supplies can be maintained, including reviewing the continued appropriateness of unpermitted allocations in mineral local plans; ii) Indicate sites/areas where future mineral working would or would not be appropriate having regard to the environmental capacity of the area and the impact on the local community; iii) Include policies to indicate the circumstances under which mineral working might be permitted; iv) Identify and safeguard opportunities for the transportation of minerals by rail or water, including the maintenance of existing, and the provision of new, railhead facilities; v) Includes policies to safeguard mineral resources from other forms of development; vi) Subject to Green Belt policies, identify and safeguard sites on the periphery of and within MUAs[2] for the development of integrated material supply facilities; and vii) Protect and seek improvements to biodiversity during the operational life of workings and include policies requiring that the restoration of mineral workings should contribute to local-regional biodiversity targets. The supporting RSS text in paragraph 8.60 states that in implementing this policy, development plans should ensure that an appropriate provision is made to meet the Region's future needs for a minimum of 10 years from adoption. For certain non-energy minerals this may require a landbank of planning permissions to be provided to ensure that there is continuity of production. The landbank may vary according to the minerals worked.
M2: Minerals – Aggregates	Mineral planning authorities should continue to work together to make provision for land won primary aggregates to 2016 on the basis of the apportionment agreed by the RPB, taking into account the National Regional Guidelines for Aggregates Provision in England 2001-2016 (June 2003): Total Regional Apportionments: • Sand and Gravel: 162 mt (10.1125 mtpa); • Crushed Rock: 93 mt (5.812 mtpa). The sub-regional apportionment for Herefordshire (2001-2016): • Sand and Gravel - 0.283 mtpa; • Crushed Rock - 0.424 mtpa.

[2] MUAs - Major Urban Areas (these are identified in the RSS as Birmingham, Black Country, Coventry, North Staffordshire, and Solihull).

Table 2.3 (continued) RSS Minerals Policies

Policy	Summary
M3: Minerals – The Use of Alternative Sources of Materials	Local authorities, minerals and construction industries, the WMRAWP and the RTAB should work together to reduce the reliance on land won primary aggregates by increasing the contribution of alternative sources of material in meeting the region's requirements by: i) Developing better systems to monitor the level of usage and the way in which alterative sources of materials are used in construction projects; ii) Developing targets for local authorities and for the construction industry to increase the use of alternative sources of materials in construction projects; and iii) Encouraging local authorities and developers to recycle and reuse materials on site in construction projects having regard to the environmental implications of any proposed operations and their overall acceptability. Development plans should: i) Identify sites or policy criteria to secure an appropriate provision of recycling plants in appropriate locations for example on the fringes of MUAs; and ii) Include policies to increase the contribution of alternative sources of material, including adopting methods of operations that will assist reuse and recycling in construction projects.
M4: Energy Minerals	Development plans should include policies which: i) Recognise that energy minerals are of national and regional importance; ii) Recognise the contribution that the exploitation and utilisation of energy minerals can make to meeting the region's future energy needs in the medium to long term; iii) Recognise the development and role of new technologies in releasing sources of energy from worked and unworked coal resources in the region for local use; and iv) Take account of existing national guidance in relation to coal mining, emerging guidance on oil and gas and new technologies and revisions to national energy policy.

2.5 Local Policy Context

2.5.1 Herefordshire Unitary Development Plan (adopted March 2007)

Extant local planning policy is set out in the Herefordshire Unitary Development Plan, adopted in March 2007. Eventually the UDP will be replaced by the emerging Local Development Framework (LDF) as the statutory development plan for Herefordshire. However, until all the new LDF documents are formally adopted, the UDP has the status of a Development Plan Document and will be operative as part of the LDF for a three year period from March 2007.

The UDP vision has three interlocking elements, namely to:

- Create fair and interlocking communities, which will be inclusive for all, allowing equal and full access to opportunities and services;
- Properly protect and enhance the environment through sustainable development;
- Build a strong competitive and innovative economy with a balanced mix of businesses, jobs and homes.

The vision is supporting by a set out 12 guiding principles. The overarching objectives are set out in P1, namely to *"contribute to the achievement of sustainable development by developing land use policies and proposals which help ensure:*

- *Recognition of the legitimate needs of everyone in the community, and progress towards greater social equity;*
- *Sustainable economic activity and development, together with high and stable levels of employment;*
- *Effective protection, restoration and enhancement of the environment and of Herefordshire's environmental capacity;*
- *Sustainable use of natural resources"*.

Other relevant guiding principles with regard to minerals include P5 which seeks to promote forms of environmental management which minimise the depletion of scarce and non-renewable resources, reduce energy consumption and waste, and encourage use of recycled and renewable resources. Principle P6 favours those forms of land use and development which work within environmental capacity, which demonstrate beneficial environmental impacts or minimise adverse impacts on key resources such as air, water, land, biodiversity, accessibility, or demonstrate successful mitigation or compensatory measures for environmental damage.

The UDP minerals policies aim to ensure:

- The continued supply of aggregates for the local construction industry and to satisfy the wider aggregate needs arising in the region;
- That the environmental impact of extraction is minimised in respect of its effects on nearby communities, the landscape, nature conservation, and biodiversity; and
- That land used for mineral extraction is returned to a state suitable for a beneficial afteruse.

The policies have the following more specific objectives:

- To establish criteria against which proposals for aggregate extraction can be assessed;
- To provide for appropriate mineral extraction to meet specialist needs;
- To safeguard mineral reserves from surface development;
- To encourage the use of secondary aggregates and recycling;

- To provide criteria for the assessment of proposals associated with mineral exploration.

The UDP minerals policies have replaced those previously contained within *The County of Hereford and Worcester Minerals Local Plan* (MLP), which was adopted in April 1997. Unlike the MLP, the UDP does not identify specific preferred areas for mineral working in that the forecasted productive capacity of permitted reserves at that time where sufficient to provide landbanks in accordance with Government policy to ensure an adequate and regular supply of minerals, in particular aggregates. Nevertheless, policy M5 does seek to safeguard mineral reserves in the county.

Table 2.4 summarises the relevant UDP policies.

Table 2.4 Relevant UDP Policies

Policy	Summary
Part I Policies	
S1 Sustainable Development (supported by guiding principles P1-P12)	Policy promotes development and land use change which contributes to sustainable development. It sets out how sustainable development will be promoted including minimising waste and pollution and adopting sustainable treatment systems.
S9 Minerals	Policy sets out that the sustainable and efficient management of minerals will be promoted by: 1. Conserving minerals as far as possible, whilst ensuring an adequate supply to meet identified needs; 2. Aiming to maintain the County's share of the regional production of aggregates and a landbank of permitted reserves, subject to environmental considerations; 3. Ensuring that the impact of [proposals for the winning, working, storage and transportation of minerals are kept to an acceptable minimum and can be mitigated to an acceptable extent; 4. Ensuring that sensitive working, reclamation and after care of sites so as to protect or enhance the quality of the environment; 5. Protecting areas of landscape or nature conservation value from minerals development, other than in exceptional circumstances; 6. Preventing the unnecessary sterilisation of mineral resources; and 7. Minimising the production of waste and encouraging the efficient use of minerals by promoting solutions and construction methods which minimise mineral use, including the appropriate use of high quality materials and recycling of waste materials.

Table 2.4 (continued) Relevant UDP Policies

Policy	Summary
Part II Policies	
M2 Borrow Pits	Proposals for the development of borrow pits will be favourably considered if: 1. Granting permission would create significant environmental benefits which outweigh any material planning objections; 2. The borrow pit lies on or adjacent to the proposed construction scheme; and 3. The site can be restored to a state capable of beneficial afteruse without the use of imported material, other than that generated on the adjoining construction scheme.
M3 Criteria for New Aggregate Mineral Workings	Planning applications for aggregate extraction will only be granted in exceptional circumstances, notably where the permitted aggregate reserves in the County prove insufficient to meet the County's sub-regional apportionment. In such cases planning permission for extraction will only be granted where the site is not affected by one or more primary constraints or two or more secondary constraints unless the adverse effects on the secondary constraints can be satisfactorily mitigated, or where the specialised nature of the mineral constitutes a material consideration sufficient o override the constraints, or there is no lesser constrained minerals bearing land elsewhere in the County. The primary and secondary constraints are listed in the policy. Applicants will also be required to submit evidence to demonstrate the extent to which the development impacts on: • People and local communities; • Natural and cultural assets; • The highway network and other public rights of way; • Land stability; • Public open space; and • Air, soil and water resources. Unless such impacts can be satisfactorily mitigated, planning permission will be refused.
M4 Non-Aggregate Building Stone and Small Scale Clay Production	Proposals for the extraction of non-aggregate building stone or clay will be permitted where: 1. The need for the material for the preservation of local distinctiveness, particularly features of local historic or architectural interest, listed and vernacular buildings or archaeological sites, outweighs any material harm extraction might cause to matters of acknowledged importance; 2. The proposed workings are small scale; and 3. The proposal is limited to the production of non-aggregate materials.

Table 2.4 (continued) Relevant UDP Policies

Policy	Summary
M5 Safeguarding Mineral Reserves	Proposal which could sterilise potential future minerals workings will be resisted in order to safeguard identified mineral resources. Where such development is proposed, the applicant may be required: 1. To undertake a geological assessment of the site; and/or 2. To protect the minerals in question; and/or 3. To extract all or part of the mineral reserves as part of or before the other development is permitted. In such cases mineral extraction will only be required when the need for the other development significantly outweighs the harm which extraction might cause to other matters of acknowledged importance.
M6 Secondary Aggregates and Recycling	The use of alternatives to naturally occurring aggregates or other minerals, including demolition and construction wastes, will be encouraged. Proposals for the production, processing, treatment and storage of such alternatives will be permitted as follows: • For temporary periods where the development is ancillary to principal activities at a site, including the use of demolition waste arising from the redevelopment of previously development land and buildings, or longer periods when the development will be limited to the life of a mineral working; or • Permanently at a properly designed and permitted waste transfer station. In all cases proposals must not have an unacceptably adverse effect on the environment or residential amenity.
M7 Reclamation or Mineral Workings	Mineral extraction proposals will only be permitted where the proposed site can be restored to an agreed and beneficial after use. Permission will only be granted where the proposed reclamation would be: • In scale and character with the adjoining landscape and would make a positive contribution to meeting BAP targets; • Capable of being completed within a reasonable timescale; and • Sufficiently detailed to achieve the proposed after use and its after care for an appropriate period. Proposals for the long term management of the site may also be necessary.
M8 Malvern Hills	No further planning permissions will be granted for the extraction for aggregate purposes of granite from the Malvern Hills.
M9 Minerals Exploration	Minerals exploration not permitted by Part 22 of the Town and Country Planning (General Permitted Development) Order 1995 will only be permitted where it does not have an unacceptably adverse effect on the environment or local amenities. Where planning permission is granted conditions will be imposed to control the development in the interests of amenity and to ensure the reinstatement of the site to a state capable of beneficial after use, including the removal of all temporary and permanent works associated with the exploration.

Table 2.4 (continued) Relevant UDP Policies

Policy	Summary
M10 Oil and Gas Exploration and Development	Proposals for development associated with oil and gas exploration will only be permitted where: • The proposed location is shown to be the most suitable having regard to geological, technical and environmental considerations in accordance with policy M3; • There are satisfactory arrangements for the disposal of waste materials and the avoidance of pollution; • The proposals are limited to a restricted and specified time period; and • There is a satisfactory scheme for landscaping and reclamation. Proposals for the further evaluation and development of oil or gas fields will be expected to confirm to all of the above and to demonstrate the development is part of a planned programme for the whole oil or gas field.

2.5.2 Emerging Local Development Framework

The Local Development Framework (LDF) will guide the use of land and new development throughout the county to 2026 and will be used to determine planning applications. The LDF will be closely linked to Herefordshire Partnership's Community Strategy.

The LDF will consist of a number of development plan documents, which together with the Regional Spatial Strategy will form the new development plan for the county. Alongside the Statement of Community Involvement, the proposals maps, and the Hereford Area Action Plan, the other development plan document is the Core Strategy. This is the key strategic planning document which defines the spatial vision for the county and sets out the objectives designed to achieve that vision supported by a spatial development strategy and development policies. All other LDF documents must conform to the Core Strategy.

The Core Strategy Issues Paper was published for consultation in September 2007. The subsequent Developing Options Paper was issued for public consultation in June 2008.

The Core Strategy recognises the need to identify sufficient land to meet the county's share of regional production, adjusted to the local availability of different minerals. In doing so, an adequate and regular supply of minerals must be provided subject to environmental and sustainability considerations. Although the landbanks of permitted reserves for aggregates within the county (i.e. sand and gravel and crushed rock) have recently been increased through recent planning permissions, increasing levels of housing allocations and other developments emerging through the Draft Revised RSS mean there may well be an increased sub-regional apportionment figure for Herefordshire. Furthermore, not all extant planning permissions contributing to the aggregates landbanks are likely to be realised which would increase demand from existing permitted reserves, impacting on the productive capacity of those reserves which could result in a potential shortfall over the duration of the plan period.

Minerals can only be worked where they are found. However, any policy will need to ensure that there is a sufficient degree of flexibility to provide an adequate supply of minerals for the period to 2026. In addition, it will need to ensure that mineral workings are undertaken in a sensitive manner and reclamation and aftercare of the site is undertaken to protect and, where possible, enhance the environment; and also ensure that the County's minerals resources are adequately safeguarded and not sterilised.

The options identified for addressing any additional mineral reserve requirements are:

1. Identify the current and required landbank of permitted reserves to meet the needs of Herefordshire up until 2026;

2. Identify preferred areas of mineral extraction, to enable greater flexibility and safeguard potential mineral reserves; or

3. Provide a set of generic criteria, which would be used to judge planning application for new minerals extraction.

2.5.3 Herefordshire Local Transport Plan

Submitted to Government in 2006, the Herefordshire Local Transport Plan sets the agenda for transport planning and investment in the county to 2010/11. The Local Transport Plan is the main statement of policies and proposals for transport provision in the county. The objective is for a sustainable and integrated transport system which recognises the distinctive characteristics of Herefordshire's rural and urban areas and provides for the transport needs of residents, visitors and the business community.

2.5.4 Community Strategy

The Community Strategy for Herefordshire, *The Herefordshire Plan*, was first published in 1999 and its latest review, *A Sustainable Future for the County*, published in 2006. The Strategy sets out a vision, guiding principles and outcomes for the period to 2020.

The vision reads:

> "*Herefordshire will be a place where people, organisations and businesses working together within an outstanding natural environment will bring about sustainable prosperity and well being for all"*.

This vision is supported by five guiding principles to ensure that we work towards Herefordshire being a sustainable county by considering the impacts of all proposed actions on communities, the environment and the economy. The guiding principles are:

- Realise the potential of Herefordshire, its people and communities;
- Integrate sustainability into all our actions;
- Ensure an equal and inclusive society;
- Build on the achievements of partnership working and ensure continual improvement;
- Protect and improve Herefordshire's distinctive environment (including tackling climate change through waste minimisation).

The strategy does not include any specific recommendations for mineral working.

2.6 Conclusions

This section has set out the range of national, regional and local policies and strategies which influence the extraction of minerals in Herefordshire and planning for their future extraction to ensure a steady and adequate supply. In particular the spatial requirements set out will need to be taken into consideration in formulating appropriate policy, the safeguarding of existing minerals reserves, and the identification of potential future mineral resources. This is turn will be influenced by the outcome of an assessment of the future need for minerals in Herefordshire, which is set out in Part B of this report.

3. Waste Policy Context

3.1 Overview

Waste management practice within Herefordshire is influenced by a range of national, regional and local policies and strategies which are considered in this section. These relate both to planning and waste management. Waste management practice is also driven by a wealth of related legislation at both European and national levels that have in turn influenced spatial planning. The Landfill Directive is the prime example, restricting the nature and quantity of waste that may be landfilled and requiring the diversion of waste so that value may be recovered. This impacts on the types of waste management facilities that are required and the nature of the sites that are suitable to deliver these facilities.

Many of these requirements are explored in the National Waste Strategy, *Waste Strategy 2007*, and directly influence this evidence base through, for example, the consideration of targets for landfill diversion, recycling/composting and waste recovery in the assessment of waste management requirements.

There are also related policies and guidance that have spatial implications for waste management. These stem from both national planning policies, notably Planning Policy Statement 10, and the policies of the Environment Agency, notably on landfill location and the location of composting facilities. These spatial requirements need to be considered in policy formulation and the identification of potential waste management sites.

3.2 European Legislation

European legislation directly impacts on how certain waste streams should be managed and it is important that the evidence base for the Core Strategy considers some of the more important requirements.

3.2.1 Waste Framework Directive

The overall framework for sustainable waste management was originally set out in the Waste Framework Directive in 1975 (as amended[3]). It requires Member States to:

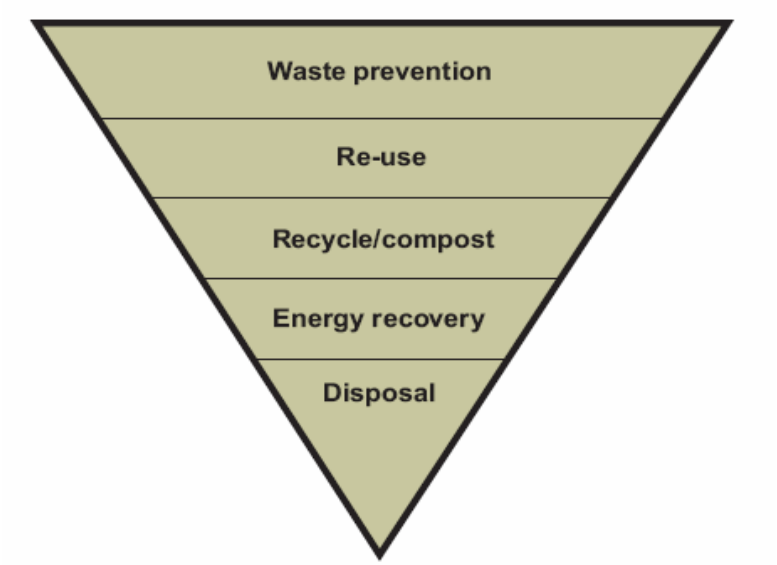
- Encourage waste prevention or reduction and encourage reuse and recovery of waste;

[3] First published in 1975 (75/442/EEC), the Waste Framework Directive was partially revised in 2006 (2006/12/EC). In order to further European waste legislation, further amendments were made and the revised Waste Framework Directive (2208/98/EC) was published in November 2008. Setting out a revised framework for waste management in Europe, it encourages the re-use and recycling of waste and promotes the use of waste as a secondary resource with the intention to reduce the landfill of waste as well as potent greenhouse gases arising from such landfill sites.

- Ensure that waste is recovered or disposed of without endangering human health and without using processes which could harm the environment;
- Prohibit the uncontrolled disposal of waste;
- Establish an integrated and adequate network of disposal installations taking account of the Best Available Technology Not Involving Excessive Cost;
- Prepare waste management plans;
- Ensure that any establishment or undertaking carrying out waste disposal or recovery is appropriately licensed;
- Ensure that the cost of disposal is borne by the waste holder in accordance with the polluter pays principle.

The Directive puts forward the Waste Hierarchy which is illustrated in Plate 3.1.

Plate 3.1 The Waste Hierarchy



The hierarchy is defined in Planning Policy Statement 10 as follows:

- The most effective environmental solution is often to reduce the generation of waste - *reduction*;
- Products and materials can sometimes be used again, for the same or a different purpose - *re-use*;
- Resources can often be recovered from waste - *recycling and composting*;
- Value can also be recovered by generating energy from waste - *energy recovery;*
- Only if none of the above offer an appropriate solution should waste be disposed of.

Policies and practices should try to move the management of waste up the hierarchy, taking reasonable account of costs and benefits.

In December 2005, the European Commission published its Thematic Strategy on Waste Prevention and Recycling which proposed some changes to the Waste Framework Directive. Discussions on these changes are on-going.

3.2.2 Landfill Directive

The Landfill Directive aims to prevent or reduce the negative effects of landfill and includes a series of targets. These are:

- To reduce the volume of biodegradable municipal waste sent to landfill to 75% of that produced in 1995 by 2010, 50% of that produced in 1995 by 2013, and to 35% of that produced in 1995 by 2020;
- The co-disposal of hazardous and non-hazardous wastes is banned from 2004 and separate landfills for hazardous, non-hazardous and inert wastes are required;
- Landfill of whole tyres is banned from 2003 and of shredded tyres from 2006;
- Landfill of liquid wastes, certain clinical wastes and certain types of hazardous waste is banned.

Non-compliance with the Directive carries the potential sanction of fines. It has been suggested that the UK could face fines of up to £18 million a year, if the above targets are not achieved.

Alternative methods of managing waste and recovering value are required. The ban on co-disposal has resulted in a dramatic reduction in the number of landfills that can accept hazardous waste which has caused concern and work is taking place with the Environment Agency at a regional level to determine what treatment capacity will be needed in the region.

3.2.3 Other European Directives

It is important to note some other Directives that impact on waste management. The more relevant pieces of legislation are summarised below.

Waste Electrical and Electronic Equipment (WEEE) Directive

The Waste Electrical and Electronic Equipment (WEEE) Directive extends the principle of produce responsibility and requires manufacturers to reach targets for the re-use, recycling and recovery of waste electronic and electrical equipment. Every EU Member state has a target of collecting 6 kg of waste per inhabitant per year from private households.

Packaging and Packaging Waste Directive

The Packaging and Packaging Waste Directive sets an overall recovery target of 50-65% and a recycling target of 25-245% for packaging waste within a minimum target of 15% for recycling and recovery of each sort of packaging material. The UK implemented this Directive through the Producer Responsibility Obligations (Packaging Waste) Regulations1997 and sets targets of 50% for recovery, 25% for recycling with a minimum target of 16% for recycling and recovery of each material. The UK chose the unique principle of ‘shared producer responsibility’, with different sectors in the packaging chain having different obligations.

End-of-Life Vehicle Directive

The End-of-Life Vehicle (ELV) Directive has set recovery (and recycling) targets of 85% (80%) for 2006 and 95% (85%) for 2015 for end of life motor vehicles. A key element in this Directive is the need for 'de-pollution' to take place. Current disposal routes via scrap yards and shredders may no longer be appropriate and new procedures involving de-pollution, dis-assembly, re-manufacturing of components, recycling and recovery may emerge. Since January 2007 Original Equipment Manufacturers have full responsibility for the whole life cycle of motor vehicles. Regulations implementing the Directive were published in November 2003.

Directive on the Incineration of Waste

The Directive on the Incineration of Waste replaces earlier Directives on the prevention and reduction of air pollution from municipal waste incineration plants and the incineration of hazardous waste. Emission limits are very similar to those applied to hazardous waste incinerators in the UK, although Nitrous Oxide limits are new.

Hazardous Waste Directive

This Directive seeks to define hazardous waste and provides additional controls on its tracking, movement and management. Up until 15 July 2005, the Hazardous Waste Directive has been transposed in England by the Special Waste Regulations 19996 (as amended). From 16 July 2005, the Directive is transposed by the Hazardous Waste (England and Wales) Regulations 2005 and the List of Waste (England) Regulations.

While the Special Waste regime was in force in the UK, the European Commission revised its list of hazardous waste and incorporated it into the European Waste Catalogue http://europa.eu.int/eur-lex/en/consleg/pdf/2000/en_2000D0532_do_001.pdf). The revised list includes a number of waste streams not previously considered to be hazardous, including televisions, computer monitors, fluorescent lighting and end-of-life vehicles. This list has now been transposed into national legislation through the above mentioned 2005 Regulations.

Mining Waste Directive

EU Directive 2006/21/EC on the management of waste from the extractive industries - the Mining Waste Directive - was adopted by the European Parliament and the Council of the ES on 15 March 2006. The Directive regulates the management of waste from mining and quarrying ('extractive') industries for the purposes of preventing harm to the environment and human health. Member States, including the UK, are required to transpose the Directive into national law by 1 May 2008 and as a result new regulations will need to be brought into force in England. Subsequently, consultation is taking place between January and April 2008. It is anticipated that waste from mines and quarries will continue to be dealt with on-site as part of the requirement for a site management plan and will not have any wider spatial implications for the provision of sites as part of the Core Strategy/LDF.

3.3 Other National Legislation

There are other pieces of national legislation that impact on waste management and the need for facilities. With regard to MSW[4], under the Best Value initiative, the Government has introduced statutory performance standards for the recycling and composting of household wastes. Local Authorities are required to produce waste management plans or strategies that will achieve these targets. The targets for Herefordshire are dealt with in the Evidence Base in the assessment of the need for waste management facilities (Part C). The landfilling of MSW is affected by the Landfill Allowance Trading Scheme introduced under the Waste and Emissions Trading Act 2003. The scheme limits the tonnage of biodegradable MSW that waste disposal authorities are allowed to landfill in each year over the period to 2020. The scheme provides for fines if limits are exceeded. The limits relevant to Herefordshire are considered in the waste need assessment (Part C). Landfilling has also been impacted by the introduction and escalation of the Landfill Tax.

3.4 National Waste Planning and Waste Management Policy

3.4.1 National Waste Management Policy

National Waste Strategy

Waste strategy at a national level for England is contained within *Waste Strategy 2007*, which builds on *Waste Strategy 2000* and the progress made in terms of waste management since then. It does, however, aim for greater ambition and sets out the changes that are needed to deliver a more sustainable approach to the management of waste and incorporates the Government's measures for implementing the Landfill Directive[5] in England. The key objectives of the Strategy are to:

- Decouple waste growth (in all sectors) from economic growth and put more emphasis on waste prevention and re-use;
- Meet and exceed the Landfill Directive diversion targets for biodegradable municipal waste in 2010, 2013, and 2020;
- Increase diversion from landfill of non-municipal waste and secure better integration of treatment for municipal and non-municipal waste;
- Secure the investment in infrastructure needed to divert waste from landfill and for the management of hazardous waste;

[4] MSW= municipal solid waste.

[5] The Landfill Directive is a piece of European legislation (1999/31/EC) which aims to reduce the landfilling of waste, and therefore the negative effects which occur from landfill.

- Get the most environmental benefit from that investment, through increased recycling of resources and recovery of energy from residual waste using a mix of technologies.

In addition to these key objectives, the Strategy sets a number of challenging targets. These are:

- **Annual greenhouse gas emissions:** Reduction of at least 9.3 million tonnes (mt) of carbon dioxide equivalent per year compared to 2006 (equivalent to the annual use of 3 million cars);
- **Household residual waste:** Reduce the amount of household waste not re-used, recycled or composted by 29% by 2010, 35% by 2015 and 45% by 2020 from 2000 levels;
- **Household waste recycling and composting:** At least 40% by 2010, 45% by 2015 and 50% by 2020;
- **Municipal waste recovery:** Recover 53% by 2010, 67% by 2015 and 75% by 2020; and
- **Commercial and industrial waste landfilled:** Expected 20% reduction by 2012 of the amount of construction, demolition and excavation wastes going to landfill from 2004 levels, i.e. to halve the amount of commercial and industrial waste landfilled through waste reduction, re-use and recycling.

As such, the main elements of the new strategy are to:

- Incentivise efforts to reduce, re-use, recycle waste and recover energy from waste, including a landfill tax escalator of £8 per year until at least 2010/2011, i.e. £16 per tonne in 2007, £24 per tonne in 2008 and £48 per tonne in 2010;
- Reform regulation to drive the reduction of waste and diversion from landfill while reducing costs to compliant businesses and the regulator through production of waste protocols (to clarify when waste ceases to be a waste), consider introducing further restrictions on the landfilling of biodegradable wastes or recyclable materials, and taking effective action on flytipping and illegal dumping;
- Target action on materials, products and sectors with the greatest scope for improving environmental and economic outcomes;
- Stimulate investment in collection, recycling and recovery infrastructure, and markets for recovered materials that will maximise the value of materials and energy recovered;
- Improve national, regional and local governance, with a clearer performance and institutional framework to deliver better coordinated action and services on the ground.

3.4.2 Environmental Permitting

Environmental permitting and compliance regimes exist to protect the environment and human health. Responsibility for the regulation of the waste management sits with the Environment Agency and thus lies outside the scope of the planning system. Nevertheless, planning for

waste management and its regulation require a high degree of compatibility and interaction, whilst ensuring, in interest of clarity, that there are no unnecessary duplications between the two.

Licences for waste management activities, known as an Environmental Permit, and other pollution control measures are governed by the various pieces of legislation, most notably the Environmental Permitting (England and Wales) Regulations 2007 that came into effect in April 2008. These Regulations have replaced the system of waste management licensing in Part II of the Environmental Protection Act 1990 and the Waste Management Licensing Regulations 1994 (as amended) and the system of permitting in the Pollution Prevention and Control (England and Wales) Regulations 2000 (as amended) with a new system of environmental permitting in England and Wales.

Thus, the 2007 Regulations have streamlined and combined the previous separate waste and pollution control (PPC) systems so that there is now a single Environment Permit and common procedures. As the regulator, the Environment Agency is responsible for supervising waste management activities to ensure permit conditions or the terms of any exemptions are complied with. For the waste sector the new regime brings increased flexibility, allowing an operator to:

- Transfer or surrender their environmental permit partially or completely;
- Extend the licensed area or their site by variation;
- More simply change the terms of their environment permit as activities change or new activities are started;
- Demonstrate technical competence through a scheme approved by DEFRA and the Welsh Assembly Government;
- Apply for a standard permit;
- Consolidate a number of Waste Management Licenses (WML) and PPC permits on the same site into one environmental permit.

3.4.3 National Waste Planning Policy

Planning Policy Statement 10 *Planning for Sustainable Waste Management* (July 2005) sets out the Government's planning policy for waste management and recognises that the planning system is pivotal to the adequate and timely provision of new facilities that are needed. It requires planning bodies to:

- Drive waste management up the waste hierarchy, by addressing waste as a resource and looking to disposal as a last option, but one which must be adequately catered for;
- Enable sufficient and timely provision of waste management facilities to meet the needs of their communities;
- Ensure planning policies implement the national waste strategy and are consistent with European legislation and other guidance and controls;
- Protect human health and the environment, and enable waste to be disposed of in the nearest appropriate installation;

- Reflect the concerns and interest of communities, authorities and businesses;
- Protect green belts, but recognise that the particular location needs of some types of waste management facilities may have an impact on green belts and other environmental designations;
- Ensure the design and layout of new development supports sustainable waste management.

The waste hierarchy is set out above (Section 3.2.1 and Plate 3.1), and the aim of national planning policy is to push the management of waste up the waste hierarchy. In this way the amount of waste produced will be minimised, waste that is produced will be used in a beneficial manner and waste will be disposed of as a last option only.

In preparing development plan documents, waste planning authorities should identify areas suitable for new or enhanced waste management facilities and should in particular:

- Allocate sites to support the pattern of waste management facilities set out in the Regional Spatial Strategy in accordance with the broad locations identified in the Regional Spatial Strategy;
- Allocate sites and areas suitable for new or enhanced waste management facilities to support the apportionment set out in the Regional Spatial Strategy.

In doing so, waste planning authorities should:

- Be able to demonstrate how capacity equivalent to at least ten years of the annual rates set out in the Regional Spatial Strategy could be provided;
- Identify the type or types of waste management facility that would be appropriately located on the allocated site or in the allocated area, taking care to avoid stifling innovation in line with the waste hierarchy;
- Avoid unrealistic assumptions on the prospects, for the development of waste management facilities, or of particular sites or areas, having particular regard to any ownership constraint which cannot be readily freed, other than through the use of compulsory purchase powers.

With regard to the allocation of sites, PPS 10 states that waste planning authorities should consider:

- Opportunities for on-site management of waste where it arises; and
- A broad range of locations including industrial sites, looking for opportunities to co-locate facilities together and with complementary activities.

3.4.4 Other National Planning Policy (Planning Policy Statements/Planning Policy Guidance Notes)

Planning Policy Statement 1 (PPS1) *Delivering Sustainable Development* (January 2005) sets out the overarching planning policies on the delivery of sustainable development through the planning system and other national policies compliment these. PPS1 sets out the basic principles of planning for sustainable development, which are as follows:

"Planning should facilitate and promote sustainable and inclusive patterns of urban and rural development by:

- *Making suitable land available for development in line with economic, social and environmental objectives to improve people's quality of life;*
- *Contributing to sustainable economic development;*
- *Protecting and enhancing the natural and historic environment, the quality and character of the countryside, and existing communities;*
- *Ensuring high quality development through good and inclusive design, and the efficient use of resources;*
- *Ensuring that development supports existing communities and contributes to the creation of safe, sustainable, livable and mixed communities with good access to jobs and key services for all members of the community."*

These principles are cascaded down through regional, strategic and local level plans and frameworks.

A brief summary of the other relevant national planning policy documents, Planning Policy Statements (PPSs) and Planning Policy Guidance notes (PPGs), which have been considered are listed in the Table 3.1.

Table 3.1 Other PPSs/PPGs

PPS/PPG	Summary
PPS 1 Supplement *Planning and Climate Change* (December 2007)	This PPS sets out how planning should contribute to reducing emissions and stabilising climate change and take into account the unavoidable consequences. Tackling climate change is a key Government priority for the planning system.
PPS 9 *Biodiversity and Geological Conservation* (August 2005)	PPS 9 sets out planning policies on the protection of biodiversity and geological conservation through the planning system. The policy includes the broad aim that planning, construction, development and regeneration should have minimal impacts on biodiversity and enhance it wherever possible and will need to be taken into consideration in the identification of sites for waste management facilities.
PPS 12 *Local Spatial Planning* (June 2008)	PPS 12 sets out the Government's policy on the preparation of local development documents which will comprise the local development framework. This policy has been taken into consideration in the preparation of the Waste DPD.
PPG 13 *Transport* (April 2001)	The objectives of PPG 13 are to integrate planning and transport at the national, regional, strategic and local level and to promote more sustainable transport choices both for carrying people and for moving freight. The policies are part of the Government's overall approach to reduce congestion and pollution and achieving better access to development and facilities.

Table 3.1 (continued) Other PPSs/PPGs

PPS/PPG	Summary
PPG 15 *Planning and the Historic Environment* (September 1994)	PPG 15 sets out Government policies for the identification and protection of historic buildings, conservation areas, and other elements of the historic environment as well as the planning system's role in their protection.
PPG 16 *Archaeology and Planning* (November 1990)	PPG 16 sets out national policy in terms of archaeological remains on land and how they should be preserved or recorded both in an urban setting and in the countryside.
PPS 23 *Planning and Pollution Control* (November 2004)	PPS 23 complements the new pollution control framework under the *Pollution Prevention and Control Act 1999* and the *PPC Regulations 2000.* It is concerned with controlling and minimising pollution through the planning system as part of the Government's commitment to sustainable development.
PPG 24 *Planning and Noise* (October 2004)	PPG 24 guides local authorities on the use of their planning powers to minimise the adverse impact of noise. It outlines considerations to be taken into account in determining planning applications both for noise-sensitive developments and those activities which generate noise.
PPS 25 *Development and Flood Risk* (December 2006)	PPS 25 seeks to ensure that flood risk issues are addressed in development plans and in the consideration of planning applications. It covers flood risk arising from both river and coastal flooding and from additional run-off from development in any location.

3.5 Regional Planning and Waste Management Policy

3.5.1 Regional Spatial Strategy

Planning policy and guidance for West Midlands region is set out in the Regional Spatial Strategy (RSS). Extant policy is contained within *Regional Spatial Strategy for the West Midlands* (January 2008), which was first issued as Regional Planning Guidance (RPG) in June 2004. At that time a number of issues were identified for further work and subsequently divided into three blocks of work, each forming a partial revision of the RSS namely:

- Phase 1 - The Black Country;
- Phase 2 - including housing and employment;
- Phase 3 - including environment issues.

The extant RSS now incorporates the changes to the RSS as a result of the Phase 1 revision. The RSS incorporates the Regional Transport Strategy and provides a spatial framework to inform the preparation of local development frameworks and local transport plans. It provides a broad strategy for the development and use of land in the West Midlands that is relevant to 2021 and beyond.

In terms of waste management, the extant RSS sets out an interim framework for sustainable waste management and the supporting policies have been informed by the draft Regional Waste Strategy (RWS) prepared by the Regional Technical Advisory Body (RTAB), which is

discussed in more detail in Section 3.5.2 below. The RSS recognises that although the region is largely self-sufficient in terms of meeting its own waste treatment and disposal needs, the net flow of household and industrial waste from the metropolitan areas to landfill in shire counties and the reverse flow of special waste means there is a continued importance in co-ordinating waste planning at a regional level. The extant RSS waste policies are set out in Table 3.2 below.

As part of the phased review of the RSS, a study of the Best Practicable Environmental Options for waste is to be undertaken to inform the review of the RSS waste policies, which will be undertaken as part of Phase 2 revisions of the RSS. Furthermore, at the regional level priority will be given, by both individual authorities and other stakeholders, to initiatives and facilities which will encourage and promote waste reduction and reuse of materials and products across all sections of the West Midlands. As part of the review, these principles will be communicated to businesses and members of the public. Local authorities and industry and commerce are encouraged to apply the principles of life cycle assessment to ensure that the full range of environmental as well as other costs and benefits have been taken into account.

Table 3.2 RSS Waste Policies

Policy	Summary
WD1: Targets for Waste Management in the Region	The regional waste management targets are to: • Recover value from at least 40% of municipal waste by 2005; 45% by 2010; and 67% by 2015; • Recycle or compost at least 25% of household waste by 2005; 30% by 2010; and 33% by 2015; and • Reduce the proportion of industrial and commercial waste which is disposed of to landfill to at the most 85% of 1998 levels by 2005.
WD2: The Need for Waste Management Facilities - by Sub-Region	The type and precise location of waste management and treatment facilities to be provided within the region in order to meet the National Waste Strategy targets and the future waste management needs of all major waste streams are matters to be determined in development plans and through Waste Management Strategies. Regarding municipal waste produced in the region, additional facilities will be required to recycle, compost or in other ways recover value from at least 47.9 million tonnes, and landfill capacity will be required for approximately 40 million tonnes, between 1998/9 and 2020/1. Landfill capacity with planning permission exists in the West Midlands to satisfy the identified need to dispose of approximately 75 mt of industrial and commercial waste, and 29 mt of construction and demolition waste, between 1998/9 and 2020/1. In preparing development plans, local planning authorities should take into account the needs outlined in Table 4 – for waste treatment and landfill capacity generated by each sub-region. Where necessary, and in accordance with the principles of best practicable environmental option and proximity, local authorities should seek agreement with neighbouring authorities to make provision in their plans to meet these needs (including those in neighbouring regions).

Table 3.2 (continued) RSS Waste Policies

Policy	Summary
WD3: Criteria for the Location of Waste Management Facilities	Where appropriate, development plans should include policies and proposals for all major waste streams to: i) guide the location and siting of waste treatment and recycling facilities to appropriate locations, having regard to the proximity principle and other environmental and amenity principles as identified elsewhere in the RSS; ii) wherever possible and consistent with the principles of Best Practicable Environmental Option and Proximity, encourage the use of all rail and water transport in preference to road transport; and iii) require the submission of a waste audit and provision for in-house or on-site recycling and treatment of wastes, in the case of major development proposals. Where possible, site-specific proposals for new waste management facilities should be included in development plans. Consideration should be given to the potential advantages of making provision for waste management in the form of small-scale facilities that may be more easily integrated into the local setting. Development plans should restrict the granting of planning permission for new sites for landfill to proposals which are necessary to restore despoiled degraded land, including mineral workings, or which are otherwise necessary to meet specific local circumstances. The depletion of landfill capacity will be the subject of regular monitoring.

For Herefordshire, the RSS identifies the following waste management facility requirements:

- Annual throughput capacity required for municipal waste recycling and composting facilities by 2020/1 - 44 000 tonnes;
- Annual throughput capacity required for municipal waste recovery by 2020/1 - 45 000 tonnes;
- Cumulative landfill void capacity required for all waste streams taking into account the target reductions in the National Waste Strategy 1998/9-2020/1:
  - 1 227 000 tonnes municipal waste; and
  - 1 693 000 tonnes industrial and commercial waste.

The RSS identifies that in terms of additional municipal waste management facilities required by 2021 in Herefordshire, this amounts to:

- 25 000 tpa capacity recycling and composting facility;
- 50 000 tpa recovery capacity (MRF).

RSS Phase Two Revisions

In December 2007 the Draft Revised RSS was submitted to the Secretary of State and the subsequent Examination in Public will be held between April and June 2009. The revisions made to the RSS include a number of new waste policies which are detailed in Table 3.3. Subject to the outcome of the Examination in Public, these revised policies will need to be

considered in formulating the Core Strategy's spatial approach to waste management in Herefordshire.

An indicator for future waste management demands can be taken from the housing allocations and growth points currently identified in the RSS. The extant RSS housing allocation for Herefordshire is 16 600 dwellings, however, this figure has been increased to 17 800 dwellings in the Draft Phase Two Revision of the RSS[6]. This revised housing allocations figure has already been accepted by the Council's Cabinet but is subject to the outcome of the Examination in Public. If adopted as proposed, the increased housing allocations are likely to mean additional demand for waste treatment capacity within Herefordshire.

Table 3.3 RSS Phase Two Revisions - Waste Policies

Policy	Summary
W1: Waste Strategy	Waste should be regarded as a resource and each WPA or sub-region should allocate enough land in its LDDs to manage an equivalent tonnage of waste to that arising from all waste streams within its boundary, taking into account the Waste Hierarchy. In addition to facilities to reprocess, reuse, recycle and recover waste an allowance will need to be made for waste transfer stations and waste appropriate for landfill.
W2: Targets for Waste Management	Sets out the targets for waste management that each WPA or sub-region should use to plan for a minimum provision of new facilities to reprocess and manage waste. For Herefordshire, these targets are: <u>Municipal Waste:</u> • 2005/06 - Min diversion from landfill: 24 000 t; max landfill: 68 000 t • 2010/1 - Min diversion from landfill: 43 000 t; max landfill: 59 000 t • 2015/6 - Min diversion from landfill: 60 000 t; max landfill: 48 000 t • 2020/1 - Min diversion from landfill: 69 000 t; max landfill: 45 000 t • 2025/6 - Min diversion from landfill: 74 000 t; max landfill: 46 000 t <u>Commercial & Industrial Waste:</u> • 2005/06 - Min diversion from landfill: 97 000 t; max landfill: 71 000 t • 2010/1 - Min diversion from landfill: 110 000 t; max landfill: 59 000 t • 2015/6 - Min diversion from landfill: 137 000 t; max landfill: 59 000 t • 2020/1 - Min diversion from landfill: 188 000 t; max landfill: 62 000 t • 2025/6 - Min diversion from landfill: 188 000 t; max landfill: 62 000 t.

[6] The 2008 Nathaniel Lichfield & Partners study (known as the NLP study), commissioned by the Government Office for the West Midlands, identified that an additional 1 200 dwellings could be accommodated within Herefordshire to be allocated in rural areas. The Council's Cabinet has already endorsed this figure, subject to the outcome of the RSS examination.

Table 3.3 (continued) RSS Phase Two Revisions – Waste Policies

Policy	Summary
W3: The Need for Waste Management Facilities	Authorities with an identified 'treatment gap' in facilities to manage waste should make provision in their LDDs for a pattern of sites and areas suitable for new or enhanced waste management facilities in or in close proximity to the MUAs[7], Settlements of Significant Development (including Hereford), and other large settlements identified in the Broad Locations for Waste Management Facilities Diagram. In addition to meeting local needs, these locations are well placed to accommodate facilities of a regional and/or sub-regional scale to reprocess, re-use, recycle or recover value from waste, allowing for the requirements of different technologies.
W4: Protection of Existing Waste Management Facilities	WPAs should safeguard and/or expand suitable sites with an existing waste management use, provided that they meet local environmental and amenity criteria, and do not pose risks to European and National protected sites. WPAs should not allow the continued operation of existing sites to be compromised by new development on adjoining land.
W5: The Location of New Waste Management Facilities	Policy sets out the criteria which should be used by WPAs to identify additional sites where there is evidence that additional capacity is required. These are: • Ensuring a range of sites of different size and geographical distribution; • Good accessibility to the source of waste arisings and/or end users; and • Good transport connections including, where possible, rail or water. In the first instance such sites should be either: • Sites with current use rights for waste management purposes; • Active mineral working sites or landfills where the proposal is both operationally related to the permitted use and for a temporary period commensurate with the permitted use of the site; • Previous or existing industrial land; • Contaminated or derelict land; • Land within or adjoining sewage treatment works; or • Redundant agricultural or forestry buildings and their curtilage. In every case the proposal should be capable to meeting local environmental and amenity criteria, and not pose risks to European and National protected sites.
W6: Sites outside the Major Urban areas and Other Larger Settlements	WPAs outside the MUAs should identify sites for the treatment and management of waste arising from areas of low population and scattered communities and for facilities which need to be at a distance from 'sensitive receptors'. Additional sustainable waste management capacity in rural areas for waste recovery or recycling should be based on: • Effective protection of amenity and the environment; and • The proposed activity being appropriate to the area proposed. Businesses, including agricultural undertakings, should adopt sustainable waste management practices, and where relevant, best agricultural practice, with regard to their waste arisings.

[7] MUAs - Major Urban Areas (these are identified in the RSS as Birmingham, The Black Country, Coventry, North Staffordshire, and Solihull).

Table 3.3 (continued) RSS Phase Two Revisions – Waste Policies

Policy	Summary
W7: Waste Management Facilities and Open Land	Waste management facilities should only be permitted on open land, including land within the greenbelt: • Where they are close to the communities producing the waste; and • Where there are no preferable alternative sites; and • Where it would not harm the openness of land, or the objectives of the greenbelt; • Where it can be demonstrated to be necessary to support an existing activity and to facilitate other key development; • Would assist in agricultural diversification; or • Would not adversely affect the biodiversity and geodiversity value of the area.
W8: Hazardous Waste - Safeguarding Site	Policy sets out the Waste/Local Development Frameworks should safeguard existing sites for the treatment and management of hazardous waste, where they meet local environmental and amenity criteria, and do not pose risks to European and National protected sites.
W9:Construction and Demolition Waste	Policy sets out that all Waste/Local Development Frameworks should give specific priority to identifying new sites for facilities to store, treat and recycle soils and construction and demolition waste. More construction and demolition waste should be recycled through: • Maximising 'on-site' recycling; and • Promoting 'urban quarries' where material can be recycled to a high standard where there is evidence that there is a need for additional facilities.
W11: New Sites for Landfill	Policy states that Waste/Local Development Frameworks should restrict the granting of planning permission for new sites for landfill proposals which: • Are necessary to restore despoiled or degraded land, including mineral workings; • Are otherwise necessary to meet specific local circumstance; • Are supported by robust evidence of suitability and need arising from a shortage of local capacity that exists in the plan period; and • Where geological conditions are suitable for landfill operations.
W12:Hazardous Waste - Final Disposal Sites	Policy states that Waste Development Frameworks for non MUAs should identify final disposal sites for hazardous waste, including, where necessary, encouraging the creation of separately appropriate engineered cells in landfills for stabilised non-reactive hazardous waste, where the geological conditions are suitable.

3.5.2 Regional Waste Strategy

The Draft West Midlands Regional Waste Planning Strategy was published in November 2001 and sets out guidance on land use and waste management planning for the period to 2011 and beyond. It sets the framework for monitoring regional progress towards sustainable waste management, achievement of the national targets and helps to promote the importance of, and to

secure commitment to, more sustainable waste management practices by industry and commerce and the general public.

In line with the targets set out in the National Waste Strategy (2000), the targets for the West Midlands set out in the Regional Waste Strategy are:

- Municipal waste - to recover value from 40% by 2005, 45% b 2010, and 67% by 2015;
- Household waste - to recycle or compost 25% by 2005, 30% by 2010, and 33% by 2015;
- Commercial and industrial waste - to reduce the proportion which is disposed of to landfill to 85% of 1998 levels by 2005.

Key strategic principles identified are:

- SP1 Integration and Co-ordination;
- SP2 Proximity;
- SP3 Regional Self Sufficiency and County Interdependency;
- SP4 The Waste Hierarchy and Best Practicable Environmental Option;
- SP5 Waste Minimisation;
- SP6 Recycling and Composting;
- SP7 Incineration with Energy Recovery;
- SP8 Landfill;
- SP9 Data Collection and Monitoring.

3.6 Local Policy Context

3.6.1 Herefordshire Unitary Development Plan (adopted March 2007)

Extant local planning policy is set out in the Herefordshire Unitary Development Plan, adopted in March 2007. Eventually the UDP will be replaced by the emerging Local Development Framework (LDF) as the statutory development plan for Herefordshire. However, until all the new LDF documents are formally adopted, the UDP has the status of a Development Plan Document and will be operative as part of the LDF for a three year period from March 2007.

The vision for the UDP sets out three interlocking elements, which are to:

- Create fair and interlocking communities, which will be inclusive for all, allowing equal and full access to opportunities and services;
- Properly protect and enhance the environment through sustainable development;
- Build a strong competitive and innovative economy with a balanced mix of businesses, jobs and homes.

The vision is supported by a set out 12 guiding principles. The overarching objectives are set out in P1, namely to "*contribute to the achievement of sustainable development by developing land use policies and proposals which help ensure:*

- *Recognition of the legitimate needs of everyone in the community, and progress towards greater social equity;*
- *Sustainable economic activity and development, together with high and stable levels of employment;*
- *Effective protection, restoration and enhancement of the environment and of Herefordshire's environmental capacity;*
- *Sustainable use of natural resources".*

Other relevant guiding principles with regard to waste management includes P5 which seeks to promote forms of environmental management which minimise the depletion of scarce and non-renewable resources, reduce energy consumption and waste, and encourage use of recycled and renewable resources.

The UDP also sets out aims and objectives for the management of waste in the county. Underpinning the UDP's approach is a vision statement for waste policy, the aims of which are to:

- Treat waste as a resource;
- Minimise waste generation;
- Maximise the potential for re-use, recycling and recovery of waste;
- Reduce the loss of amenities within the County caused by waste production, handling and disposal.

The policies have the following more specific objectives:

- To reduce the amount of waste produced in the County;
- To make the best use of waste produced, to increase re-use and recovery;
- To achieve a more sustainable waste management process by using the BPEO[8] methodology and taking into account the principles of the waste hierarchy, the proximity principle and regional self-sufficiency;
- To provide for new waste management enterprises to be established;
- To ensure that waste management is considered in all development proposals;
- To protect the environment from the adverse impact of waste development and where possible improve environmental quality;
- To make the most efficient use of land by re-using brownfield, industrial land and existing waste management sites in preference to greenfield sites;

[8] BPEO is no longer a requirement of planning policy as set out in PPS10.

- To minimise the environmental impacts of transporting waste;
- To provide clear guidance on the locational criteria that must be met to enable planning permission to be granted and to set out policies on planning conditions, obligations, monitoring and enforcement.

Table 3.4 summarises the relevant UDP policies.

Table 3.4 Relevant UDP Policies

Policy	Summary
Part I Policies	
S1 Sustainable Development (supported by guiding principles P1-P12)	Policy promotes development and land use change which contributes to sustainable development. It sets out how sustainable development will be promoted including minimising waste and pollution and adopting sustainable treatment systems.
S10 Waste	The sustainable and efficient management of waste will be sought by: 1. Basing waste management decisions on BPEO Assessment results, the principles of the waste hierarchy, the proximity principle, and regional local self-sufficiency. The BPEO for the three controlled waste streams are: • MSW: minimum 33% recycling/composting and maximum 22% landfilling with any balance required being managed through a form of thermal treatment; • C&I: reducing landfill to 23%, increasing recycling to 73% and 4% dealt with by existing thermal treatment; • C&D: reducing landfill to 24% and recycling increased to 76%. An element of flexibility will be retained when considering applications for waste management facilities. Processes or technologies put forward as an alternative to those which comprise BPEO for a particular waste stream will have to clearly demonstrate how the impact of that process or technology will be equal or not significantly greater than those which have been modelled for the agreed BPEO; 2. Ensuring that the impact of proposals for the collection, storage handling, treatment, disposal and transportation of waste can be mitigated to an acceptable extent, with particular attention paid to the impact on human health and the environment; 3. Ensuring that sites can be reclaimed to a state that meets the required standard for their proposed after use; 4. Making use of sustainable technologies wherever possible; and 5. Ensuring that all development proposals give due consideration to the waste they will generate, in accordance with the above principles.

Table 3.4 (continued) Relevant UDP Policies

Policy	Summary
Part II Policies	
W1 New waste management facilities	Sets out the criteria against which planning applications for the development of waste management facilities will be assessed and lists the primary and secondary planning constraints to be considered.
W2 Landfilling or landraising	Sets out the criteria against which proposals for new landfill or landraising facilities will be considered.
W3 Waste transportation and handling	Development that is likely to give rise to the transportation and handling of waste materials will only be permitted where appropriate measures to protect the public and the environment can be implemented and enforced.
W4 Temporary permissions	Temporary permission may be granted where doubts exist about the character or potential effects of waste treatment proposals subject to the location, nature and scale of the proposed development and provided that the proposal does not conflict with criteria set out in Policy W1, or that the proposals would achieve significant material planning benefits that outweigh material objections.
W5 Waste management licensing	Where a development is not covered by a WML[9] or is granted exemption from the process, conditions will be imposed on any planning permission granted in the interest of protecting amenity and matters of acknowledged interest.
W6 Development in the vicinity of waste management facilities	Large scale development proposals within 1 km of waste management facilities and all development proposals within 250 m will only be permitted where the proposal will not: • Unduly restrict or constrain the activities permitted at the waste management facility; or • Create an unacceptable adverse impact on people, transportation systems or the environment arising through proximity to the facility.
W7 Landfill gas utilisation	Installation of landfill gas utilisation plant will be permitted where it represents BPEO and there are no unacceptable adverse impacts.
W8 Waste disposal for land improvement	Sets out the criteria against which proposals to deposit waste for land improvements, landscaping, screening or engineering purposes will be considered.
W9 Reclamation, aftercare and afteruse	Planning permission for waste management facilities and other waste related development will only be granted where there are satisfactory proposals for reclamation to a state that meets the required standard for the proposed afteruse.
W10 Time limits for secondary activities	Planning permission for ancillary development on or adjacent to a landfill site will be limited in duration to the operational life of that landfill site.
W11 Development – waste implications	Proposals which could generate significant volumes of waste will be required to submit a Waste Audit and the policy sets out the details required. Furthermore, the types of development to which the policy applies are detailed.

[9] WML - Waste Management License; these have now being replaced by Environmental Permits as a result of the Environmental Permitting (England and Wales) Regulations 2007 which came into effect in April 2008.

3.6.2 Emerging Local Development Framework

As a result of the Planning and Compulsory Purchase Act 2004, Herefordshire's adopted UDP will be replaced by the new style development plan, a Local Development Framework (LDF). The LDF will guide the use of land and new development throughout the county to 2026 and will be used to determine planning applications. The LDF will be closely linked to Herefordshire Partnership's Community Strategy.

The LDF will consist of a number of development plan documents, which together with the Regional Spatial Strategy will form the new development plan for the county. Alongside the Statement of Community Involvement, the proposals maps, and the Hereford Area Action Plan, the other development plan document is the Core Strategy. This is the key strategic planning document which defines the spatial vision for the county and sets out the objectives designed to achieve that vision supported by a spatial development strategy and development policies. All other LDF documents must conform to the Core Strategy.

The Core Strategy Issues Paper was published for consultation in September 2007. The subsequent Developing Options Paper was issued for public consultation in June 2008.

The Core Strategy will need to consider how to manage the waste produced within the county, particularly with the increased housing and employment growth as proposed through the Draft Revised RSS. Furthermore, it will need to consider whether additional facilities are required, and if so, where they should be located and what types of facility are needed. The options presented for managing the waste produced by the County include:

1. Identify locations where specific waste management facilities will be required, including:
    a. Close to urban centres;
    b. As part of new urban extensions;
    c. Within areas with good transport links;
    d. Existing/proposed employment sites.
2. Provide a set of generic criteria in a policy for new waste management facilities which would be used to judge planning applications against; or
3. Devise a policy whereby all new developments of a certain size will need to be accompanied by a new local waste facility built or contributed to.

3.6.3 Joint Herefordshire and Worcestershire Municipal Waste Management Strategy 2004-2034

Adopted in November 2004, the Joint Herefordshire and Worcestershire Municipal Waste Management Strategy *Managing Waste for a Brighter Future* sets out the proposals for addressing the key issues surrounding waste management in Herefordshire and Worcestershire for the period from 2004 to 2034. It replaces and supersedes the Waste Management Plan for Hereford and Worcester (1995) as well as all statutory recycling plans produced by the Waste Collection Authorities. It specifically deals with municipal waste, i.e. household waste and any

other wastes collected by the Waste Collection Authorities[10] (or their agents) such as municipal parks and gardens, commercial or industrial waste, and waste resulting from the clearance of fly-tipping.

Through consultation, the Strategy has identified what is considered the best new waste management system option to deal with municipal waste growth in Herefordshire and Worcestershire. Based on an adapted national waste hierarchy, a practical vision has been agreed for the implementation of the Strategy, namely to: reduce waste and restrict growth; re-use waste; retain waste; recycle waste; recovery of value from residual waste; and final disposal. The vision is to be implemented through alternative weekly household collections (recyclable collection one week, followed by residual waste collection the week after). The agreed principles which underpin the vision are:

1. Commitment to the waste hierarchy of which waste minimisation is top;
2. Affordability, mix of method and external funding;
3. Partnership;
4. Promote sustainable waste management;
5. Active management in a changing world;
6. Review.

Table 3.6 summaries the key policies of the Strategy, which in turn are supported by a number of targets as set out in Table 3.5 below.

Table 3.5 Joint Municipal Waste Management Strategy Targets

	Target
1	To achieve Government targets for recycling and composting of domestic waste by the end of 2003/4, 2005/6, 2010/11, and 2015/16 as a minimum.
2	To reduce the kg/head collected/disposed to 2001/2 levels by March 2006 and for the life of the Strategy.
3	By 31 March 2005, the Local Authorities will provide a household or kerbside recycling collection to the identified % of their properties - 59% for Herefordshire.
4	The Local Authorities within Herefordshire and Worcestershire will continue to promote and encourage participation in the household collection of recyclables to achieve 75% active participation by 2006.
5	A minimum of 50% of all waste deposited at household waste sites will be recycled/ composted by 2005/6 and 55% by 2010/11.

[10] Herefordshire Council is responsible for both the collection and disposal of waste, whereas in Worcestershire, the Borough and District Council as responsible for waste collection (i.e. the Waste Collection Authorities) and Worcestershire County Council is responsible for the disposal of waste (i.e. the Waste Disposal Authority).

Table 3.5 (continued) Joint Municipal Waste Management Strategy Targets

	Target
6	By 2015 or earlier if practicable, a minimum of 33% of waste to be recycled and/or composted, 45% of waste to be recovered, with a maximum of 22% to be landfilled as per the BPEO for Herefordshire and Worcestershire.
7	To achieve the requirements of the Household Waste Recycling Act 2003 by 31 December 2010.
8	The Authorities will work together to achieve the Landfill Directive targets for 2009/10, 2012/13 and 2019/20 and voluntary targets as set out in the Strategy.

Table 3.6 Joint Municipal Waste Management Strategy Policies

Policy	Summary
Policy 1	Local authorities in Herefordshire and Worcestershire to adopt the Waste Hierarchy as a template for their approach to waste management, i.e. reduce, re-use, retain, recycle and compost, recovery, landfill with energy recovery, and finally safe disposal to landfill.
Policy 2	Aim to have reduced the kg/head of waste collected and disposed of back to 2001/2 levels and endeavour to maintain these for the life of the Strategy.
Policy 3	Local authorities to ensure that waste management in Herefordshire and Worcestershire offers Best Value to local people.
Policy 4	Waste management methods to support the BPEO which is based on a minimum 33% recycling and a maximum 22% landfilling, with any balance required being managed through a form of thermal treatment. Emerging technologies which support the BPEO will be considered to enable a flexible approach to the waste treatment methods which will be adopted.
Policy 5	Local authorities to adopt a comprehensive and cohesive approach to publicity, promotion, awareness raising, and enforcement.
Policy 6	Local authorities to aim to achieve the Statutory Performance Standards for recycling and composting for 2003/4 and 2005/6 and the national standard of 33% recycling and composting by 2015 as a minimum, and aim to exceed them if affordable.
Policy 7	In addition to national targets set out in Waste Strategy 2000, local authorities are committed to achieve the local targets contained in the Strategy.
Policy 8	Waste disposal authorities, in conjunction with their partners, to examine the role of household waste sites to make sure that they provide a quality service and enable maximum recycling/re-use wherever possible.
Policy 9	Waste collection authorities to continue to provide and enhance bring recycling site, where considered beneficial, to supplement kerbside collection schemes. The effect of household recycling collections on bring recycling site will be monitored to ensure that together they continue to provide a cost effective and practical way of recycling.
Policy 10	Local authorities to continue to develop and implement the most sustainable ways of facilitating the retention and processing of green and kitchen waste within the household and only collect and treat green and kitchen waste where household processing is impracticable.
Policy 11	Local authorities to continue to work together to ensure that the Strategy is implemented.

Table 3.6 (continued) Joint Municipal Waste Management Strategy Policies

Policy	Summary
Policy 12	Local authorities to consider the merits of a common approach across the counties in areas of waste policy that could potentially encourage waste reduction/ waste minimisation.
Policy 13	Wherever possible, partnerships with the voluntary and community sector will be developed to ensure that waste is re-used and recycled (e.g. re-use old furniture and household appliances).
Policy 14	Opportunities for more sustainable waste management to be sought in new developments wherever possible as part of the planning process - such as provision of home composters and recycling sites. Where necessary representations to Government to be made through the appropriate channels to seek amendments to legislation to support this and the other aims of the Strategy.
Policy 15	Individual policies to be prepared for all specific waste streams such as abandoned vehicles.
Policy 16	PPG 10 and 11 set out guidance by which each region must prepare a Regional Waste Management Strategy (RWMS) to inform RPG. The West Midlands Regional Strategy has been produced and the Strategy must be compliant with the RWMS and RPG.
Policy 17	Local authorities to seek to adopt and implement a green procurement and waste management policy within four years of the date the Strategy is published.
Policy 18	Local authorities to aim to have a consistent approach in developing and monitoring performance through best value and local performance indicators.

First Review of the Joint Municipal Waste Management Strategy

The Strategy is currently under review and a revised Strategy, *The Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire - First Review*, was published for consultation in February 2009. The consultation period runs through to 15 May 2009. Due regard will need to be given to the emerging Strategy as the LDF documents, and in particular the Core Strategy, are being developed.

The review is necessary to be able to take account of the Government's revised National Waste Strategy, which as previously described, aims to break the link between economic growth and increasing waste production. It places greater emphasis on the contribution made by waste collection and treatment to climate change and highlights the need to further increase recycling and recover value from waste in other ways, for example through energy recovery. Most importantly, the national strategy sets challenging targets to which all local councils must respond, including limits to the tonnage of some waste that can be landfilled. These Landfill Allowances decrease every year and there is therefore an urgent need to provide Herefordshire and Worcestershire with a treatment process to avoid the steep financial penalties attached to the excess landfilling of waste.

The key elements of the revised strategy are:

- Reinforcing the commitment to waste minimisation (as set out in the waste hierarchy) with a range of actions to encourage everyone to produce less waste, for example by buying only what they need, choosing items with less packaging, and home composting. The Councils will be more active in lobbying of central government and in influencing waste producers and local communities;
- Meeting the challenge of climate change forms a new principle on which the Strategy will be based;

- There is an increasing need to see waste as a resource from which, ever great value will be recovered;
- Continuing commitment to recycling and working to achieve the increased national target of recycling 45% of waste collected by 2015 whilst seeking to provide solutions that are affordable and provide good value for money to local council tax payers;
- Providing additional services that some local residents would like to see, such as garden waste recycling collections but where the users of these services pay for them through a service charge;
- Actively avoid the landfilling of waste and seek alternatives that offer environmental or economic benefits, in particular providing a long-term solution for the treatment of waste that cannot be recycled that recovers value, for example through energy generation.

3.6.4 Herefordshire Local Transport Plan

Submitted to Government in 2006, the Herefordshire Local Transport Plan sets the agenda for transport planning and investment in the county to 2010/11. The Local Transport Plan is the main statement of policies and proposals for transport provision in the county. The objective is for a sustainable and integrated transport system which recognises the distinctive characteristics of Herefordshire's rural and urban areas and provides for the transport needs of residents, visitors and the business community.

3.6.5 Community Strategy

The Community Strategy for Herefordshire, *The Herefordshire Plan*, was first published in 1999 and its latest review, *A Sustainable Future for the County*, published in 2006. The Strategy sets out a vision, guiding principles and outcomes for the period to 2020.

The vision reads:

> "*Herefordshire will be a place where people, organisations and businesses working together within an outstanding natural environment will bring about sustainable prosperity and well being for all"*.

This vision is supported by five guiding principles to ensure that we work towards Herefordshire being a sustainable county by considering the impacts of all proposed actions on communities, the environment and the economy. The guiding principles are:

- Realise the potential of Herefordshire, its people and communities;
- Integrate sustainability into all our actions;
- Ensure an equal and inclusive society;
- Build on the achievements of partnership working and ensure continual improvement;
- Protect and improve Herefordshire's distinctive environment (including tackling climate change through waste minimisation).

The strategy does not include any specific recommendations for waste management but what is clear is that community participation is critical to ensure we can maximise waste recovery - recycling and composting - and reduce the amount of waste sent to landfill sites.

3.7 Conclusions

This section has set out the range of national, regional and local planning and waste management policies and strategies which influence the management of all types of waste in Herefordshire and the spatial requirements which will need to be taken into consideration in formulating appropriate policy and the identification of potential waste management sites. This in turn will be influenced by the outcome of an assessment of the future need for waste management facilities in Herefordshire, which is set out in Part C of this report.

Part B - Minerals Planning Assessment

4. Introduction

4.1 Background

Part B of this interim report sets out the findings of the work undertaken by Entec to establish the necessary baseline information required to produce a robust assessment of future mineral requirements for the administrative area covered by Herefordshire Council. Specifically, this part of the interim report sets out:

- The collation and presentation of data on current minerals extraction;
- The evaluation of current minerals permissions and reserves in the context of remaining permitting reserves, productive capacity and life of minerals permissions;
- An analysis of future minerals requirements.

This baseline report has been solely concerned with pulling together the most up to date **existing** information that is in the public domain. However, where this data is inadequate, it has, where possible, been supplemented by additional data.

4.2 Baseline Year

The chosen baseline year for this work is 2004/05. For most types of minerals, data for the baseline year has been available. However, for some mineral types (e.g. aggregates), more up to date information has been available and is included in this report where appropriate.

4.3 Data Sources

As noted in Section 3.1, this report has been concerned with pulling together available data sources - no new survey work has been conducted. Whilst the specific origins of the data referred to in this report are referenced throughout, information has generally been sourced from the following bodies:

- Herefordshire Council Planning Department;
- Department for Communities and Local Government (CLG) (formerly Office of the Deputy Prime Minister);
- Department for Business Enterprise and Regulatory Reform (BERR) (formerly the Department for Trade and Industry);
- Department for Environment, Food and Rural Affairs (DEFRA);
- West Midlands Regional Aggregates Working Party (WMRAWP);
- West Midlands Regional Assembly (WMRA);

- British Geological Survey (BGS);
- The Office for National Statistics (ONS).

5. Existing Minerals Extraction in Herefordshire

5.1 Introduction

5.1.1 Geology

Herefordshire's predominant underlying geology consists of Devonian Old Red Sandstone comprising mudstones and sandstone, although there are some older late Pre-Cambrian and Cambrian outcrops. Consisting of small outcrops of mudstones, sandstones and volcanic rocks, these older rocks occur close to the Welsh border in the northwest of the county around Brampton Bryan. Silurian mudstones and siltstones also outcrop in this area and form the steep-sided, shallow domed hills of the Clun Forest area.

Silurian limestone and mudstones also outcrop in the Woolhope area, forming the centre of a dome-like structure surrounded by the younger Old Red Sandstone rocks. In the far east of the county, similar aged rocks also occur on the western flanks of the prominent Malvern Hills which demarcate the border with neighbouring Worcestershire.

Throughout Herefordshire, superficial deposits comprise Quaternary sediments in the form of glacial tills, sands and gravels, which have shaped the county's existing landscape.

5.1.2 Minerals Extraction

Known mineral resources in Herefordshire are relatively limited in range, primarily consisting of aggregates (materials used in construction). Known commercially exploitable minerals include sand, gravel and crushed rock and comprise:

- Silurian limestone, on the western side of the Malvern Hills and Ledbury, the Woolhope dome and in the northwest of the county in the Presteigne/Aymestrey areas;
- Carboniferous limestone, southwest of Ross-on-Wye in the northern flanks of the Forest of Dean;
- Igneous and metamorphic rocks, the Malvern Hills;
- Sand and gravel, in the river valleys of the Wye, Lugg, and Arrow as river terrace deposits, and in glacial deposits to the north and west of Hereford.

Detailed geological surveys cover less than 50% of the County's land area and the information gaps are not expected to be filled within the LDF plan period unless commercial operators deem it worthwhile[11].

[11] Herefordshire Unitary Development Plan (March 2007).

Other minerals exist in Herefordshire but it is considered that their large-scale extraction would presently be economically unviable. Given the dispersed nature of workable clay deposits and the preference of the industry for large-scale working, further clay extraction is expected to be limited. 'Dimension', or building, stone (for uses such as roofing tiles) is abundant and in demand for building restoration, but is generally worked in small quantities. Energy minerals (oil, gas, and coal) also exist in the county. Limited oil exploration licences were issued in the 1990s but the explorations failed to identify commercially workable deposits. Coal deposits in the Forest of Dean fringe (Howle Hill) have been worked on a small-scale in the past, but at present there is no known interest in the further extraction of coal from this area.

Table 5.1 sets out a list of current aggregate sites within Herefordshire, whilst Table 5.2 lists current other non-aggregate minerals sites in the county. The distribution of those sites listed in the tables below is illustrated in Figure 5.1.

Table 5.1 List of Current Aggregate Sites (2007)

Site	Mineral	Use	Active/Inactive
Leinthall Earls Quarry	Crushed Rock (limestone	Aggregate	Active
Nash Scar Quarry	Crushed Rock	Aggregate	Inactive
Smiths Quarry, Perton	Crushed Rock (limestone)	Aggregate	Active
Lugg Bridge	Sand and Gravel	Aggregate	Inactive
Shobdon	Sand and Gravel	Aggregate	Inactive
St Donats Quarry	Sand and Gravel	Aggregate	Not yet started
Upper Lyde Gravel Pit	Sand and Gravel	Aggregate	Not yet started
Wellington/Morton-on-Lugg	Sand and Gravel	Aggregate	Active

Source: Directory of Mines and Quarries 2008; WMRAWP Annual Report 2006 (2009).

Table 5.2 List of Current Other Minerals Sites (2007)

Site	Mineral	Use	Status
Birches Farm (Sunnybank Farm)	Sandstone	Building stone, roof tiles	Permission expired
Brakes Farm, Downton	Sandstone	Building stone, roof tiles	Active
Callow, Buckholt	Sandstone	Building stone, some aggregate	Intermittent
Caradoc Quarry	Sandstone	Building stone	Intermittent
Coed Major, Craswall	Sandstone	Building stone, roof tiles	Intermittent
Harewood Park, Harewood End	Sandstone	Building stone	Active (permission expires in April 2009)
High House, Llanveynoe	Sandstone	Building stone, roof tiles	Inactive

Table 5.2 (continued) List of Current Other Minerals Sites (2007)

Site	Mineral	Use	Status
Hunters Post	Sandstone	Building stone	Closed
Llandraw Farm, Craswall	Sandstone	Building stone, roof tiles	Intermittent
Pennsylvani Quarry	Sandstone	Building stone, roof tiles	Intermittent
Tybubach, Craswall	Sandstone	Building stone, roof tiles	Intermittent
Westonhill Wood, Bredwardine	Sandstone	Building stone	Intermittent

Source: Directory of Mines and Quarries 2008; Herefordshire Council Development Control.

5.2 Aggregates

There are many technical specifications and standards used for aggregates but for the purposes of this report, the British Geological Society (BGS) provides an adequate definition of aggregates, namely as being *"hard, granular materials which are suitable for use either on their own or with the additional of cement, lime or a bituminous binder in construction"*. The BGS defines primary aggregates as those *"produced from naturally-occurring mineral deposits, extracted specifically for use as aggregate and used for the first time"*. Aggregates generally come in the following forms: sand and gravel, distinguishing between soft sand (also known as building sand) and sharp sand and gravel; crushed rock; and secondary/recycled aggregates.

Sand and gravel are naturally occurring granular deposits that are found either on land or on the seabed. They are mostly loose, shallow deposits that have been spread over outcrops of solid rock be the action of ice, water or wind. They are usually found in existing or historic river valleys, however, they may also occur in older, consolidated bedrock.

Crushed rock comprises a number of geological rock sources including: sedimentary rocks created by the settlement of sediments (such as gritstones) or organic matter (such as limestones); igneous rocks which are solidified molten rocks (such as basalt or granite); and metamorphic rocks created by heat or pressure (such as quartzite).

Secondary aggregates are defined as aggregates produced as a by-product of other mining or quarrying activities such as china clay waste, slate waste and colliery spoil, or as a by-product of other industrial processes, e.g. blast furnace slag, incinerator ash, or the ash from coal-fired power stations. Under the European Standards, mineral wastes are included in the definition of 'natural aggregates', whereas the aggregates derived from industrial processes are defined as 'manufactured aggregates'. Recycled aggregates are materials produced by the recycling of construction and demolition waste. They can be crushed concrete, bricks or glass, asphalt planings (i.e. the surface layers of roads removed during roadworks) or spent rail ballast. Processing includes crushing and screening, as with primary aggregates, but also the removal of metal, plastic or wood waste. In some locations top soil is produced as a by-product of this processing.

5.2.1 Sales and End Use

Production and sales data for aggregate minerals is collected on an annual basis, through an aggregate survey undertaken on behalf of the Regional Aggregates Working Party (RAWP). Annually published RAWP reports present data on production and reserves for Herefordshire back to the early 1990s. The most recent RAWP Annual Report, published in January 2009, presents data for 2006. The most recent data on aggregates sales in the West Midlands is presented in Table 5.3.

Table 5.3 Sales of Aggregate Minerals in West Midlands (2001-2006)

	2001	2002	2003	2004	2005	2006
Sand and Gravel						
Herefordshire	261 000	236 000	254 000	250 000	240 000	190 000
Worcestershire	836 000	833 000	890 000	850 000	750 000	700 000
Shropshire	857 000	841 000	822 000	840 000	830 000	770 000
Staffordshire	6 411 000	6 196 000	6 264 000	5 500 000	5 800 000	6 800 000
Warwickshire	1 031 000	854 000	827 000	840 000	900 000	980 000
West Midlands County	536 000	512 000	499 000	520 000	580 000	550 000
West Midlands Total	**9 932 000**	**9 472 000**	**9 556 000**	**8 800 000**	**9 100 000**	**9 990 000**
Crushed Rock						
Herefordshire	#	500 000	420 000	460 000	290 000	300 000
Worcestershire	#	©	©	©	©	©
Shropshire	2 490 000	2 510 000	2 460 000	2 470 000	2 500 000	2 600 000
Staffordshire*	1 330 000	1 190 000	1 050 000	870 000	*confidential*	*confidential*
Warwickshire*	570 000	450 000	700 000	660 000	1 400 000	1 400 000
West Midlands County	530 000	630 000	800 000	630 000	310 000	-
West Midlands Total	**5 490 000**	**5 280 000**	**5 430 000**	**5 090 000**	**4 500 000**	**4 300 000**

Source: WMRAWP Annual Report 2005 (2007); WMRAWP Annual Report 2006 (2009).
# denotes figure not shown for reasons of confidentiality.
© denotes figure combined within Herefordshire for reasons of confidentiality.
* Warwickshire and Staffordshire combined for confidentiality.

The figures show that in Herefordshire over the period between 2001 and 2006 sales for sand and gravel as well as crushed rock have fallen in line with the rest of the West Midlands region.

This fall in sales is reflected nationally as illustrated in the 2005 Aggregates Mineral (AM) survey for England and Wales. This survey is conducted every four years and provides in-depth and up to date information of regional and national sales, inter-regional flows, transportation,

consumption, and permitted reserved of primary aggregates. The 2005 AM Survey[12] was undertaken by the BGS on behalf of the Department for Communities and Local Government. Nationally sales of primary aggregates have dropped by 11% since 2001, from 192.9 million tonnes in 2001 to 172 million tonnes in 2005. Crushed rock sales fell from 112.9 million tonnes in 2001 to 100 million tonnes in 2005, whilst land won sand and gravel sales declined from 64.1 million tonnes in 2001 to 58.2 million tonnes in 2005.

Using the latest available information, as set out in the 2005 AM Survey, Tables 5.4 and 5.5 present a breakdown of the end use of the aggregates for sand and gravel in Herefordshire and crushed rock in the West Midlands respectively. Due to reasons of commercial confidentiality, the crushed rock data has been merged for all MPAs. This information is not normally presented in WMRAWP reports, hence data for 2006 is not available and why there are some disparities between overall total figures. In terms of sand and gravel in Herefordshire, the majority is used for the production of concrete aggregates (approximately 48%) and concreting (~30%), whilst the majority of crushed rock in the West Midlands is used as uncoated roadstone (~26%), in construction e.g. for fill (~23%), and for asphalt manufacturing (21.6%).

Table 5.4 Sand and Gravel by End Use in Herefordshire (2005)

End Use	Tonnes	% of Total
Sand for asphalt	0	0
Sand for use in mortar (building sand)	2 123	0.9
Sand for concreting or sharp sand	70 737	30.2
Gravel for asphalt	3 338	1.4
Gravel for concrete aggregate	112 387	47.9
Other screened and graded gravels	45 915	19.6
Other sand and gravel, e.g. for construction fill	479	0.2
Total for non-aggregate uses	0	0
TOTAL	**234 500**	**-**

Source: BGS/CLG AM Survey 2005; WMRAWP Annual Report 2005 (2007).

[12] BGS/CLG (May 2007) *Collation of Results of the 2005 Aggregates Mineral Survey for England and Wales*, London: HMSO.

Table 5.5 Crushed Rock by End Use in West Midlands (2005)

End Use	Tonnes	% of Total
Crushed rock for manufacturing asphalt on site, i.e. coated (excluding weight of binder)	963 248	21.3
Crushed rock fir manufacturing asphalt off site (including third party operations)	625 784	13.8
Uncoated roadstone (Type 1 and 2 materials)	1 154 158	25.5
Uncoated roadstone (surface dressing chippings)	49 954	1.1
For concrete aggregate including third party operations on or off site	357 661	7.9
Other screened and graded aggregates	278 256	6.2
Armourstone and gabion stone	6 748	0.2
Other constructional uses, including fill	1 024 273	22.6
Total for aggregate use	**4 460 082**	**98.6**
Building stone (excluding reconstituted stone)	2 358	0.05
Cement manufacture	60	negligible
All other industrial uses	2 449	0.05
Agricultural use in the land and horticulture	59 035	1.3
Total for non-aggregate uses	**63 902**	**1.4**
TOTAL	**4 523 984**	**-**

Source: BGS/CLG AM Survey 2005; WMRAWP Annual Report 2005 (2007).

5.2.2 Secondary and Recycled Aggregates

Recycled aggregates can be sources from variety of materials including those arising from construction and demolition (concrete, bricks, and tiles) highway maintenance (asphalt planings), excavation and utility operations. They can be purchased from demolition sites or from suitably equipped processing centres, although they are also often re-used on-site information about which is often not recorded and therefore unknown. Secondary aggregates are derived from a very wide range of materials that may be used as aggregates and many arisings of secondary materials have a strong regional character.

Information relating to secondary and recycled aggregates is limited in comparison to that collated for primary aggregates. Nevertheless, some information on construction and demolition waste has been collated by the WMRAWP, although results from previous surveys undertaken have been limited. In collating information for 2006, the RAWP encountered the same problems as with previous surveys, namely that some operators are unknown and others failed to respond to requests for details. It is considered that, although the data on the use and production of secondary aggregates is essential to the region, the RAWP survey may not be the most ideal vehicle to use to gather this important data. For 2006, Herefordshire recorded 4 196 tonnes of construction and demolition waste material produced from one site.

Given that construction, demolition and excavation waste is a significant waste stream within Herefordshire further information is set out in the Waste Need Assessment.

A list of known active recycling and secondary aggregate sites in Herefordshire is set out in Table 5.6.

Table 5.6 Active Recycling and Secondary Aggregate Sites in Herefordshire

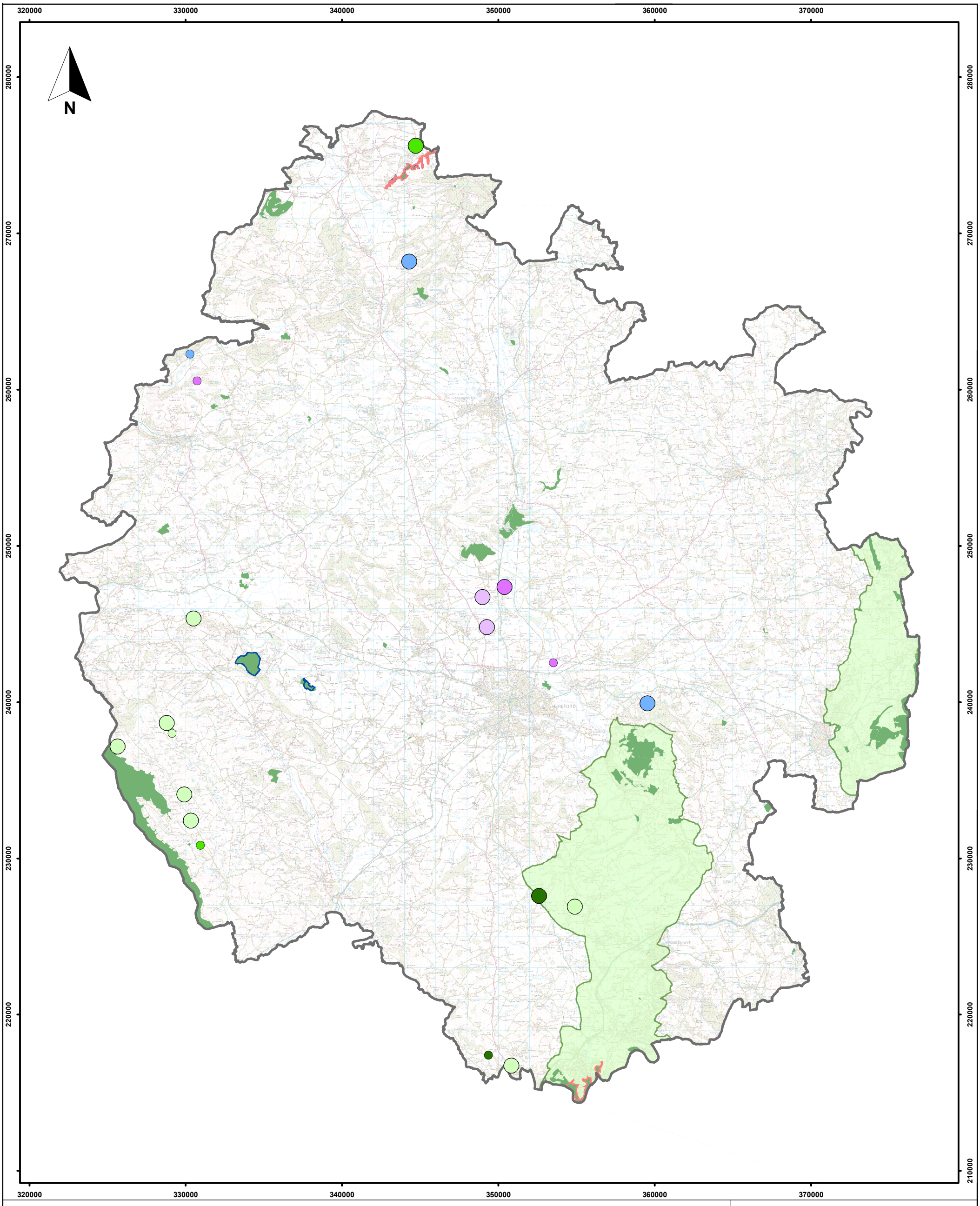
Active Recycling and Secondary Aggregate Sites	Operator
Wellington Quarry	Tarmac
Leinthall Earls Quarry	Johnstone Roadstone
Eastside Recycling Facility, Rotherwas	Wye Valley Group
Stanner, Kington	KTH Group
Thorn Business Park	Quickskip Hereford
Porthouse Industrial Estate, Bromyard	KTH Group

Source: WMRAWP Annual Report 2005 (2007); WMRAWP Annual Report 2006 (2009).

5.3 Other Minerals

In comparison to the availability of information on aggregates, information relating to other non-aggregate minerals is less extensive. In Herefordshire, non-aggregate minerals which have been worked include small quantities of clay, shale and limestone, whereas the main non-aggregate mineral currently being worked is sandstone. This is predominantly used as building stone or for the manufacture of roof tiles, whilst some small quantities are used for aggregate.

In contrast to aggregate operations, the extraction of building stone is primarily a small-scale operation, with production intermittent and generally dependent on need and market demand. As such, although potential resources of building stone may be extensive, there are no details on permitted reserves, sales and landbanks. As set out in Table 5.2 there are currently 12 known sandstone sites in Herefordshire, a number of which are no longer active or their planning permission is due to expire. Nevertheless, appropriate provision will need to be made through the Local Development Framework to ensure the continued working of sandstone in the county to meet the demand for building stone.



Key:

- Herefordshire Boundary
- Area of Oustanding Natural Beauty (AONB)
- Site of Special Scientific Interest (SSSI)
- National Nature Reserve (NNR)
- Special Area of Conservation (SAC)

Current Aggregate and Other Minerals Sites

Sandstone	Sand and Gravel	Crushed Rock
Active site	Active site	Active site
Inactive site	Inactive site	Inactive site
Active site (permission expires April 2009)	Not yet started	
Closed site		
Intermittent site		
Permission expired		

Kilometers
0 1.25 2.5 5 7.5 10
Scale: 1: 225 000 @ A3

G:\MODEL\PROJECTS\ea-210\23024 Herefordshire Minerals & Waste Assessment\ArcGIS\Figures

Herefordshire Minerals and Waste Planning Assessment

Figure 5.1
Minerals Sites in Herefordshire

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6. Future Mineral Requirements

6.1 Aggregates

6.1.1 Sub-Regional Apportionment

The apportionment of aggregates production guidelines is a process involving national, regional and local government. National government set guideline production figures for each of the regions in England on their 2003 note *'The National and Regional Guidelines for Aggregate Provision'*. This note advised that the West Midlands should make provision for 162 million tonnes of land won-sand and gravel production and 93 million tonnes of crushed rock production between 2001 and 2016. These figures are reviewed on an annual basis and have remained the same to date. These regional figures are extended to 2021, and then split down to a sub-regional level, by the RSS for the West Midlands taking into account guidance from the West Midlands RAWP. **The sub-regional apportionment** of these figures **identified that Herefordshire should make provision for 283 000 tonnes of sand and gravel and 424 000 tonnes of crushed rock per year between 2001 and 2021**[13]. It is then the responsibility of the Minerals Planning Authorities at a local level to attempt to meet these guideline figures by ensuring that there are sufficient reserves in permitted aggregate mineral sites. If there are not sufficient permitted reserves, additional land containing resources to meet the shortfall can be allocated. These allocated sites still require planning permission to be obtained before development can commence.

In May 2008, the Government published *'Draft Revised National and Regional Guidelines for Aggregates Provision in* England'. When adopted, the guidelines will set the amount of land won aggregates that should be provided for between 2005 and 2020. The West Midlands region needs to produce 370 million tonnes of aggregate during the period 2005-2020. The guidelines assume that 100 million tonnes will be provided from alternative aggregates sources such as demolition waste and 23 million tonnes will be imported, in particular from Wales. Thus, 247 million tonnes of primary aggregate will be needed from the West Midlands region comprising 165 million tonnes of land-won sand and gravel and 82 million tonnes of crushed rock. The 2005-2020 guidelines have yet to be finalised and formally adopted. As such, the 2001-2016 Guidelines for Aggregate Provision in England remain extant and should continue to be used by the relevant authorities in the plan preparation process.

6.1.2 Existing Permitted Reserves

Table 6.1 sets out the permitted reserves for sand and gravel and crushed rock in Herefordshire for the period from 2001 to 2005 based on the information published in the WMRAWP Annual Reports. Although the latest available RAWP Annual Report is for 2006, there are known

[13] The West Midlands figure has been apportioned between the counties by multiplying this figure by each county's (three year) average proportional production and dividing the result by 16 years to produce an annual sub-regional apportionment figure.

errors in the permitted reserves data presented for Herefordshire in this report and as such only figures up to 2005 have been included in the table below.

Table 6.1 Permitted Reserves of Aggregates in Herefordshire (million tonnes)

	2001	2002	2003	2004	2005
Sand and Gravel	4.854	4.671	5.95	5.7	5.1
Crushed Rock	11.81	17.28	16.96	16.5	15.9

Source: WMRAWP Annual Report 2005 (2007); WMRAWP Annual Report 2006 (2009).

Since 2003, permitted reserves of sand and gravel in Herefordshire have continued a general fall in line with a similar national trend. The same is true for the permitted reserves of crushed rock. Since 2005, planning permission has been granted for an extension to the sand and gravel site at Wellington-Moreton which has released a further 1.46 million tonnes of reserves. As such, using information from the Council's Development Control team, known sand and gravel reserves to date (i.e. to end of 2008) total an estimated 6.9 million tonnes and those for crushed rock are an estimated 23 million tonnes.

There is the possibility that some of these permitted reserves may not be worked for a variety of reasons - potentially some 2 million tonnes of sand and gravel and approximately 5 million tonnes of crushed rock. Nevertheless, this is offset against the acknowledged downturn in aggregates production as a result of the current economic recession which is likely to mean that permitted reserves will last longer than first anticipated. Nationally during 2008, sales volumes of crushed rock sales fell by 12% and sand and gravel sales by 15%[14]. Both the aggregates and concrete markets turned down very significantly in 2008, a trend which was accelerated during the latter part of the year as the slowdown in construction activity spread well beyond the documented housing collapse.

Using the latest available information on permitted reserves and aggregates sales (i.e. 2005), a landbank can be calculated to ascertain how long these reserves will last. A landbank is a stock of permitted reserves and can be calculated using either the average sales over a period of three years or using the sub-regional apportionment figure.

[14] Mineral Products Association (formerly the Quarry Products Association) Press Release No: 01/09 (9 February 2009).

Table 6.2 Aggregate Landbanks: Herefordshire 2005 (million tonnes)

	Permitted Reserves at 31/12/2005	Average Annual Sales 2003-2005	Landbank based on average sales as at 31/12/2005 (years)	2001-2016 Sub-Regional Apportionment (Mtpa)	Landbank based on Apportionment (years)
Sand and Gravel	5.1	0.248	20.6	0.283	18.0
Crushed Rock	15.9	0.39	40.8	0.424	37.5

Using the sub-regional apportionment figure, Table 6.2 shows that for the base year of the plan, in 2005 the sand and gravel landbank in Herefordshire was at least 18 years, whilst that for crushed rock was at least 37.5 years.

National policy guidance in MPS1 states that a landbank of permitted reserves of at least 7 years should be maintained for sand and gravel and at least 10 years for crushed rock. Thus, the aggregate landbanks in both 2005 and 2006 exceed national landbank policy guidance. Policy M1 of the RSS (both extant and RSS Phase 2) states that, in making appropriate provision for the supply of significant minerals in the West Midlands region, landbanks of permitted reserves of non-energy minerals will need to be maintained. Paragraph 8.60 states that in implementing Policy M1, *"development plans should ensure that an appropriate provision is made to meet the Region's future needs for a minimum of 10 years from adoption"*. The landbanks for sand and gravel and crushed rock in Herefordshire are in accordance with regional landbank policy guidance.

These landbanks could potentially change when the draft revised aggregate guidelines for England are adopted. Using the same three year average proportional production percentage as that used to calculate the 2003 sub-regional apportionment figures and based on the draft revised aggregate guidelines[15], the sub-regional apportionment for Herefordshire would equate to:

- 288 750 tonnes per annum for sand and gravel (i.e. a small increase compared to the extant sub-regional apportionment figure of 283 000 tonnes per annum);
- 374 125 tonnes per annum for crushed rock (i.e. a small decrease compared to the extant sub-regional apportionment figure of 424 000 tonnes per annum.

The comparison between the extant and draft revised sub-regional apportionment figures for Herefordshire as set out in Table 6.3.

[15] CLG (April 2008) *Draft Revised National and Regional Guidelines for Aggregates Provision in England: 2005-2020.*

Table 6.3 Herefordshire Sub-Regional Apportionments

2003 Sub-Regional Apportionment (tonnes per annum)		Draft Revised Sub-Regional Apportionment (2005-2020) (tonnes per annum)	
Sand and Gravel	**Crushed Rock**	**Sand and Gravel**	**Crushed Rock**
283 000	424 000	288 750	374 125

Using the draft revised sub-regional apportionment figures, the equivalent landbanks, based on the permitted reserves at the end of 2005, would be calculated as 17.6 years and 42.5 years, for sand and gravel and crushed rock respectively. The sand and gravel landbank would remain the same, whilst the crushed rock landbank would increase by 5 years.

It is considered therefore, that regardless of which sub-regional apportionment figures are used to calculate the remaining aggregates landbank in Herefordshire, they are to exceed national policy guidance as set out in MPS1 as well as that set out in the RSS.

6.1.3 Actual Aggregates Production

In order to provide a context for the projected provision for aggregates it is worth considering the 'actual' rate of supply over a longer period. Table 6.4 summarises production (sales) for both sand and gravel and crushed rock between 1999 and 2006. It is clear that for both sand and gravel and crushed rock there has been a slight general decrease in the production over the monitoring period but, with the exception of some notable years, the actual production of aggregates in Herefordshire has not met the forecasted provision rates set out in the successive sub-regional apportionment exercises. However, if the forecast growth in housing and employment development as set out in the Draft RSS is realised, then this is likely to require mineral resources to be supplied at a greater rate than current levels. Account will also need to be taken of any growth outside of Herefordshire, both within and outside the West Midlands region which may have an impact on the future demand for aggregates, i.e. to account for any cross boundary issues.

Table 6.4 Herefordshire Aggregates Production: 1999-2006

	1999*	2000*	2001*	2002	2003	2004	2005	2006
Sand and Gravel								
Production of sand & gravel (mtpa)	0.297	0.289	0.261	0.236	0.254	0.25	0.24	0.19
Annual Sub-Regional Apportionment (mtpa)	1.524	1.524	1.524	0.283	0.283	0.283	0.283	0.283
Difference (mtpa)	1.227	1.235	1.263	0.047	0.029	0.033	0.043	0.093
Crushed Rock								
Production of crushed rock (mtpa	#	#	#	0.5	0.42	0.46	0.29	0.3
Annual Sub-Regional Apportionment (mtpa)	0.73	0.73	0.73	0.424	0.424	0.424	0.424	0.424
Difference (mtpa)	-	-	-	-0.076	0.004	-0.036	0.134	0.124

Source: WMRAWP Annual Report 2005 (2007); WMRAWP Annual Report 2006 (2009).
* Annual sub-regional apportionment for period to 2001 was combined for Hereford & Worcester.
# denotes figure not shown for reasons of confidentiality.

As previously set out in Table 6.2, aggregate landbanks based on the average sales of the last three years are higher than those calculated using the sub-regional apportionment figures. A further landbank comparison based on actual sales for 2005 is set out in Table 6.5.

Table 6.5 Aggregate Landbanks Comparison (million tonnes)

	Sand and Gravel	Crushed Rock
2005		
Permitted Reserves (as at 31/12/2005)	5.1	15.9
Average Sales 2003-2005	0.248	0.39
Landbank based on average sales (years)	20.6	40.8
Sub-regional apportionment	0.283	0.424
Landbanks based on apportionment (years)	18.0	37.5

Source: WMRAWP Annual Report 2005 (2007); WMRAWP Annual Report 2006 (2009).

6.1.4 Potential Surplus/Shortfall of Permitted Reserves

The existing UDP plan period runs to 2010, whilst the LDF will span a period of 15 years to 2026. It is important therefore to establish whether the current permitted reserves are sufficient to meet Herefordshire's needs for the whole of the plan period and potentially beyond, whilst

ensuring a steady and adequate supply of minerals in accordance with national and regional policy guidance.

The LDF will need to make a policy commitment to meeting the aggregate requirements defined through the sub-regional apportionment exercise. Given that the base date for this assessment is 2005 and in light of the known errors with the latest available 2006 data, the 2005 data has been used for the purposes of establishing how much primary aggregates the Council should endeavour to make provision for until the end of the plan period, i.e. 2026. Furthermore, although the draft revised sub-regional apportionment figures are yet to be adopted, they are nonetheless a clear indication of how Government guidance is expected to change. As such, the revised sub-regional apportionment figures for Herefordshire, as set out in Table 6.3, have been used to ascertain the levels of provision for future aggregates in the county.

Appropriate provision will need to be made throughout the 15 year plan period (2012 to 2026) in order to be able to maintain an appropriate landbank in accordance with national and regional guidance, i.e. appropriate provision for a minimum of 10 years from adoption. In addition, an assumption needs to be made in respect of aggregate consumption during the period leading up to the adoption of the LDF, i.e. 2006 to 2011, whilst accounting for any further known permitted aggregate reserves which have been released since 2005 as a result of recently granted planning permissions.

As such, determining what appropriate provision needs to be made can be split into two stages; namely:

- Stage 1: To make an assumption of aggregate consumption during the period 2006 to 2011, i.e. from the end of the base year for the assessment to the start of the plan period;
- Stage 2: To establish what provision should be made throughout the 15 year plan period from 2012 to 2026.

The results of these two stages then need to be compared against the known (permitted) reserves, taking account of any permitted reserves released as a result of recent planning permission(s), to establish whether there is either a potential shortfall or surplus. Each stage is described below and is illustrated schematically in Figures 6.1 and 6.2.

Stage 1: Aggregate Consumption 2006-2011

The latest available figures for aggregates sales are those published in the WMRAWP Annual Reports, the most recent of which set out figures for 2006. Due to known errors in the reserve data presented in that report, data presented in this report relates to 2005, which is also the base year for the assessment. Either way an assumption needs to be made of the amount of aggregates consumed in the period leading up to the start of the plan in order to ascertain whether permitted reserves will be sufficient to meet demand for aggregates throughout the plan period.

Using Draft Revised Sub-Regional Apportionment Figures

Using the draft revised sub-regional apportionment figures, the aggregate consumption during the period 2006 to 2011 can be calculated as:

- For sand and gravel: 6 years at 0.289 million tonnes per annum equates to 1.488 million tonnes;

- For crushed rock: 6 years at 0.374 million tonnes per annum equates to 2.244 million tonnes.

As previously set out in Table 6.1, the permitted reserves for sand and gravel and crushed rock at the end of 2005 were 5.1 million tonnes and 15.9 million tonnes respectively. Thus, based on the calculated aggregate consumption between 2006 and 2011 and using the Council's latest available permitted reserve information, at the start of the plan period, permitted reserves would be:

- For sand and gravel: 5.1 million tonnes minus 1.488 million tonnes of sand and grave; consumed between 2006 and 2011 = 3.612 million tonnes. Furthermore, it is known that a further 1.46 million tonnes of sand and gravel reserves have been released through the granting of planning permission for the extension to the Wellington-Moreton Quarry. Taking these additional permitted reserves into account, **estimated permitted sand and gravel reserves at the start of the plan period would be equivalent to 5.072 million tonnes** (i.e. (5.1 mt + 1.46 mt) - 1.488 mt);

- For crushed rock: 15.9 million tonnes minus 2.244 million tonnes of crushed rock consumed between 2006 and 2011 = **13.656 million tonnes of estimated permitted crushed rock reserves at the start of the plan period**.

Using Average Aggregate Sales Figures

We know that actual aggregate production has consistently been lower than the sub-regional apportionment figures, thus as a means of comparison using the average sales figures (as set out in Table 6.5), the aggregate consumption during the period 2006 to 2011 can be calculated as:

- For sand and gravel: 6 years at 0.248 million tonnes per annum equates to 1.362 million tonnes;

- For crushed rock: 6 Years at 0.39 million tonnes per annum equates to 2.34 million tonnes.

Using these figures, the equivalent estimated permitted reserves at the start of the plan period would be:

- For sand and gravel: 5.1 million tonnes minus 1.362 million tonnes of sand and grave; consumed between 2006 and 2011 = 3.738 million tonnes. Furthermore, it is known that a further 1.46 million tonnes of sand and gravel reserves have been released through the granting of planning permission for the extension to the Wellington-Moreton Quarry. Taking these additional permitted reserves into account, **estimated permitted sand and gravel reserves at the start of the plan period would be equivalent to 5.198 million tonnes** (i.e. (5.1 mt + 1.46 mt) - 1.362 mt);

- For crushed rock: 15.9 million tonnes minus 2.34 million tonnes of crushed rock consumed between 2006 and 2011 = **13.56 million tonnes of estimated permitted crushed rock reserves at the start of the plan period**.

From the above calculations, it can be concluded that at the start of the plan period there are more than sufficient permitted reserves of aggregates to meet the requirements set out in national and regional policy.

Stage 2: Plan Period 2012-2026

The LDF will cover a 15 year period.

Using Draft Revised Sub-Regional Apportionment Figures

Based on the draft revised sub-regional apportionment figures, estimated aggregate consumption throughout the life of the plan would equate to 4.335 million tonnes of sand and gravel (i.e. 15 x 0.289 million tonnes per annum) and 5.61 million tonnes of crushed rock (i.e. 15 x 0.374 million tonnes per annum). As calculated in Stage 1, permitted reserves at the start of the plan period are estimated to be 5.072 million tonnes of sand and gravel and 13.565 million tonnes of crushed rock. Thus, permitted reserves at the end of the plan period in 2026 can be calculated to be:

- **0.737 million tonnes of sand and gravel** (i.e. 5.072 million tonnes minus 4.335 million tonnes);
- **7.955 million tonnes of crushed rock** (i.e. 13.565 million tonnes minus 5.61 million tonnes).

Using Average Aggregates Sales Figures

Based on the average aggregates sales figures, estimated aggregate consumption throughout the life of the plan would equate to 3.72 million tonnes of sand and gravel (i.e. 15 x 0.248 million tonnes per annum) and 5.85 million tonnes of crushed rock (i.e. 15 x 0.39 million tonnes per annum). As calculated in Stage 1, permitted reserves at the start of the plan period are estimated to be 5.198 million tonnes of sand and gravel and 13.56 million tonnes of crushed rock. Thus, permitted reserves at the end of the plan period (i.e. 2026) can be calculated as:

- **1.46 million tonnes of sand and gravel** (i.e. 5.198 million tonnes minus 3.72 million tonnes);
- **7.71 million tonnes of crushed rock** (i.e. 13.56 million tonnes minus 5.85 million tonnes).

From the above two sets of calculations, it can be concluded that throughout the life of the plan existing permitted reserves are sufficient to meet the estimated consumption of aggregates (regardless whether using draft revised sub-regional apportionment figures or average sales figures), indeed there is likely to be a surplus of reserves. It is important therefore, that the LDF seeks to make appropriate provision for safeguarding existing sand and gravel and crushed rock reserves throughout the life of the plan.

6.1.5 Provision Beyond the Plan Period

In seeking to make provision for aggregates beyond the plan period, i.e. beyond 2026, permitted aggregate reserves ought to be sufficient to provide a 7 year landbank for sand and gravel and a 10 year landbank for crushed rock in accordance with national guidance as set out in MPS1. In terms of sand and gravel, as calculated above, the surplus in permitted reserves is likely to range from just over 0.7 million tonnes to just under 1.5 million tonnes. Regardless of whether using the draft revised sub-regional apportionment figure or the averages sales figure, it is considered unlikely that the remaining permitted sand and gravel reserves at the end of the plan period will be sufficient to provide a 7 year landbank. As such, a review of permitted reserves will need to be undertaken during the plan period to ascertain how much, and in particular when, additional

sand and gravel resources need to be identified in order to maintain and adequate and steady supply beyond the plan period. In contrast, the current surplus of permitted crushed rock reserves is likely to be sufficient to provide a landbank of at least 10 years beyond the plan period, and as such these reserves should be safeguarded.

6.1.6 Secondary and Recycled Aggregates

As set out in Section 5.2.2, information relating to secondary and recycled aggregates is very limited. Nevertheless, national and regional policy guidance places an increasing emphasis on the use of alternative sources of materials so as to reduce the reliance on land won primary mineral resources. This is reflected in the draft revised regional aggregates guidelines 2005-2020 which make the assumption that in the West Midlands alternative materials will contribute 100 million tonnes compared to 88 million tonnes as currently set out in the current 2001-2016 guidelines. As such, it is important that appropriate provision is made in the LDF to enable the production of secondary and recycled aggregates. Specifically, Policy M3 of the RSS states that development plans should identify sites or policy criteria to secure an appropriate provision of recycling plants in appropriate locations and to include policies to increase the contribution of alternative sources of material, including adopting methods of operations that will assist reuse and recycling in construction projects.

6.2 Other Minerals

As previously set out in Section 5.3, there is no detailed information available on permitted reserves or production rates for other minerals in Herefordshire, in particular building stone. Through liaison with known operators and the Council, it has been established that all the existing sandstone quarries in the county are largely small-scale operations extracting the mineral intermittently according to need and markets. Extraction rates vary but are generally in the regional of no more than 3 000 tonnes per year and are often less than 1 000 tonnes per year. Some quarries are known to serve specific local estates and/or markets and as such any permitted reserves are likely to last many years.

It is important therefore that the LDF seeks to make appropriate provision for safeguarding existing sandstone reserves throughout the life of the plan and beyond. Policy M4 of the Herefordshire UDP allows for the winning and working of building stone (or clay) provided that the need for the material is for the preservation of local distinctiveness, the proposed working is small-scale, and production is limited to non-aggregate materials. A similar policy approach should be provided for in the LDF.

6.3 Future Requirements

Factors which may influence future requirements for minerals in Herefordshire include:

- Projected housing growth as set out in the RSS;
- Committed infrastructure projects;
- Impacts on the construction industry as a result of the current economic downturn.

In addition, as resources become scarcer and technology improves for re-using aggregate and extracting useable material from poorer quality sources, there may be pressure to re-open old

mineral sites and allow for more secondary recycling. Although may or may not occur within the life of the LDF, appropriate provision should be made through the LDF to address such eventualities.

6.3.1 RSS Projected Housing Growth

Policy CF3 of the Draft RSS sets out that Herefordshire should seek to make provision for 16 600 dwellings, of which 8 300 should be focused in and around Hereford as an identified growth point. In 2008, the Government Office for the West Midlands (GOWM) commissioned an independent study to assess and identify the potential capacity for additional housing in the West Midlands. This study, undertaken by Nathanial Lichfield & Partners (NLP), will now form part of the evidence supplied to the Examination in Public into the Draft RSS, which commenced in April 2009. It is a source of evidence about the scope, impact and implications of delivering additional housing. The study concludes that it is possible to deliver higher levels of housing without undermining the urban renaissance strategy for the region. Specifically, it identifies that an additional 1 200 dwellings could be accommodated in Herefordshire, to be allocated in rural areas. Thus, Herefordshire should seek to make for provision for an additional 17 800 dwellings. This figure has been endorsed by the Council's Cabinet, subject to the outcome of the examination process.

The need to make provision for additional housing will have an impact on the demand for construction materials, in particular aggregates. This in turn is likely to have an impact on sub-regional apportionment figures in that they may need to be revised, thus impacting on existing landbanks.

6.3.2 Committed Infrastructure Projects

Through the wider work, previously on the UDP and, on the emerging LDF Core Strategy and its supporting evidence base, a number of key committed infrastructure projects have been identified within Herefordshire which are likely to have an impact on the demand construction materials, particularly aggregates and thus potentially on the life of existing permitted reserves. These are:

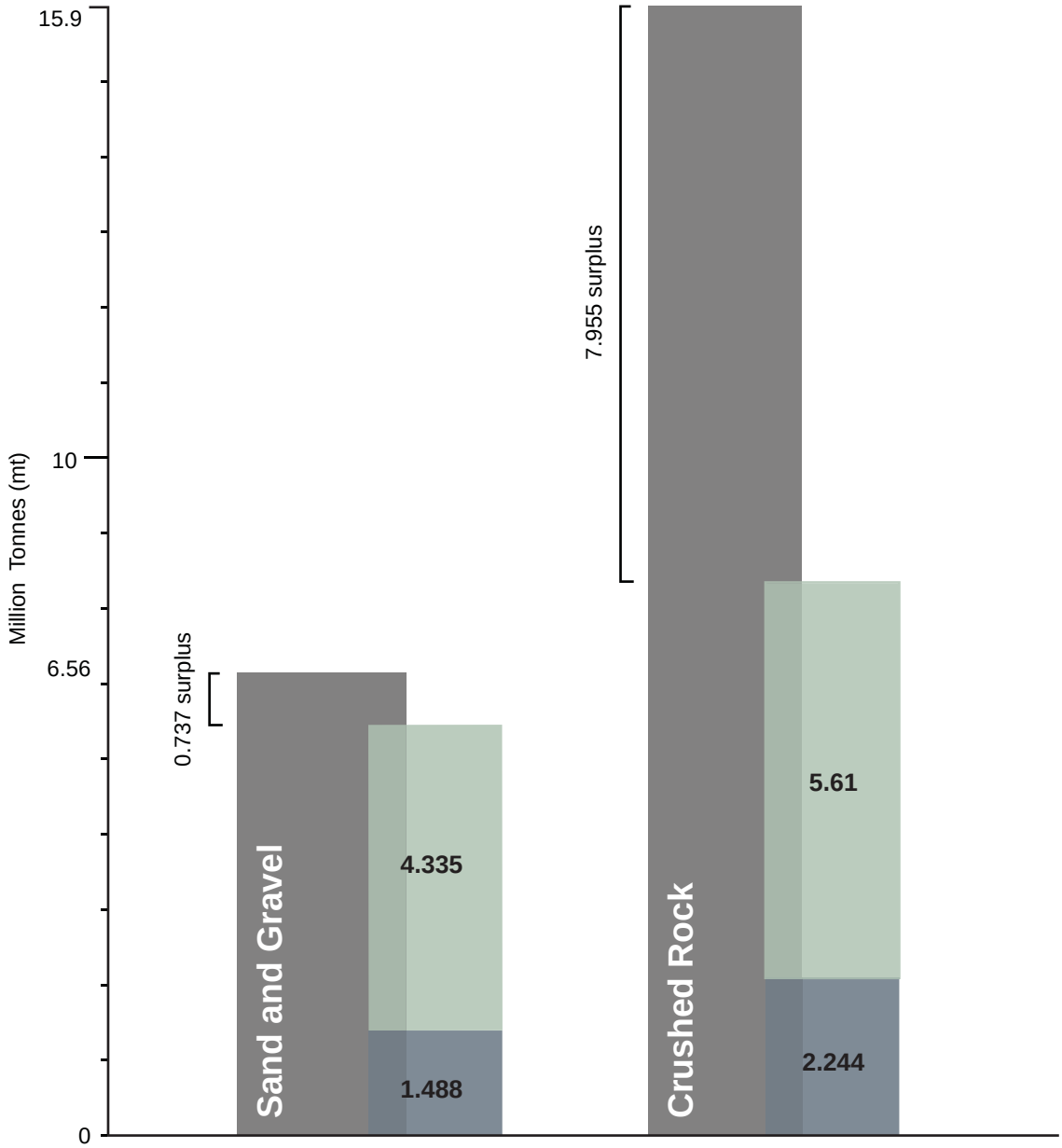
- The development of potential new industrial areas to boost employment opportunities in the county, specifically in and around Hereford as an identified Growth Point;
- The active consideration as set out elsewhere in the Core Strategy evidence base of the development of an outer distributor road around Hereford;
- Aspirations for the development of a southern bypass for Leominster to alleviate east-west traffic flows to enable any future potential growth of the town beyond 2011;
- The development of two park and ride sites to the north and south of Hereford;
- The development of the new cattle market;
- The Edgar Street Grid (ESG) major urban regeneration project in Hereford which will provide an opportunity to develop an under-utilised area of land, strengthening the role of Hereford as a sub-regional shopping centre, and ensure the city plays a full role in the wider rural economy in line with its identification as a Growth

Point. The project is being guided by the ESG Masterplan and Supplementary Planning Document and will include up to 1 000 new houses, approximately 20 000 m^3 retail floorspace, and new office floorspace.

Many of the above infrastructure projects coincide with areas of known minerals resources and fall within the identified mineral safeguarding areas in the UDP. As such, the LDF will need to ensure an appropriate balance is struck in safeguarding these resources and to prevent their sterilisation whilst not acting as a potential constraint to the development of these projects.

6.3.3 Economic Downturn

The need to make provision for additional housing as well as committed infrastructure projects will need to be offset against any impacts on the construction industry as a result the current economic downturn, in particular any potential impacts on the supply of aggregates to the house building sector.



Key

Permitted reserves (as at end 2005 and known additional premitted reserves)

2005-2011

2012-2026

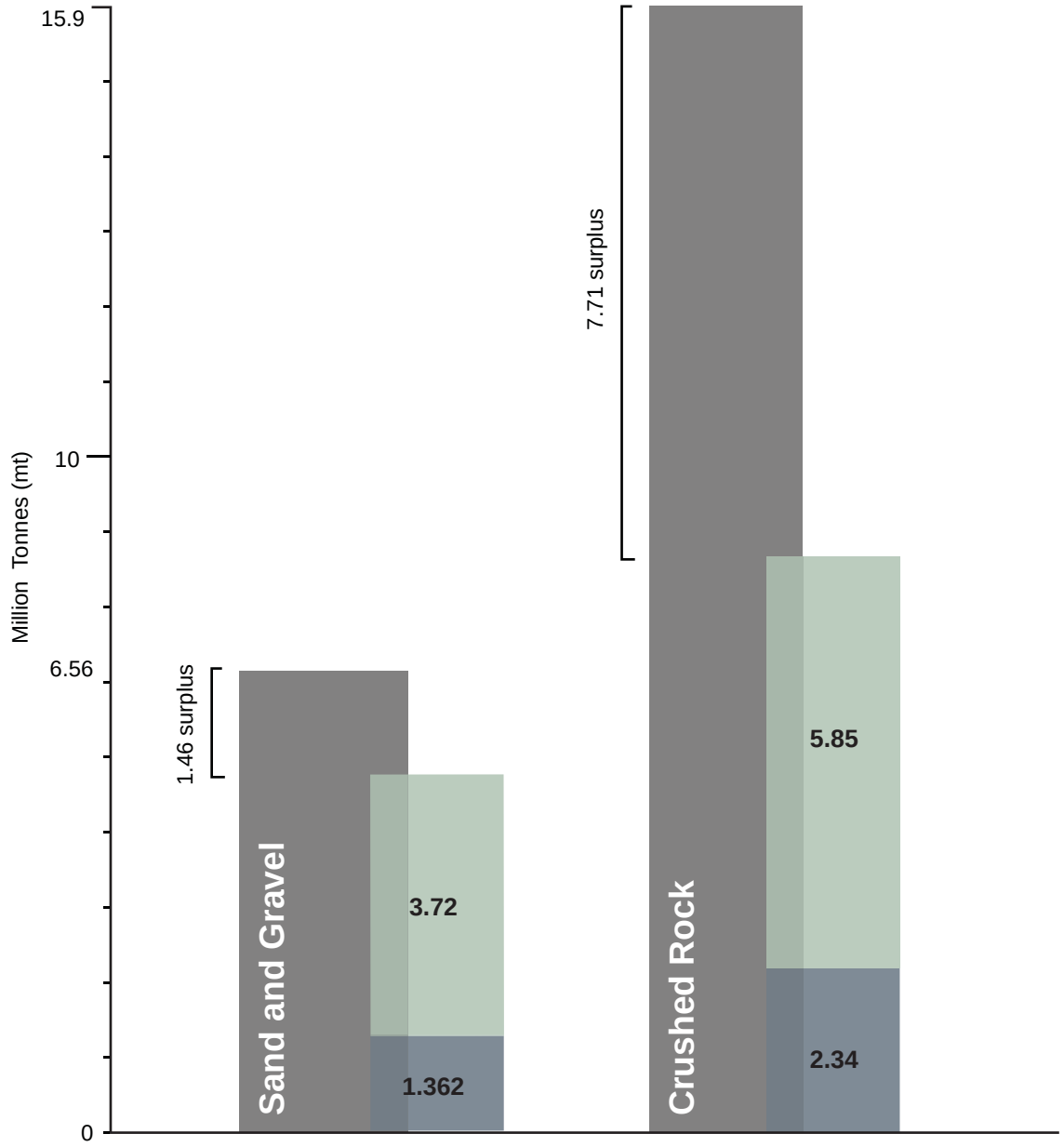
1.488 Estimated aggregate consumption (mt)

Herefordshire Minerals and Waste Planning Assessment

Figure 6.1
Potential Shortfall/Surplus in Permitted Aggregate Reserves Using Draft Refined Sub-Regional Apportionment Figures

April 2009
23024-S01.ai barkr

Entec



Key

Permitted reserves (as at end 2005 and known additional premitted reserves)

2005-2011

2012-2026

1.488 Estimated aggregate consumption (mt)

Herefordshire Minerals and Waste Planning Assessment

Figure 6.2
Potential Shortfall/Surplus in Permitted Aggregate Reserves Using Average Aggregate Sales Figures

April 2009
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Entec

7. Safeguarding Mineral Resources

7.1 Introduction

MPS1 requires that Local Development Documents define minerals safeguarding areas in order that proven resources are not needlessly sterilised by non-minerals development. Within the safeguarding areas, the prior extraction of minerals is encouraged where non-minerals development is necessary and this extraction is practicable. It also requires that existing, planned and potential rail heads, wharves, and associated storage, handling and processing facilities, which can be used for the bulk transport of minerals be safeguarded. These requirements are reiterated in Policy M1 of the extant and emerging RSS.

The Herefordshire UDP mineral policies do not identify specific preferred areas for mineral working as permitted reserves at that time were sufficient to provide landbanks in accordance with Government and regional policy to ensure an adequate and regular supply of minerals, in particular aggregates. Nevertheless, Policy M5 does seek to safeguard mineral reserves in the county.

In the LDF Core Strategy *Developing Options Paper*, published for consultation in June 2008, views were sought from stakeholders on the Council's options for addressing any additional mineral reserves requirement. The options included to:

- Identify the current and required landbank of permitted mineral reserves to meet the needs of Herefordshire up until 2026;
- Identify preferred areas of mineral extraction, to enable greater flexibility and safeguard potential mineral reserves; or
- Provide a set of generic criteria, which would be used to judge planning application for new minerals extraction.

In response to this consultation, there was strong support for all the options suggested.

7.2 Aggregates

Currently within Herefordshire there are 8 permitted aggregate workings - x5 extracting sand and gravel, of which only one is currently active and x3 extracting crushed rock, two of which are active. As set out in Section 6.1, existing permitted sand and gravel reserves are likely to be sufficient to meet anticipated demand both in the period leading up to that start of the plan period and throughout the LDF plan period itself. However, there is likely to be a shortfall in sand and gravel reserves beyond 2026. In contrast, existing permitted crushed rock reserves are likely to be sufficient to meet anticipated demand before and during, as well as well beyond the plan period.

It is unlikely that some of the permitted aggregate reserves will be worked in the short, or even the medium, term. This may be due to a variety of issues, not least the current economic climate but also due to other issues relating to access and proximity to the market.

Nevertheless, as proven reserves they should be safeguarded and reviewed on a regular basis, not least to prevent them from being sterilised by other developments and wherever practicable, the prior extraction of minerals should be encouraged. As such, it is recommended that all existing permitted aggregate sites are safeguarded to prevent their sterilisation through an appropriate policy in the emerging LDF.

MPS1 requires that LDDs define mineral safeguarding areas to prevent the sterilisation of proven resources by non-mineral developments and to enable their future working. Not all of Herefordshire has been geologically mapped and therefore the extent of mineral resources across the county remains an unknown, until such time as operators undertake further mineral exploration. As such, it is recommended to safeguard known mineral resources.

Existing sand and gravel extraction in Herefordshire is concentrated at the one active sand and gravel working in the county. Although there are a number of inactive sites with permitted reserves, it is considered unlikely that some of these reserves will be worked, if at all. The future extraction of sand and gravel in the county may therefore become reliant on a single site. Under the new planning system, LDFs need to be able to demonstrate sufficient flexibility and deliverability; indeed these are two of the test of soundness as set out in PPS12. As such, it is considered that emerging policy in the LDF will need to address the potential concentration of sand and gravel reserves at a single site.

7.3 Secondary and Recycled Aggregates

Appropriate provision should be made through the LDF to safeguard existing secondary and recycled aggregates facilities as well as for the future development of such facilities. In terms of location, a criteria based policy could be developed to enable the development of such facilities to be co-located at existing minerals workings, where appropriate.

7.4 Other Minerals

As previously set out in this report, in terms of other minerals worked in Herefordshire, this consists mainly of sandstone, which is predominantly used as a building stone. There are currently some 12 sites within the county where sandstone is extracted. Extraction is small-scale and intermittent, often serving local bespoke and niche markets. It is important therefore the existing and known/permitted reserves of building stone in the county are safeguarded to ensure a continued supply.

Policy M4 in the UDP sets out the criteria against which proposals for the extraction of non-aggregate building stone or clay will be assessed, namely:

- The need for the material for the preservation of local distinctiveness, particularly features of local historic or architectural interest, listed and vernacular buildings or archaeological sites, outweighs any material harm extraction might cause to matters of acknowledged importance;
- The proposed workings are small-scale;
- The proposal is limited to the production of non-aggregate materials.

It is recommended a similar criteria based policy be developed for the LDF.

Part C - Waste Planning Assessment

8. Introduction

8.1 Background

Part C of this interim report sets out the findings of the work undertaken by Entec to establish the necessary baseline information required to produce robust waste forecasts for the administrative area covered by Herefordshire Council. Specifically, this part of the interim report sets out:

- The collation and presentation of data on current waste arisings and disposals / management;
- The collation and presentation of data on existing waste management capacity;
- The presentation of waste forecasts using the existing situation as a baseline and applying a set of agreed / robust assumptions;
- An analysis of need by comparing existing and future arisings against existing and planned waste management capacity.

This baseline report has been solely concerned with pulling together the most up to date **existing** information that is in the public domain. However, where this data is inadequate, it has, where possible, been supplemented by additional data.

8.2 Baseline Year

2003/04 was the chosen baseline year for this work. For most waste categories, data for the baseline year has been available. However, for some categories (e.g. municipal waste), more up to date information has been available and is included in the report.

Furthermore, it should be noted that whilst some data is reported on a financial year basis, other data is reported according to calendar year. As such, data in this report has been presented in both ways.

8.3 Categorisation of Waste Data

Traditionally, waste data has been collected and presented according to its origins e.g. household/ municipal; industrial/ commercial etc. The Environment Agency, as the key body responsible for collecting and collating waste data, has consistently presented data in this format. For comparative purposes, it has therefore been important to present data in a way that reflects this national approach and the following Agency categories have been adopted:

- **Municipal Waste** i.e. household waste and any other wastes collected by Herefordshire Council (or their agents) as Waste Collection Authority such as municipal parks and gardens waste and commercial or industrial waste and waste resulting from the clearance of fly-tipped materials;

- **Commercial and industrial Waste** i.e. broadly, *commercial waste* is classified as waste arising from wholesalers, catering establishments, shops and offices (in both the public and private sectors) while *industrial waste* is waste arising from factories and industrial plants. Neither of these categories includes consideration of wastes from the construction, demolition and excavation sectors (see below);
- **Inert/Construction, Demolition and Excavation Waste** i.e. waste generated from site construction or refurbishment, demolition or excavation. Includes material such as rubble, metals, wood, glass etc;
- **Hazardous Waste** i.e. materials defined in European law as those wastes featuring on a list drawn up by the European Commission (the European Waste Catalogue (EWC,)[16] because they possess one or more of the hazardous properties[17] set out in the Hazardous Waste Directive[18]. The EWC and its constituent hazardous waste list were updated in 2002. The new list applied in full in England from 16 July 2005. From this date, the term special waste was dropped and wastes such as fluorescent tubes, televisions and computer monitors with cathode ray tubes, and refrigerators were required to be consigned as hazardous waste;
- **Agricultural Waste** i.e. waste from farming, forestry, horticulture and similar activities[19].

8.4 Data Sources

As noted in Section 4.1, this report has been concerned with pulling together available data sources - no new survey work has been conducted. Whilst the specific origins of the data referred to in this report are referenced throughout, information has generally been sourced from the following bodies:

- Herefordshire Council Planning Department;
- Herefordshire Council Waste Management;
- Environment Agency;
- Department for Communities and Local Government (CLG) (formerly Office of the Deputy Prime Minister);

[16] Commission Decision 2000/532/EC as amended.

[17] For a full list of hazardous properties and comprehensive guidance on the classification of hazardous waste see: http://www.environmentagency gov.uk/subjects/waste/1019330/1217981/1384307/?lang=_e

[18] Council Directive 91/689/EEC

[19] EPA 90 defines agricultural waste as waste from premises used for agriculture within the meaning of the Agriculture Act 1947. This includes 'horticulture, fruit growing, seed growing, dairy farming and livestock breeding and keeping, the use of land as grazing land, meadow land, osier land, market gardens and nursery grounds, and the use of land for woodlands where that use is ancillary to the farming of land for other agricultural purposes'.

- Department for Business Enterprise and Regulatory Reform (BERR) (formerly the Department of Trade and Industry);
- Department for Environment, Food and Rural Affairs (Defra);
- West Midlands Regional Waste Technical Advisory Body (WMRTAB);
- West Midlands Regional Assembly (WMRA); and
- The Office for National Statistics (ONS).

9. Current Levels of Waste Arisings in Herefordshire

9.1 Introduction

For key waste streams, the following section sets out details of the amount of waste arising and being managed in Herefordshire. Much of the available data relates to the quantities of material disposed/ managed in the study area (i.e. the administrative area of Herefordshire), however, some data has been available on an arisings basis. Where this has been the case, it has been highlighted.

9.2 Current Levels of Waste Arisings and Disposal / Management

9.2.1 Municipal Waste

Table 9.1 shows that the total amount of municipal waste arising in Herefordshire in 2007/08 stood at approximately (~) 96 039 tonnes. The data also illustrates that since 2002/03, the amount of municipal waste arising in the study area has decreased from around 100 000 tonnes to just over 96 000 tonnes in 2007/08. Over the period 2002/03 to 2007/08, this represented an overall decrease in the amount of municipal waste being generated in Herefordshire of ~4.3%. This is below the national picture, whereby an annual average growth rate of 0.5% was reported in the recently published Defra National Waste Strategy (published 2007). However, this overall decrease does mask an increase between 2003/04 and 2004/05. As Table 9.1 illustrates this increase was in the order of ~5.8%.

Table 9.1 Total Municipal Waste Arisings and Percentage Change 2002/03 to 2007/08 (tonnes)

	2002/03	2003/04	2004/05	2005/06*	2006/07*	2007/08*
Total	100 297	98 633	104 326	100 317	102 070	96 039
% Change on previous year	n/a	-1.7	+5.8	-3.8	+1.7	-5.9

* Source: Defra, otherwise Herefordshire Waste Management, 2008.
Calculation: (Annual difference / previous year total) x 100

Composition of Household Waste

Understanding the composition of household waste is crucial to understanding how it can be managed most effectively. In 2002, the Waste Resources Action Programme (WRAP) commissioned national research on the composition of household waste. Table 9.2 illustrates

the findings of this study, which concluded that garden waste, paper and kitchen waste form the greater part of the waste produced by households in England.

In December 2007, Herefordshire Council commissioned Resource Futures to undertake a compositional analysis of residual waste and recycling arising from waste collected from households within the county. This study focussed only on kerbside waste collections and did not include other municipal waste sources such as street cleansing, household waste sites, bring recycling, collected commercial wastes, and fly tipping. Table 9.3 illustrates the findings of this study, which found that kitchen waste, paper, and other wastes formed the greater part of the residual waste produced by the households sampled in Herefordshire.

Table 9.2 Composition of Household Waste in England

Material	% of Household Waste
Garden Waste	20
Paper and Board	18
Putrescibles / Kitchen Waste	17
General Household Sweepings	9
Glass	7
Furniture	5
Metal / White Goods	5
Dense Plastics	4
Soil	3
Plastic / Plastic Film	3
Textiles	3
Metal packaging	3
Disposable nappies	2

(Source: Dr Julian Parfitt, WRAP, 2002)

Table 9.3 Composition of Residual Household Waste in Herefordshire

Material	% of Residual Household Waste
Kitchen Waste	26*
Paper	24*
Other Wastes	11
Other Plastics	9
Garden Organics	8*
Cardboard	6*
Plastic Bottles	3
Sanitary	3
Recycled Glass	3
Total Metals	3
Textiles	3*
WEEE	1
Inert C&D	0.4
Wood	0.1*
Batteries	0.11

(Source: Resource Futures (December 2007) *Herefordshire Household Waste Analysis Comparative Seasonal Report*)
* 67% of residual household waste is considered to be biodegradable.

9.2.2 Commercial and Industrial Waste

The Environment Agency conducted a survey of around 20 000 businesses in 1998-1999 to collect data needed to support national and regional commercial and industrial waste production estimates. This survey indicated that just over 7.5 million tonnes of commercial and industrial waste was produced in the West Midlands, of which ~177 000 tonnes were produced in Herefordshire (i.e. 2.3% of the regional total).

This data was used to support the forecasts of future waste management requirements in the Regional Spatial Strategy for the West Midlands (adopted January 2008). Specifically, this document predicts that in 2007/08, Herefordshire would need to manage a total of 170 000 tonnes of commercial and industrial waste arisings.

In 2005 however, the Agency updated this original survey. Table 9.4 sets out the results of this survey, which indicated that in 2002/03, approximately 7.3 million tonnes of commercial and industrial waste was produced in the region. Furthermore, it shows that of the total arisings, 58% were industrial, with the remaining 42% derived from commercial sources.

Table 9.4 Commercial and Industrial Waste Produced in the West Midlands in 2002/03

Sector Group	Industrial Arisings ('000 tonnes)	Commercial Arisings ('000 tonnes)
Chemicals	546	195
Metallic	634	62
Non-Metallic	589	853
Discarded Equipment	13	26
Animal and Plant	365	243
Mixed	794	1 534
Common Sludges	72	14
Mineral Wastes	1 234	91
TOTAL	**4 246**	**3 019**

(Source: Environment Agency, 2005)

In this latest survey, there was, however, no breakdown of arisings at the Waste Planning Authority level. Moreover, apportioning subdivisions of regional estimates is difficult due to the lack of robust data.

Estimates can however, be made using the licensed waste deposit data provided by the Environment Agency for the period 2000/01. In this year, a total of 7 031 000 tonnes of commercial and industrial waste was deposited in the West Midlands. For the same period, 91 000 tonnes of commercial and industrial waste was deposited/treated by licensed waste management facilities in Herefordshire (i.e. 1.3% of the regional total). By apportioning the total regional arisings for 2002/03 of 7 265 000 tonnes by the proportion of commercial and industrial waste managed in Herefordshire i.e. 1.3%, it can be estimated that approximately 94 445 tonnes of commercial and industrial waste arises in the county.

Accepting that the data set out in the extant Regional Spatial Strategy is based upon the 1998/99 survey data, it should still be noted that an apportioned 2002/03 figure of around 95 000 tonnes is somewhat different to the 177 000 tonnes set out in the RSS. This is because the RSS assumes that Herefordshire produces 2.3% rather than 1.3% of the regional total of commercial and industrial waste. To ensure consistency with the approach taken in the RSS, whilst recognising that this may represent a 'worst case' scenario for Herefordshire, if this higher regional proportion is used to calculate an apportionment for Herefordshire, calculations would look as follows:

7 265 000 (2002/03 arisings) divided by 100 multiplied by 2.3 = 167 095.

On this basis, it is considered reasonable to assume that Herefordshire produces around **167 000 tonnes of commercial and industrial waste.**

In recognition that the 2002/03 survey data requires updating, in 2006, the North West Regional Technical Advisory Body (RTAB) commissioned Urban Mines to undertake a study to find out how much commercial and industrial waste was produced in that region. In 2009, the Chairs of all the RTABs in England agreed to use this work to calculate how much commercial and industrial waste is produced in each of the English regions. As such, ADAS was commissioned

to undertake the study, which was jointly funded by the RTABs (other than the North West) with a steering group led by the East of England RTAB.

This study indicates that in 2006/07 estimated commercial and industrial waste arisings in the West Midlands were approximately 6 290 000 tonnes, although no further breakdown of arisings by Waste Planning Authority has been given. As set out in Table 9.5, assuming that Herefordshire produces 2.3% of the regional total of commercial and industrial waste, it is considered reasonable to assume that in 2006/07 Herefordshire produced around 145 000 tonnes of commercial and industrial waste.

Table 9.5 Commercial and Industrial Waste Arisings in West Midlands and Herefordshire

Survey Year	West Midlands Arisings (tonnes)	Estimated Herefordshire Arisings (tonnes) (2.3%)
1998/99 (Environment Agency)	7 500 000	177 000
2002/03 (Environment Agency)	7 265 000	167 095
2006/07 (RTABs)	6 290 000	144 670

(Source: Environment Agency, 2005; East of England RTAB, 2009)

At this stage we have used the 2002/03 data as the baseline figure for this assessment, which is clearly higher than more recent data.

9.2.3 Construction, Demolition and Excavation Waste

Construction, demolition and excavation waste (CDEW) in the study area is a further significant waste stream. During the first half of 2002, the then Office of the Deputy Prime Minister (ODPM)[20] and the Welsh Assembly commissioned a survey of arisings and use of such waste. This work was an update of previous work carried out during 2000. The information generated was intended to feed into the revision of Minerals Planning Guidance Note 6 (in England) and the Aggregates Technical Advisory Note (in Wales), and into other policy documents which deal with recycled aggregate. Specifically, the project involved conducting sample surveys of the following:

- Operators of crushers and screens;
- Licensed landfills;
- Registered exempt sites.

The report *'Survey of Arisings and Use of Construction Demolition and Excavation Waste as Aggregate in England in 2003'* was published by ODPM in October 2004 and it sets out estimates of recycled aggregate and soil in England in 2003. The regional estimate for the West Midlands was 4.29 mt for recycled aggregate and 0.65 mt of recycled soil giving a total figure

[20] The Office of the Deputy Prime Minister is now the Department for Communities and Local Government (CLG).

of 4.94 mt. Apportioning this down to the Waste Planning Authority level is difficult due to a lack of robust data. However, the Regional Technical Advisory Body, in their *West Midlands Waste Treatment Facilities Capacity Study (Phase 2 – Future Requirements)*, sought to apportion construction and demolition (C&D) waste in each planning authority area over the period up to 2021 by using a 'development' index. This index was based upon anticipated rates of future housing, demolitions and the use of previously developed land and applied a proportional split of 4.32% of the region's CDEW waste coming from Herefordshire. On this basis, CDEW waste arisings in Herefordshire for 2003 equate to 4.32% of 4.94 mt, or 213 408 tonnes.

A follow-up survey *'Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005; Construction, Demolition and Excavation Waste'* undertaken by Capita Symonds Ltd for the CLG was published in February 2007. This report contains regional estimates of the arisings and use as aggregate of CDEW for 2005. Table 9.6 reproduces information set out in this published report and sets out estimates for Herefordshire and Worcestershire. The estimated sub-regional total for recycled aggregate is 0.78 mt and for recycled soil 0.07 mt out of total estimated arisings of CDEW of 1.34 mt.

Table 9.6 Estimates of CDEW in Herefordshire and Worcestershire in 2005 (tonnes)[21]

Estimated Tonnage of Processed CDEW (tonnes)

Type	Total
Recycled Graded Aggregate	404 814
Recycled Ungraded Aggregate	374 770
Recycled Soil (excluding topsoil)	69 349
Total Processed CDEW	***848 933***

Estimated Tonnage of Unprocessed CDEW Entering Licensed Landfills, and its Use/Fate

Type	Engineering	Capping	Waste	Total
Clean, Hard C&D Waste	11 619	3	3 166	14 788
Contaminated Hard C&D Waste	60	0	560	620
Clean Excavation Waste	36 698	48 619	175 268	260 586
Contaminated Excavation Waste	638	0	8 570	9 209
Clean 'Mixed' CDEW	4 249	136	29 640	34 025
Contaminated 'Mixed' CDEW	10	0	3 344	3 353
Other	2 511	278	10 232	13 021
Total Unprocessed CDEW	***55 785***	***49 036***	***230 781***	***335 602***
Estimated Amount of Waste Materials (mainly Excavation Waste) used on Registered Exempt Sites				**155 157**
Grand Total				**1 339 693**

(Source: Table A11.11, Survey of Arisings and Use of Alternatives to Primary Aggregates in England, 2005; Construction, Demolition and Excavation Waste' DCLG, February 2007)

An estimate of the CDEW waste arisings for Herefordshire can be made using the licensed waste deposit data provided by the Environment Agency in the Strategic Waste Management Assessment (SWMA) for 2000/1.

In 2000/1, 569 000 tonnes of inert/C&D (construction and demolition) waste was deposited/treated in Herefordshire and Worcestershire (Local Waste Interrogator, Environment Agency, 2007). For the same period, a total of 20 000 tonnes of inert/C&D waste was deposited/treated at **licensed** waste management facilities in Herefordshire (3.5% of the sub-regional total). The Environment Agency estimate that around 93% of C&D waste is used productively.

[21] Note that estimates of construction, demolition and excavation waste have a high potential for error.

These figures, however, do not take account of CDEW waste handled at non-licensed/exempt facilities and thus are likely to represent an under-estimate of total arisings. A more accurate calculation therefore would be to apportion the regional figure contained in the CLG's 2005 research (which does make an allowance for material handled at exempt sites). This can be calculated by translating the regional estimates of total CDEW arisings into the proportion of CDEW historically deposited/treated at licensed facilities in the study area, i.e. 3.5% of 1 339 693 tonnes = 46 889 tonnes (or 41 459 tonnes excluding material handled at exempt sites).

The proportional split of CDEW waste between Herefordshire and Worcestershire does, however, seem somewhat skewed i.e. 3.5% of the sub-regional total for Herefordshire is on the low side. As noted above, calculations which have supported the extant Regional Spatial Strategy[22] have sought to apportion CDEW waste in each planning authority area over the period up to 2021 by using a 'development' index. This applied a proportional split of 30% : 70% between Herefordshire and Worcestershire respectively. On this basis, CDEW waste arisings in Herefordshire equate to 30% of 1 339 693 tonnes = 401 908 tonnes (or 355 361 tonnes excluding material handled at exempt sites).

It is therefore considered that a reasonable estimate of **CDEW waste arisings in the study area is 401 908 tonnes** (or 355 361 tonnes excluding material handled at exempt sites). It is recognised that the actual figure of CDEW waste arisings may fluctuate over the plan period, particularly in light of the current economic recession and specifically the effect that this has had on the construction industry. Nevertheless, despite the recession, it is considered that over the plan period there is likely to be some economic recovery and thus, although a seemingly high figure for CDEW waste arisings, it is recognised that this figure is likely to represent a 'worst case' scenario.

9.2.4 Hazardous Waste

Hazardous wastes are materials defined in the European Waste Catalogue (EWC) because they possess one or more of the hazardous properties as set out in the Hazardous Waste Directive. The EWC and its constituent hazardous waste list were updated in 2002. Following the introduction of the Hazardous Waste Regulations (which replaced the old Special Waste Regulations), the new list applied in full in England from 16 July 2005 and from this date, the term 'special waste' was dropped. The new Hazardous Waste Regulations also introduced revised and more streamlined procedures for monitoring movements of hazardous waste. In addition, more wastes are classed as hazardous than were classed as special, including a number of everyday items such as fluorescent tubes, television monitors and disposable cameras. This means that many small businesses are now hazardous waste producers.

The Environment Agency collects data on hazardous waste arisings in individual Waste Planning Authorities. Data can be accessed via the Agency's Hazardous Waste Interrogator and as been supplemented using the latest available Agency hazardous waste data for 2007. Table 9.7 illustrates the total tonnage of hazardous waste produced in Herefordshire from 2001 to 2004 and 2007. This data demonstrates that during the four years from 2001, the quantity of hazardous waste (formerly known as special waste) produced in the county remained fairly

[22] *West Midlands Waste Treatment Facilities Capacity Study – Phase 2: Future Capacity Requirements* (November 2004), West Midlands Regional Technical Advisory Body.

constant at around 8 000 tonnes but has increased to nearly 13 750 tonnes between 2004 and 2007. It is considered that this increase is in part as a result of the introduction of the Hazardous Waste Regulations in 2005.

Table 9.7 Hazardous Waste Arisings in Herefordshire 2001-2004 and 2007 (tonnes)

Year	Tonnes
2001	5 827
2002	8 127
2003	8 402
2004	8 353
2007	13 747

(Source: Environment Agency Hazardous Waste Interrogator, 2008; Environment Agency, 2009)

Table 9.8 illustrates how this 8 000 tonnes in 2004 breaks down. This shows that the top three hazardous waste streams in the area were metal treatment and coating process waste; waste oil and oil / water mixtures and waste paints, varnishes and adhesives. Together, these three waste streams accounted for 65% of the total. In contrast in 2007, the top four hazardous waste streams were unclassified / not otherwise specified, oil and oil / water mixtures, construction and demolition waste, and municipal and similar commercial wastes, which together accounted for 71% of the total.

Table 9.8 Breakdown of Hazardous Waste Arisings in Herefordshire 2004 and 2007 (tonnes)

Type of Hazardous Waste	Arisings (tonnes)		% of Total	
	2004	2007	2004	2007
Construction/demolition including asbestos	1 016	1 808	12	13
Organic chemical processes	36	10	0.4	0.1
Waste/water treatment and water industry	13	58	0.2	0.4
Oil and oil/water mixtures	1 687	2 708	20	20
Thermal process wastes (inorganic)	286	78	3	0.6
Inorganic chemical processes	168	164	2	1
Metal treatment and coating processes	2 800	1 014	34	7
Shaping/treatment of metals and plastics	504	133	6	1
Solvents	15	49	0.2	0.4
Paints, varnish, adhesive and inks	906	854	11	6
Municipal and similar commercial wastes	23	1 114	0.3	8
Packaging, cloths, filter materials	257	131	3	1

Table 9.8 (continued) Breakdown of Hazardous Waste Arisings in Herefordshire 2004 and 2007 (tonnes)

Type of Hazardous Waste	Arisings (tonnes)		% of Total	
	2004	2007	2004	2007
Photographic industry	4	26	0.1	0.2
Petrol, gas and coal refining/treatment	0	0	0	0
Healthcare	28	636	0.4	5
Leather and textile production	0	0	0	0
Agricultural and food production	37	5	0.4	0.1
Wood and paper production	217	47	3	0.2
Mining and minerals	0	0	0	0
Unclassified/not otherwise specified	356	4 910	4	36
Total	**8 353**	**13 747**	**100**	**100**

9.2.5 Agricultural Waste

Through its *'Agricultural Waste Survey 2003'*, which was funded jointly with Defra and Biffaward[23], the Environment Agency has estimated agricultural waste arisings for 2003.

It is estimated that in 2003, around 46.7 million tonnes of agricultural waste was produced in England. Approximately 5.9 million tonnes (or 12%) of this was produced by the West Midlands region. Of this 5.9 million tonnes, it has been estimated that the vast majority is compostable/ digestible. However, it is estimated that around 35 070 tonnes (or 0.6% of the agricultural waste produced by the West Midlands region) is 'non-natural material' (e.g. waste packaging, silage plastics, metal, tyres, oils and animal health products).

This figure can be apportioned to the sub-regional level by looking at the proportion of the region's total agricultural workforce employed in Herefordshire. 2001 Census data indicates that in total 35 153 people were employed in the agricultural, hunting and forestry sector in the West Midlands (in 2000). In Herefordshire this equated to 5 440 people – or 15% of the region's total. Using this breakdown it has been possible to apportion the 5.9 million tonnes of agricultural waste, i.e. 15% of 5 900 000 tonnes equates to **885 000 tonnes** (of which 5 260 tonnes are 'non-natural').

It is considered a reasonable assumption that most agricultural waste is not classified as controlled waste where it can be treated and used on the farm as a product, e.g. manures, slurries and crop residues. As such, it is the non-natural materials which will generally require treatment off-site and this is important to consider when planning for future waste management facilities.

[23] Biffaward is a Landfill Communities Fund scheme, which awards grants to community and environmental projects across the UK. The fund's money comes from the landfill tax credits donated by Biffa Waste Services.

It is recognised that since the publication of the 2003 agricultural waste survey the use of plastics on farms has increased significantly, for example in the form of poly tunnels, crop shelters, mini-tunnels, cloches and ground cover polythene. Under the European Waste Catalogue agricultural waste plastics are classified as 'general waste packaging including plastics' and therefore it is likely that these plastics would be treated at appropriately licensed waste management facilities dealing with commercial and industrial wastes. As such, it is possible that agricultural waste arisings may have been underreported in terms of licensed waste management facilities, in that the waste may not have been classified as agricultural waste, particularly those non-natural materials which cannot be treated on-site at a farm but instead has been included as part of the commercial and industrial waste arisings. Further research may need to be undertaken by the Council to establish what percentage of the agricultural waste stream is made up of agricultural waste plastics given the overall rural, and specifically agricultural, nature of Herefordshire.

9.3 Summary of Waste Arisings in Herefordshire

Table 9.9 overleaf sets out a summary of the data that will form the baseline information for the Core Strategy document:

Table 9.9 Summary of Waste Arisings in Herefordshire

Waste Stream	**Year**					
	2002/03	**2003/04**	**2004/05**	**2005/06**	**2006/07**	**2007/08**
Municipal Solid Waste	100 297	98 633	104 326	100 317	102 070	96 039
Commercial and Industrial Waste	167 000	No data[1] [167 000]	No data	No data	145 000	No data
	2002	**2003**	**2004**	**2005**	**2006**	**2007**
Construction, Demolition and Excavation Waste	No data	213 408[2]	401 908	No data	No data	No data
Hazardous Waste[3]	8 127	8 402	8 353	No data	No data	13 747
Agricultural Waste	No data	885 000 (5 260 non-natural)	No data	No data	No data	No data
Total for Base Year[4]	**-**	**1 367 443**	**-**	**-**	**-**	**-**

1 – Although there is no commercial and industrial waste data for the base year, for the purposes of this evidence base, it has been assumed that arisings for the previous year would be similar.
2 – Likely to represent an under-estimate as figure is based on the 2003 C&D waste survey rather than the 2005 survey.
3 – This includes CDEW could include materials also classified as hazardous waste. This figure also includes material sent to sites exempt from waste management licensing for final disposal.
4 – Base year is 2003/04.

10. Future Waste Management Requirements

10.1 Introduction

This section presents forecasts of waste arisings over the period of the Waste document i.e. to 2026. It also inputs targets for waste management to give an indication of what the requirements for waste recovery, including recycling and composting, will be. This lays the foundation for the analysis of requirements in the next section of the report which compares the forecasts to existing waste management capacity where this is known.

10.2 Baseline Assumptions

Prior to any estimate being made of the amount and type of waste requiring management in Herefordshire over the life of the LDF, a set of assumptions was agreed with officers at Herefordshire County Council. Details of these assumptions are set out in the following sections.

10.2.1 Waste Growth Assumptions

In determining waste growth (or otherwise) assumptions, a steer has been taken from:

- Regional Spatial Strategy for the West Midlands (January 2008);
- Phase 2 Revision of the Regional Spatial Strategy – consultation documents and supporting technical material (2007);
- The Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire, First Review (February 2009);
- Draft Regional Waste Strategy (2001);
- The National Waste Strategy (2007).

It was agreed that the most appropriate methodology to apply would be to reflect the approach that has recently been adopted by the West Midlands Regional Assembly in their Phase 2 review of the RSS, which has incorporated the objectives and targets set out in the revised National Waste Strategy (2007). The forecast rates have also been amended to better reflect the Herefordshire situation.

The rates adopted are as follows:

RSS Scenario: Phase 2 RSS Review – Draft Revised RSS (December 2007)

- Municipal waste – approximately 2% per annum growth rate until 2006, reducing to 1% per annum between 2006 and 2011 and no growth after 2011 apart from arisings from new households;

- Commercial and Industrial – based on predicted economic growth and changes in the sectoral mix of the UK economy as reflected in the assumptions adopted by the Government in the National Waste Strategy Review (February 2006), with 0% per annum growth from 2020 onwards;
- Construction, Demolition and Excavation – 0% per annum growth from 2004 levels to end of the life of the LDF/ Core Strategy (2026);
- Hazardous – 0% per annum growth from 2004 levels to end of the life of the LDF/ Core Strategy (2026);
- Agricultural – 0% per annum growth to end of life of the LDF/ Core Strategy (2026).

The Draft Revised RSS waste growth projections take into account the revised proposed housing figures for the West Midlands – for Herefordshire the proposed (net) total figures is 16 600 over the period 2006 to 2026, equating to an indicative annual average of 830. Furthermore, Hereford is identified as a Growth Point and as such it is assumed that up to half of the proposed housing will be focused in and around the town.

In preparing waste growth projections of the future generation and management of municipal waste, the following assumptions have been made:

- The number of new dwellings which are expected to be built using the latest RSS projections have been converted to numbers of new households for each Strategic Planning Authority for the preferred growth option (Option 3) by making allowance for demolitions and unoccupied dwellings;
- The projected number of new households over the forecast period (2006-2026) is then converted into an average annual household growth rate (by WPA) by dividing average annual growth into the number of households in 2004 (taken from 2006 Government projections);
- Since the generation of municipal waste is closely related to the number of households, these average annual household growth rates are taken as a proxy of the rate of growth of municipal solid waste (MSW). The growth rates are therefore applied to the latest household waste data (2005-6) in order to generate annual projections of the quantity of MSW;
- Since the quantity of MSW is currently growing faster than the number of households, it has been assumed that MSW will grow at the annual household growth rate in each area, plus 1% for the period until 2010/11;
- From 2011, waste growth is assumed to fall to a level consistent with the household growth rate;
- The projections assume 68% of municipal waste is biodegradable (for consistency with the Waste and Emissions Trading Act).

In preparing waste growth projections of the future generation and management of commercial and industrial waste, the following assumptions have been made:

- The 2002 base quantities for each strategic authority area are derived from the WMRA Phase 2 Capacity Study (excluding 'special waste' arising) and not from EA survey data for 2002/03 because this was not available broken down into individual WPA areas. There is a 0.3 mt difference between the two sources for the region as a whole for this year (the EA survey data is higher, but this may reflect the fact that they were measuring how waste was managed in these areas, rather than where it was generated);
- The quantities of waste for the years from 2002 have been calculated using the assumptions adopted by the Government in the National Waste Strategy Review (February 2006), which reflect predicted economic growth and changes in the sectoral mix of the UK economy. The quantity of waste has not been included as a variable and therefore remains constant for the preferred option;
- The projections assume that 1998-99 imports and exports as shown in the Environment Agency's 'Strategic Waste Management Assessment' remain unchanged, with a reduction to allow for special waste movements in 1998.

Herefordshire Amended Scenario

The waste strategy team for Herefordshire Council has prepared amended forecasts for municipal waste as part of the review of the Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire. The forecasts are slightly lower than the RSS forecasts and are based on the following:

- Municipal waste – growth forecasts based on the latest (2007-2008) tonnages for Herefordshire, with rates of production per household remaining constant (approximately 1.2 tonnes per annum) but with the number of households growing in line with option 2 from the RSS, based on the increased proposed housing figures for Herefordshire of 900 dwellings per annum[24].

10.3 Forecasts

10.3.1 Arisings

Using 2003/04 as the baseline, and using the assumptions agreed (and set out above), calculations have been made as to how much waste is likely to arise per year up to the end of the life of the Core Strategy, i.e. to 2026. These calculations (for key years and for each growth scenario) are set out in Tables 10.1 and 10.2 below, with the latter presenting the lower municipal waste figures.

[24] For further details see Annex A of the 'Joint Municipal Waste Management Strategy for Herefordshire and Worcestershire 2004-2034, First Review' (February 2009) and the RSS Phase 2 Revision 'Communities for the Future, Housing, Background Paper, Final version (amended) (January 2008).

Table 10.1 Projected Waste Arisings in Herefordshire 2003-2026: RSS Growth Scenario

Waste Stream	2003	2010	2015	2021	2026
Municipal Waste	98 633	111 182	117 305	125 099	131 989
Commercial & Industrial	167 000	169 000	195 000	249 000	249 000
Construction, Demolition & Excavation	213 408	213 408	213 408	213 408	213 408
Hazardous	8 402	8 402	8 402	8 402	8 402
Agricultural	885 000	885 000	885 000	885 000	885 000
Total	**1 367 443**	**1 386 992**	**1 419 115**	**1 480 909**	**1 487 799**

Table 10.2 Projected Waste Arisings in Herefordshire 2003-2026: Herefordshire Amended Scenario

Waste Stream	2003	2010	2015	2021	2026
Municipal Waste	98 633	99 288	104 704	111 203	116 619
Commercial & Industrial	167 000	169 000	195 000	249 000	249 000
Construction, Demolition & Excavation	213 408	213 408	213 408	213 408	213 408
Hazardous	8 402	8 402	8 402	8 402	8 402
Agricultural	885 000	885 000	885 000	885 000	885 000
Total	**1 367 443**	**1 375 098**	**1 406 514**	**1 467 013**	**1 472 429**

10.3.2 Implications of Statutory and National Targets

Tables 10.3 and 10.4 set out how national, regional and local waste management targets will shape the way in which waste will, in the future, need to be managed in Herefordshire.

Table 10.3 Implications of National, Regional and Local Waste Management Targets: RSS Growth Scenario

Waste Stream & Target	Amount of Waste (per annum) that Requires Alternative Treatment			
	2010	**2015**	**2021**	**2026**
Municipal Waste:				
Recovery Targets[1]	58 926	78 594	93 824	98 992
	(53%)	(67%)	(75%)	(75%)
Of which recycling & composting (National Indicator (NI) 192)[2]	*44 473*	*52 787*	*62 550*	*62 550*
	(40%)	*(45%)*	*(50%)*	*(50%)*
Landfill[3]	52 256	38 711	31 275	32 997
	(47%)	(33%)	(25%)	(25%)
Commercial & Industrial:				
Recycling & Composting	-	-	-	-
Recovery	109 850	136 500	186 750	186 750
	(65%)	(70%)	(75%)	(75%)
Landfill	59 150	58 500	62 250	62 250
	(35%)	(30%)	(25%)	(25%)
Construction, Demolition & Excavation	No national or regional target (simply commitment to maximise (on-site) recycling)			
Hazardous	No national or regional target			
Agricultural	No national or regional target			

1 – National Recovery Targets:
- Recover value from 53% of MSW by 2010.
- Recover value from 67% of MSW by 2015.
- Recover value from 75% of MSW by 2020.

2 – Although recycling and composting targets only relate to household waste, as this forms the majority of the municipal waste stream, these targets have been applied to all municipal waste produced in Herefordshire.

3 – Landfill Directive Targets:
- Reduce the amount of biodegradable MSW landfilled to 75% of that produced in 1995 by 2010.
- Reduce the amount of biodegradable MSW landfilled to 50% of that produced in 1995 by 2013.
- Reduce the amount of biodegradeable MSW landfilled to 35% of that produced in 1995 by 2020.

Amount of the MSW produced in Herefordshire in 2003/4 = 98 633 tonnes.
Compositional work indicates that 67% of MSW is biodegradable. As such, it is assumed that the amount of biodegradable MSW in Herefordshire in 2003/4 = **66 084 tonnes.**

Table 10.4 Implications of National, Regional and Local Waste Management Targets: Herefordshire Amended Scenario

Waste Stream & Target	Amount of Waste (per annum) that Requires Alternative Treatment			
	2010	**2015**	**2021**	**2026**
Municipal Waste:				
Recovery Targets[1]	52 623	70 152	83 402	87 464
	(53%)	(67%)	(75%)	(75%)
Of which recycling & composting (National Indicator (NI) 1992)[2]	*39 715*	*47 117*	*55 602*	*58 310*
	(40%)	*(45%)*	*(50%)*	*(50%)*
Landfill[3]	46 665	34 552	27 801	29 155
	(47%)	(33%)	(25%)	(25%)
Commercial & Industrial:				
Recycling & Composting	-	-	-	-
Recovery	109 850	136 500	186 750	186 750
	(65%)	(70%)	(75%)	(75%)
Landfill	59 150	58 500	62 250	62 250
	(35%)	(30%)	(25%)	(25%)
Construction, Demolition & Excavation	No national or regional target (simply commitment to maximise (on-site) recycling)			
Hazardous	No national or regional target			
Agricultural	No national or regional target			

1 – National Recovery Targets:
- Recover value from 53% of MSW by 2010.
- Recover value from 67% of MSW by 2015.
- Recover value from 75% of MSW by 2020.

2 – Although recycling and composting targets only relate to household waste, as this forms the majority of the municipal waste stream, these targets have been applied to all municipal waste produced in Herefordshire.

3 – Landfill Directive Targets:
- Reduce the amount of biodegradable MSW landfilled to 75% of that produced in 1995 by 2010.
- Reduce the amount of biodegradable MSW landfilled to 50% of that produced in 1995 by 2013.
- Reduce the amount of biodegradeable MSW landfilled to 35% of that produced in 1995 by 2020.

Amount of the MSW produced in Herefordshire in 2003/4 = 98 633 tonnes.
Compositional work indicates that 67% of MSW is biodegradable. As such, it is assumed that the amount of biodegradable MSW in Herefordshire in 2003/4 = **66 084 tonnes.**

10.4 Conclusions

The forecasts indicate that total waste arisings in Herefordshire will increase by around 1 million tonnes over the plan period, just over half of which will comprise agricultural waste. Some growth is predicted for the municipal and commercial and industrial waste streams.

Municipal waste and commercial and industrial waste will account for between 366 000 and 381 000 tonnes per annum of arisings at 2026, which equates to some 25% of all waste arisings in the county.

The application of recovery targets demonstrates the significant capacity increases for the municipal waste and commercial and industrial waste streams over the period of the LDF and the next section of this evidence base looks at how this compares to estimates of existing capacity.

11. Waste Management Capacity and Need Assessment

11.1 Introduction

This section is in two key parts: The first presents information on the way in which waste is presently managed / handled in Herefordshire, including the number and type of existing waste management facilities; and the second provides a need assessment applying the forecasts set out in the previous section.

11.2 Existing Waste Deposits in Herefordshire

11.2.1 Deposits by Waste Management Site Type

Existing waste deposits[25] by waste management type are set out in Table 11.1. Of the ~230 000 tonnes of waste managed in the base year, over 50% was handled at transfer stations across the authority area. 6% was subjected to some form of treatment (primarily biological) and only 3% (reducing to 0% in 2007) was managed by way of landfill outside the authority area, predominantly in Worcestershire.

Table 11.1 Waste Deposits by Waste Management Site Type in Herefordshire (2004 - 2007)

Waste Management Site Type	2004 Deposits (tonnes)	2005 Deposits (tonnes)	2006 Deposits (tonnes)	2007 Deposits (tonnes)
Landfill:	6 000	3 000	2 000	0
Inert Landfill	*(3 000)*	*(2 000)*	*(0)*	*(0)*
Non-Inert Landfill	*(3 000)*	*(1 000)*	*(2 000)*	*(0)*
Restricted Landfill	*(0)*	*(0)*	*(0)*	*(0)*
Metal Recycling Sites	17 000	15 000	15 000	11 000
Transfer:	125 000	138 000	160 000	208 000
CA sites	*(5 000)*	*(23 000)*	*(30 000)*	*(27 000)*
Waste transfer	*(120 000)*	*(115 000)*	*(130 000)*	*(182 000)*

[25] Waste deposits refer to that waste which is managed / treated at waste management facilities in Herefordshire as opposed to that waste which is produced or arises within the county.

Table 11.1 (continued) Waste Deposits by Waste Management Site Type in Herefordshire (2004 - 2007)

Waste Management Site Type	2004 Deposits (tonnes)	2005 Deposits (tonnes)	2006 Deposits (tonnes)	2007 Deposits (tonnes)
Treatment:	85 000	65 000	62 000	50 000
Biological treatment[1]	*(77 000)*	*(49 000)*	*(39 000)*	*(30 000)*
Chemical treatment	*(0)*	*(0)*	*(0)*	*(0)*
Composting	*(6 000)*	*(12 000)*	*(19 000)*	*(15 000)*
Material recovery facility (MRF)	*(2 000)*	*(3 000)*	*(4 000)*	*(4 000)*
Physical treatment	*(0)*	*(0)*	*(0)*	*(0)*
Physical-Chemical treatment	*(0)*	*(0)*	*(0)*	*(0)*
TOTAL[2]	**233 000**	**221 000**	**239 000**	**269 000**

(Source: Environment Agency data, 2008)
1 – This predominantly relates to the treatment of waste water.
2 – There could be an element of double counting in the data given that waste managed at a landfill site / subject to a specific treatment technology is likely to have been handled at a transfer station.

11.3 Number and Location of Existing Waste Management Facilities

11.3.1 Existing Operational Waste Management Facilities in Herefordshire

Table 11.2 sets out the number and type of waste management facilities in Herefordshire that were operational in 2007. The Environment Agency identified an additional 13 facilities in the county as not being operational.

Table 11.2 Number of Operational Waste Management Facilities in Herefordshire (2007)

Type of Waste Management Facility	Number
Landfill	
Non-Hazardous	2
Inert	0
Land Disposal	0
Transfer	
Civic Amenity/Household Waste Recycling sites	3
Waste Transfer	12

Table 11.2 (continued) Number of Operational Waste Management Facilities in Herefordshire (2007)

Type of Waste Management Facility	Number
Metal Recycling Sites (MRS)	
Car Breaker	5
Metal Recycling	3
Treatment	
Composting	1
*Biological Treatment**	1
Physical Treatment	1
Materials Recycling Facility (MRF)	2
TOTAL	**30**

(Source: Environment Agency, 2007)
* This facility deals predominantly with waste water and is based at the Eign Waste Management Centre in Hereford.

As the table shows, in respect of facilities that represent a means of **final** treatment or disposal (i.e. all facilities with the exception of transfer stations), metal recycling sites are the most numerous. The table also shows that there are a significant number of transfer stations in the study area. This reflects the relatively high levels of export of waste, specifically commercial and industrial waste which is sent to other parts of the West Midlands region, notably to Worcestershire, and outside the region, for treatment or disposal. Since 2007, two further household waste recycling sites have become operational, taking the total to 5, with a further site planned in the near future.

Although Table 11.2 represents the most up to date position available, other facilities currently exempt from regulation via the waste management licensing regime exist, such as sites where inert waste is used for engineering purposes. The Environment Agency maintains a register of exempt sites. This register is by no means complete although sites must be drawn to the attention of the Agency prior to them being entered on the register. No information has been available on exempt sites for this report.

It should be noted that as there is a joint municipal waste management strategy for Herefordshire and Worcestershire and joint contractual arrangements, facilities for the treatment of municipal waste will be located in Worcestershire. This needs to be accounted for in the capacity assessment.

11.3.2 Remaining Voidspace

As identified in Table 11.2, there is currently no waste sent to operational landfill facilities in Herefordshire. This is a reflection of the fact that there is presently no permitted / licensed landfill capacity in the authority area.

11.3.3 Throughput Capacity of Non-Landfill Waste Facilities

Table 11.3 sets out the maximum licensed throughput capacity (in tonnes) of all permitted waste facilities in Herefordshire that are engaged in the final treatment or disposal of waste.

Table 11.3 Waste Treatment Capacity in Herefordshire (2007)

Waste Treatment	Maximum Capacity (tonnes)
Material recovery (MRF)	25 000
Physical	3 000
Physico-Chemical	0
Chemical	0
Composting	25 000
Biological*	234 000
Incinerator**	0
Total	**287 000**

(Source: Environment Agency, 2007)
* This facility deals predominantly with waste water.
** Although no incinerator treatment capacity is shown, there is an operational pet crematorium in the county.

Table 11.4 Waste Treatment Deposits in Herefordshire (2007)

Waste Treatment	Inputs (tonnes)
Material recovery (MRF)	4 064
Physical	0
Physico-Chemical	0
Chemical	0
Composting	15 117
Biological	30 340
Incinerator	0
Total	**49 521**

(Source: Environment Agency, 2007)

The disposal/management capacities set out in Table 11.3, when compared against the latest disposal/management rates given in Table 11.4 allows an assessment to be made of the theoretical spare capacity or shortfall in the study area's facilities. This simple calculation is set out in Table 11.5, which illustrates that there is an apparent surplus of capacity in the study area for those types of waste handled during 2007 by means other than landfill. However, it should be noted that most of the county's capacity is tied up in a single biological waste treatment

facility with a capacity of 234 000 tonnes, which is predominantly used for the treatment of non-hazardous wastes including landfill leachates, waste water from wash down, and waste water from food processing. In 2007, only 49 500 tonnes of waste were handled at facilities in Herefordshire, indicating that most facilities are not yet at full capacity. This means that only 20 000 tonnes of other waste went through a recovery process at facilities within Herefordshire, whilst Table 11.1 indicated that some 208 000 tonnes of waste went through waste transfer stations. It can be assumed therefore that the vast proportion of waste is treated out of county.

Table 11.5 Comparison of Waste Handled at Non-Landfill Facilities with Licensed/ Permitted Capacity (2007)

Waste Treatment	Total Capacity (tonnes)	Total Handled (tonnes)	Spare Capacity / Shortfall
Material recovery	25 000	4 064	+20 936
Physical	3 000	0	+3 000
Physico-Chemical	0	0	-
Chemical	0	0	-
Composting	25 000	15 117	+9 883
Biological*	243 000	30 340	+212 660
Incinerator	0	0	-
Total	**287 000**	**49 521**	**+237 479**

(Source: Entec calculations)
* This facility deals predominantly with waste water.

Using the latest available information from the Environment Agency, a further breakdown of inputs into licensed waste management capacity in 2007 can be made, distinguishing between the Environment Agency's basic waste categories, namely: Household/Industrial/Commercial (HIC); Inert/C&D, and Hazardous, as set out in Table 11.6.

Table 11.6 Waste Deposits in Herefordshire by Waste Category (2007)

Waste Category & Type of Waste Management Facility	Inputs 2007 (tonnes)	
Household/Industrial/Commercial (HIC)		
Treatment	45 516	
Biological treatment		*(30 399)*
Composting		*(15 117)*
Transfer	140 612	
CA site		*(20 937)*
Waste transfer		*(119 675)*

Table 11.6 (continued) Waste Deposits in 2007 by Waste Category

Waste Category & Site Type	Inputs 2007 (tonnes)
MRS	5 016
Non-Hazardous Landfill	89
Total HIC	**191 233**
Inert/C&D	
Transfer	65 162
CA site	*(4 952)*
Waste transfer	*(60 210)*
MRS	3 599
Total Inert/C&D	**68 761**
Hazardous	
Transfer	2 612
CA site	*(882)*
Waste Transfer	*(1 730)*
Materials recycling facility (MRF)	4 064
MRS	2 870
Non-Hazardous Landfill	3
Total Hazardous	**9 549**
Total for all waste categories	**269 543**

(Source: Environment Agency, 2007)

11.4 Waste Management Data by Waste Type

Of more interest is data on waste management by waste type as this will allow a comparison to be made between capacities and requirements as part of the overall need assessment.

11.4.1 Municipal/Household Waste

Table 11.7 illustrates how Herefordshire's municipal waste was managed between 2003/4 and 2007/8.

Unsurprisingly, landfill was the primary disposal route (82.6%, 68.7%, and 67% respectively in 2003/4, 2006/7, and 2007/8). This table does take account of material taken out of Herefordshire for management and includes any municipal waste material that may have been imported to the area for management. It is nevertheless recognised that only a relatively small proportion of waste generated within Herefordshire is treated within the county (approximately 31 600 tonnes in 2007 or about 33%), the large majority of waste being exported out of county for treatment, principally to Worcestershire.

Table 11.7 Management of Herefordshire's Municipal Waste 2003/4 – 2007/8

Management Method	Amount of Municipal Waste 2003/4		Amount of Municipal Waste 2006/7		Amount of Municipal Waste 2007/8	
	Tonnes	**% of Total**	**Tonnes**	**% of Total**	**Tonnes**	**% of Total**
Recycled & Composted	17 127	17.4	30 622	29.9	31 609	32.9
Energy Recovery	-	-	1 266	1.3	90	0.1
Incineration (without energy recovery)	-	-	45	0.1	-	-
Landfill	81 506	82.6	70 142	68.7	64 340	67.0
Total	**98 633**	**100**	**102 075**	**100**	**96 039**	**100**

(Source: Defra, 2008; Herefordshire Council Waste Management, 2009).

The management of municipal waste is currently carried out against the backdrop of having to achieve statutory recycling/composting targets[26]. Statutory targets for the recycling and composting of household waste are set out in the National Waste Strategy (2007) – 40% by 2010, 45% by 2015, and 50% by 2020. The Joint Municipal Waste Management Strategy commits to the achievement of these targets as a minimum. The achievement of these is also an integral part of the Government's Best Value regime and National Indicators (NIs), specifically NI 192 (household waste reused, recycled and composted), are directly connected with their achievement.

Table 11.8 sets out these statutory targets and illustrates household waste recycling/composting performance for 2003/4 to 2007/8.

Table 11.8 Household Waste Recycling/ Composting 2003/4 to 2007/8 in Herefordshire

2003/4 (Actual %)	2004/5 (Actual %)	2005/6 (Actual %)	2006/7 (Actual %)	2007/8 (Actual %)
19.5	21.7	24.1	25.9	30.26
(Target %)	**(Target %)**	**(Target %)**	**(Target %)**	**(Target %)**
14.0	14.0	21.0	21.0	21.0

(Source: Audit Commission BVPIs, 2008; Herefordshire Council Annual Monitoring Report 2007/08 waste chapter).

Table 11.9 provides a breakdown of the municipal waste generated within Herefordshire during 2007/08 according to the various waste streams arising in the county. It shows that waste

[26]Statutory recycling / composting targets have been set for household waste only, i.e. waste produced by individual households, whereas municipal waste includes household waste as well as other wastes collected by the Council as Waste Collection Authority such as municipal parks and garden waste, commercial or industrial waste, and waste resulting from the clearance of fly-tipped material. Nevertheless, household waste makes up the bulk of municipal waste.

transfer stations are the most important waste management facilities in the management of municipal waste in the county and are likely to continue to be so in the future.

Table 11.9 Municipal Waste by Waste Stream in 2007/08

Waste Stream	Collection Method	Municipal Waste 2007/08 (tonnes)	Current Destination	Planned Destination
Municipal Residual Waste	Kerbside Collections Household Waste Sites Street Cleansing Trade Waste Collections	64 340 (0.1 tonnes currently sent to EfW)	Landfill (Pershore, Worcestershire) and / or Energy from Waste (various)	Residual Waste Treatment (Worcestershire and/or Herefordshire) and / or Landfill (Pershore, Worcestershire)
Municipal Mixed Dry Recyclables	Kerbside Collections	8 819	Worcester MRF (Pershore) via Rotherwas Transfer Station	Worcester (Envirosort, Norton) via Rotherwas Transfer Station
Municipal Segregated Recyclable Waste	Household Waste Sites Bring Recycling Sites	10 117	Various waste recycling merchants and re-processors	Various waste recycling merchants and re-processors
Municipal Compostable Waste	Household Waste Sites	6 594	Central composting facilities (Worcester, Gloucester and Monmouth)	Composting facility (Moreton-on-Lugg) (planning permission granted March 2009)
Municipal Inert Waste (Soil and Rubble)	Household Waste Sites	5 305	Wye Valley Metals (Rotherwas)	Wye Valley Metals (Rotherwas)
Municipal Hazardous Wastes (WEEE, Chemicals, Batteries, etc)	Household Waste Sites	864	Various specialist waste management	Various specialist waste management
Total		**96 039**		

(Source: Herefordshire Council Waste Management, 2009)

11.4.2 Commercial and Industrial Waste

The amount of commercial and industrial waste deposited/handled by facilities in Herefordshire in 2000/1 is set out in Table 11.10. Given that the quantity of commercial and industrial waste generated in Herefordshire is estimated to be just under 170 000 tonnes, it is assumed that a significant portion (around 94%) of the commercial and industrial waste from Herefordshire is exported out of the study area for management/disposal.

Recent Environment Agency data presents treatment capacity for both municipal and commercial and industrial waste and estimates that treatment capacity in 2007 was 259 000 tonnes (i.e. biological treatment 234 000 tonnes, composting 25 000 tonnes), with additional materials recovery (MRF) capacity of 25 000 tonnes (although EA deposit data indicates that was predominantly hazardous waste). It has been established that municipal waste

recycling and composting has been at around 28 800 tonnes (i.e. 30%). This suggests that there is virtually no treatment capacity for commercial and industrial waste save for a small proportion going through the MRF.

Table 11.10 Commercial and Industrial Waste Deposited in Herefordshire in 2000/1

Destination	West Midlands (tonnes)	Herefordshire (tonnes)
Landfill (Open Gate)	2 984 000	0
Landfill (Restricted User)	485 000	0
Lagoon / Borehole	91 000	0
Treatment (Open Gate)	2 168 000	10 000 (Materials Recovery only)
Treatment (Restricted User)	53 000	0
Transfer	1 250 000	81 000
Total	**7 031 000**	**91 000**

(Source: Environment Agency, Local Waste Interrogator)

11.4.3 Other Waste Streams

Inert/ Construction, Demolition and Excavation Waste

Construction and demolition waste has traditionally been disposed of in landfill sites – a significant proportion probably being used for site engineering and capping. However, as later sections of the report demonstrate, this trend is unlikely to continue given the fiscal and policy drivers focussed upon recycling such material and the knock on impact of reduced inert waste landfill capacity in the study area.

Table 11.11 Inert/ Construction and Demolition Waste Deposited in Herefordshire in 2000/1

Destination	West Midlands (tonnes)	Herefordshire (tonnes)
Landfill (Open Gate)	2 350 000	7 000
Landfill (Restricted User)	636 000	0
Lagoon / Borehole	0	0
Treatment (Open Gate)	315 000	0
Treatment (Restricted User)	0	0
Transfer	819 000	13 000
Total	**4 120 000**	**20 000**

(Source: Environment Agency, Local Waste Interrogator)

Hazardous Waste

Data from the Environment Agency indicates that in 2007, 4 074 tonnes of hazardous waste was deposited within the County. The overwhelming majority of this (99.8%) was reused / recycled, with the remainder simply being transferred out of the area.

Data relating to the movements of hazardous waste in 2007, as set out in Table 11.12, indicates that Herefordshire is a net exporter of hazardous waste, both in terms of the movements of hazardous waste from the county to others areas of the West Midlands sub-region as well as nationally.

Table 11.12 Hazardous Waste Movements In and Out of Herefordshire (2007)

Source	Imports (tonnes)	Exports (tonnes)
Movements between sub-regions:		
Herefordshire	399	399
Shropshire	419	326
Staffordshire	-	414
Warwickshire	-	124
West Midlands Metropolitan	-	2 594
Worcestershire	1 183	959
Total from West Midlands Region	**1 602**	**4 417**
External movements:		
Total Import from England & Wales	**1 288**	**-**
Total Export to England & Wales	**-**	**9 429**
Balance (Imports – Exports)		**8 142**

(Source: Environment Agency, 2007)

Agricultural Waste

Agricultural waste arisings in 2003/04 totalled 885 000 tonnes. Information on deposits of agricultural waste within the study area is not available, however, as on-farm disposal of the non-hazardous elements is common, it can be assumed that for agricultural waste, arisings broadly equate to deposits.

As previously set out, it is estimated that a small proportion (some 5 260 tonnes) of the total agricultural waste arising in 2003/4 is 'non-natural material (e.g. waste packaging, silage plastics, metal, tyres, oils and animal health products). It is assumed that this material will need to be treated at appropriate waste management facilities within the county, in that they cannot be treated and used on-site like the vast majority of agricultural waste. Further research may need to be undertaken by the Council to ascertain how and how much agricultural waste plastics are managed in Herefordshire.

11.5 Need Assessment

11.5.1 Municipal Waste

Current municipal waste arisings in Herefordshire are some 96 000 tonnes. By the end of the plan period, arisings are likely to increase to between 116 700 and 132 000 tonnes.

- By 2026, between 58 310 and 62 550 tonnes of recycling and composting capacity for municipal waste will be required in Herefordshire;
- By 2026, between 87 500 and just under 99 000 tonnes of recovery capacity for municipal waste will be in required in Herefordshire;
- Given the anticipated recycling/composting and recovery targets (which need to be met to comply with the relevant national targets), it is expected that by 2026, final disposal capacity for municipal waste will only be required for residual material.

Dealing first with recycling and composting, current levels in Herefordshire are around 30% or 28 800 tonnes. There is a need for a step change to achieve targets in the short and longer term with a minimum of 29 510 tonnes in new capacity required. The issue is whether, under the current joint waste management contract, this capacity may be provided within Herefordshire or Worcestershire. Under RSS Phase 2 Policy W1 each Waste Planning Authority should maintain an overall net balance of waste imports / exports, i.e. allowing for some authorities to 'swap' wastes of one type with wastes of another. In terms of municipal waste in the context of the RSS, Herefordshire should be not considered separately from Worcestershire but the two together should be considered as one authority area for the purposes of Policy W1 due to the joint municipal waste management contract. This point needs to be acknowledged accordingly in developing LDF policy.

There is no further recovery capacity in Herefordshire so at least a further 36 500 tonnes capacity is required to meet targets.

There is no landfill capacity in Herefordshire and instead residual waste is taken out of the county to neighbouring Worcestershire for disposal, as part of the joint waste management contract arrangements. There will be a need to identify further capacity to deal with residual material. The capacity required does decline as recovery increases but still amounts to around 52 250 tonnes in 2010 declining to 33 000 tonnes towards the end of the plan period. The issue again is whether adequate flexibility is provided under the existing contractual arrangements to ensure that Herefordshire's residual waste management needs are met.

11.5.2 Commercial and Industrial Waste

Current commercial and industrial waste arisings in Herefordshire are some 167 000 tonnes. By the end of the plan period, arisings are likely to increase to 249 000 tonnes. Specific requirements comprise:

- By 2026, some 186 750 tonnes of recovery capacity for commercial and industrial waste will be required in Herefordshire;
- The RSS sets a target to landfill 25% of commercial and industrial waste, which by 2026 will equate to 62 250 tonnes.

Existing commercial and industrial recycling, composting and recovery capacity in Herefordshire shows that there is little existing capacity to deal with this significant waste stream.

11.5.3 Construction, Demolition and Excavation Waste

By 2026, there will be some 213 408 tonnes of construction, demolition and excavation waste arising in Herefordshire. Given the national and regional commitment to maximising the recycling of construction, demolition and excavation waste, preferably on site, capacity will be required for the management of this waste stream. Policy should be geared towards encouraging on-site recycling and use as part of development projects. The LDF should investigate opportunities for locating facilities on appropriate sites.

11.5.4 Hazardous Waste

Data indicates that Herefordshire is a net exporter of hazardous waste, in that arisings of hazardous waste are higher than deposits of hazardous waste in the county. Hazardous waste is predicted to remain at the same levels as deposits in 2003, i.e. 8 402 tonnes. Given this and the fact that Herefordshire is an exporter of this waste stream, it would appear that no provision for the management of this waste stream is required through the LDF. In the case of this waste stream the amount is so small that there is no need to seek a strategic site and it would therefore be reasonable to rely on PPS10 to assess planning applications for sites to transfer or process hazardous waste.

11.5.5 Agricultural Waste

The Agricultural Waste Regulations which came into force in 2006 brings agricultural waste in line with other industrial waste controls. The legislation provides for waste to be managed on or off-site subject to licensing and also provides for exemptions relating to on-site treatment and re-use. Subject to the outcome of any further research to be undertaken by the Council seeking to clarify how and how much agricultural waste plastics is managed within Herefordshire, it is not proposed that the LDF provide dedicated facilities for the management of agricultural waste, although there will be opportunities during consultations on the various LDF documents for waste operators to bring forward potential sites should there be a need and they were considered to be viable.

11.6 Potential Site Requirements

From the estimates of capacities and requirements it is possible to draw some very broad conclusions on the site areas needed during the period of the Core Strategy. At this stage this is done solely for the municipal and commercial and industrial waste streams.

Tightly aligning waste management site provision to arisings is difficult as the types of facility/ technology provided, which is yet unknown, can have a significant impact on the site capacity. Nevertheless, there is guidance (and included below are references from CLG, the Environment Agency, and Welsh Assembly Government) that can assist in this process. A summary is provided in Box 111.

Box 11.1 Facility Area Requirements

ODPM (now CLG) Planning for Waste Management Facilities: A Research Study (2004)
Strategic recycling facilities: 50 000 tonne facility would require 1-2 hectares
In-vessel composting: 25 000 tonne facility would require 2-3 hectares
Small scale thermal treatment/ gasification/ pyrolysis: 50 000 tonnes would require 1-2 hectares
Large scale thermal treatment: 250 000 tonnes would require 2-5 hectares
Environment Agency Waste Technology Data Centre
Small scale thermal treatment/ gasification/ pyrolysis: 60 000 tonnes would require 1-2 hectares
Waste Strategy Unit, Welsh Assembly Government
Small scale thermal treatment/ gasification/ pyrolysis: 80 000 tonnes would require at least 1-2 hectares

A broad indication of the site requirements is set out in the following sections.

11.6.1 Municipal Waste

Subject to joint municipal waste management contract arrangements with Worcestershire, assuming a recycling and composting requirement of around 62 550 tonnes, less the 2007/8 recycling and composting rate of 28 800 tonnes, there is a potential shortfall of 33 750 tonnes capacity. For strategic facilities this would equate to a site area of 1-2 hectares, however, the land area required for in-vessel composting would be greater with a mix of facilities.

For further recovery, a requirement of around 99 000 tonnes would equate to a site requirement of 2 hectares or more. Note that this could increase further if further landfill capacity is not available outside the county. As previously outlined, the issue relates to whether there is adequate flexibility provided under the existing waste management contractual arrangement to ensure that Herefordshire's residual waste management needs are met.

11.6.2 Commercial and Industrial Waste

A similar assessment of this waste stream would indicate that around 186 750 tonnes of recovery capacity would be needed. If we assume that there is current capacity of 10 000 tonnes (waste handled at sites in 2007) then further capacity would be needed for 176 750 tonnes which would equate to a site requirement of between 8 and 10 hectares or more if composting infrastructure is included, depending on the mix of sites. Again this takes no account of any waste that may be attracted from other parts of the sub-region.

11.7 Conclusions

This section has demonstrated the current dominance of landfill as a waste disposal route. However, with the introduction of a range of diversionary policies such as the Landfill Tax and statutory recycling/ recovery targets, the role of landfill is set to diminish and more focus placed on recycling and recovery options.

In terms of capacity to manage waste, a simple analysis of existing permitted capacities against annual input rates has demonstrated that the study area has a deficit of disposal / management capacity so further sites will need to be brought on-stream.

Appendix A
List of Abbreviations

2 Pages

List of Abbreviations

Abbreviation	Definition
BERR	Department for Business Enterprise and Regulatory Reform (formerly the Department for Trade and Industry)
BGS	British Geological Society
BPEO	Best Practicable Environmental Option
C&D	Construction and demolition waste
CDEW	Construction demolition and excavation waste
CLG	Department for Communities and Local Government (formerly the Office of the Deputy Prime Minister)
DEFRA	Department for Environment, Food and Rural Affairs
DPD	Development Plan Document
EWC	European Waste Catalogue
IDO	Interim Development Order
LDF	Local Development Framework
MPA	Mineral Planning Authority
MPG	Minerals Planning Guidance note
MPS	Minerals Policy Statement
MRF	Materials Recycling facility
MSA	Mineral Safeguarding Area
mt	million tonnes
mtpa	million tonnes per annum
ODPM	Office of the Deputy Prime Minister (now the Department for Communities and Local Government)
ONS	The Office for National Statistics
PPG	Planning Policy Guidance note
PPS	Planning Policy Statement
RPG	Regional Planning Guidance
RSS	Regional Spatial Strategy
RTAB	Regional Technical Advisory Board
RWS	Regional Waste Strategy
SWMA	Strategic Waste Management Assessment
UDP	Unitary Development Plan
WCA	Waste Collection Authority
WML	Waste Management License

Abbreviation	Definition
WMRA	West Midlands Regional Assembly
WMRAWP	West Midlands Regional Aggregates Working Party
WPA	Waste Planning Authority
WRAP	Waste Resources Action Programme