Technical Appendix 2 - Annex H: Entec Report

Shropshire County Council

Assessment of Potential Locations for the Disposal of Non-Hazardous Waste in Shropshire

Final Report

12 March 2003

Entec UK Limited

Report for

Mr Adrian Cooper
Assistant Planning Officer
Community & Environment Services
Shropshire County Council
Shirehall
Abbey Foregate
Shrewsbury
Shropshire
SY2 6ND

Main Contributors

Ian Cromie
Claire Brown
Ian Gates
Ben Fretwell
Nigel Millington
Mike Pearson

Issued by

.....
Claire Brown

Approved by

.....
Ian Cromie

Entec UK Limited

160-162 Abbey Foregate
Shrewsbury
Shropshire
SY2 6BZ
England
Tel: +44 (0) 1743 342000
Fax: +44 (0) 1743 342010

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\rr056i3.doc

Shropshire County Council

Assessment of Potential Locations for the Disposal of Non-Hazardous Waste in Shropshire

Final Report

12 March 2003

Entec UK Limited

Certificate No. FS 13881

In accordance with an environmentally responsible approach, this document is printed on recycled paper produced from 100% post-consumer waste or TCF (totally chlorine free) paper

Contents

PART A: SETTING THE SCENE

1. Introduction

Shropshire County Council is presently preparing its first Waste Local Plan. The plan period will run from 2002 to 2014 and will seek to provide additional capacity by identifying a range of sites that may be suitable, "in principle", for new waste management facilities.

On 12 June 2002, the Council published a first stage deposit draft of the plan. In accordance with national and regional planning policy, this draft plan has sought to apply the proximity principle and to maximise local self-sufficiency by identifying sites close to the main urban areas or in strategic locations. The plan assumes that there will be a significant increase in the diversion of waste away from landfill, but also identifies a need for additional disposal capacity (landfill and landraise) during the life of the plan.

Entec has been instructed to assess potential locations for the disposal of non-hazardous waste in Shropshire. This has been achieved in two separate and related stages:

- **Stage 1:** By evaluating the methodology applied to arrive at preferred areas for non-inert waste disposal already identified in the first stage deposit Shropshire Waste Local Plan and, if necessary, recommending any changes to the selection criteria;
- **Stage 2:** By assessing in more detail, the potential areas identified through the application of the methodology established under Stage 1.

The outcome of the overall project will inform the second deposit draft of the Shropshire Waste Local Plan and any subsequent public inquiry. The purpose of this report is to set out the findings of the work undertaken by Entec in respect of Stages 1 and 2 above.

Following this introduction, the remainder of Part A sets out the background to the establishment of the non-hazardous land disposal allocations in the present draft Shropshire Waste Local Plan (1st deposit) and details a review of locational waste policy in national, regional and local policy guidance. Part B then details the results of Entec's work in relation to Stage 1. Specifically, Section 4 critically assesses the criteria employed by Shropshire County Council and develops the assessment by drawing conclusions and recommending changes to the County Council's approach to site selection.

Stage 2 is covered by Part C of this report, which deals with the re-application of the amended site selection criteria. Sites identified as being potentially suitable for the location of land disposal facilities are then highlighted. Prior to further detailed assessment of these sites, the assessment methodology and background assumptions applied to the potential sites are set out and the results of the individual detailed site assessments outlined. Finally, conclusions are drawn in Part D.

2. The Shropshire Waste Local Plan

2.1 Background

As set out in the draft Shropshire Waste Local Plan (1st deposit), in developing a framework for site selection, the aim has been to comply with Planning Policy Guidance Note 10. This states that Waste Planning Authorities should, where possible, identify in their development plan, sites for waste management and disposal facilities over the period of the plan, including facilities for the management of waste with specific requirements (paragraph 29 (f)). Whilst nationally there is a clear policy drive for waste to be diverted away from disposal to land, Government also recognises that landfill/landraise activities will continue to be needed, not only while alternative forms of waste management are brought on stream, but also to dispose of residual material from alternative management methods.

The draft Shropshire Waste Local Plan recognises a continued need for additional land disposal capacity in Shropshire.

2.2 The Need for Non-Hazardous Land Disposal Sites in Shropshire

In order to establish whether sufficient capacity exists within Shropshire's permitted waste management facilities to handle the various waste streams, the Planning Authority has prepared forecasts of anticipated waste generation, (Technical Appendix 1 to the draft Shropshire Waste Local Plan "*"Waste Projections*"). These forecasts have been presented in the draft Plan and are compared against annual capacity requirements for individual waste management methods needed over the plan period - capacity requirements which reflect changes in waste management performance required to meet changes in legislation.

Comparing the annual requirements with available capacity has shown that existing void space for non-inert, non-hazardous landfill is sufficient to last only about 4 years. Although the plan assumes that substantial increases in the recycling and recovery of waste will take place over the plan period, additional landfill capacity will still be required. Indeed, based on the plan's forecasts, it is estimated that additional capacity of 3 493 000 cubic metres is needed by 2014.

Data suggests that approximately 40% of the waste generated in Shropshire is from Shrewsbury. The County Council has applied the proximity principle and has sought to provide additional strategic land disposal capacity in central Shropshire, around Shrewsbury. Potential sites have been identified in this context.

In terms of land disposal, the Shrewsbury catchment is presently served by a landfill operation at Betton Abbots, (approximately 3 km south of Shrewsbury). This site is currently the subject of a planning application to extend the existing operation, which has been approved by the County Council's planning committee, subject to the satisfactory completion of a legal agreement relating primarily to highways improvements. This site, however, would be unable to meet the long term need for additional voidspace in the Shrewsbury catchment area. This is not only in terms of overall capacity, but also because the site would continue to manage a

greater proportion of household waste. There is therefore a need for capacity to handle commercial and industrial waste (at present 45% of the waste going to Betton Abbots landfill is from commercial and industrial sources).

2.3 Request for Sites to be Included in the Shropshire Waste Local Plan

Shropshire County Council conducted a basic trawl for potential sites to meet the County's needs by contacting known waste management companies and landowners. As a result of this direct request, only three potential sites were highlighted:

- Land at Gonsal (on the A49);
- Land at Barnsley Lane, Bridgnorth;
- Land at Woodhouse Farm, Redhill.

Due to issues associated with aquifer status, access, proximity of nearby sensitive landuses, Green Belt and distance from key sources of waste arisings, the former two sites were considered unsuitable for inclusion in the Waste Local Plan. The third site, Woodhouse Farm, was ultimately included in the draft plan as a potential site for non-hazardous waste disposal.

2.4 Shropshire County Council's Desk Top Exercise

2.4.1 Reason for Conducting a Desk Top Exercise

As a result of the lack of potential sites coming forward, coupled with the County Council's assessment that further capacity would be needed over the plan period, the planning authority initiated a desk top exercise to identify further potential disposal sites. Early in their desk top exercise, the County Council looked at the potential for existing quarry voids to accommodate further waste disposal capacity and concluded that none in the County were suitable (a similar exercise had been conducted in the past as part of the work surrounding the formulation of the Shropshire Waste Management Strategy, which had also reached the same conclusion). The County Council then employed a methodology to assess potential sites which incorporated the application of a range of exclusionary and discretionary criteria - criteria which are reflected in the key objectives and land-use strategy of the Plan.

2.4.2 Exclusionary Criteria Applied in the Selection of Sites

Exclusionary objectives were applied first in the desktop exercise. The boxed statements provide a summary of each of the exclusionary criteria to be tested against the literature review later in Section 4.

Proximity

In order to comply with the proximity principle that waste should be managed as close as possible to its point of generation, the draft Waste Local Plan has, as a key objective:

"To minimise the environmental impacts of transporting waste by encouraging the location of waste management facilities as close as practicable to the point where the waste is produced."

(Key Objective F, paragraph 4.5, Shropshire Waste Local Plan - 1st Stage Deposit)

As a means of fulfilling this commitment, when assessing sites for inclusion in the draft Waste Local Plan, the County Council incorporated a criterion requiring potential new land disposal operations for non-inert waste to be within a 12 km radius of Shrewsbury. This study area is shown on Figure 2.1.

Criterion 1:

Potential sites should be located within a 12 km radius of Shrewsbury.

Access and Highways

This part of the site assessment exercise comprised a 2 stage approach. Firstly, suitable roads leading out of Shrewsbury, most able to accommodate additional heavy vehicle movements were identified. These were defined as being all A roads, except: parts of the A488 that pass through a number of small settlements and have known limitations for LGVs; and some selected B roads - namely the B4386 (Bicton and Wellington) and the B4393 (Alberbury - off the A458).

Criterion 2:

Potential sites to be located either on or close to an A road (excluding parts of the A488 that pass through settlements with LGV restrictions) or identified B roads - the B4386 and the B4393.

Secondly, areas along the "suitable" road corridors were identified. The identification of such areas assumed that locations were either directly adjacent to the suitable roads, or could be easily accessed from them via a short stretch of minor road, which is either satisfactory or capable of improvement, and which does not pass through a settlement.

Site Size

For sites to be included as having potential for non-inert land disposal, they needed to comprise a continuous area in excess of 10 hectares.

Criterion 3:

Potential sites to cover a minimum continuous area of 10 hectares.

Residential and General Amenity

In recognition of the need to protect the amenity of sensitive land uses, sites had to be at least 300 m away from a private property.

Criterion 4:

Potential sites to be at least 300 m away from the nearest private property.

Application of Constraints

Over and above the criteria listed above, the desk top exercise sought to protect particularly environmentally sensitive areas. In particular, the following sites/areas were excluded:

- Sites covered by constraints identified on the Shropshire County Council Environmental Register, (e.g. Ramsar Sites; Sites of Special Scientific Interest (SSSIs); Wildlife Sites; Ancient Woodland; Ancient Monuments; Conservation Areas; Areas of Outstanding Natural Beauty (AONB) etc);
- Sites located within 200 m of a Ramsar site, a SSSI and Wildlife Sites;
- Sites within the floodplain;
- Sites located on a major aquifer.

Criterion 5:

Potential sites should not be covered by a constraint identified on the Shropshire County Council Environmental Register.

Criterion 6:

Potential sites should not be located within 200 m of a Ramsar Site, a SSSI or a Wildlife Site.

Criterion 7:

Potential sites should not be located within the floodplain.

Criterion 8:

Potential sites should not be located on a major aquifer.

Following the application of criteria 1 to 7, 40 potentially suitable sites were identified. This was reduced to only 11 sites after the application of criterion 8.

2.4.3 Discretionary Criteria Applied in the Selection of Sites

The 11 sites identified as a result of applying all the exclusionary criteria were then the subject of more detailed site appraisals, which looked additionally at a range of positive and negative discretionary criteria. These were:

- Suitability of the site for development;
- Current land-use, including the need to protect the best and most versatile agricultural land;
- Local Plan designation (if any);
- The degree to which any proposal would be contrary to the need to protect and enhance the countryside;
- The degree to which any proposal would have an adverse effect on the setting of settlements, including the historic environment;
- Proximity to Shrewsbury and the ability of the surrounding road network to accommodate additional LGV traffic;
- The potential for utilising other modes of transport;
- The degree of risk surrounding the potential pollution of air, water and soil;
- The degree of impact surrounding potential noise and light pollution;
- Existing sources of pollution and any potential cumulative impact;
- Scope for the co-location of facilities.

Following this more detailed site evaluation, the desk top exercise identified 6 sites as having potentially less limitations for waste development. Of these 6 sites, two were carried through as potential allocations in the draft Waste Local Plan to serve the Shrewsbury area:

- Land at Lower Edgebold;
- Land at Day House Farm.

The draft Waste Local Plan allocates another site, Woodhouse Farm at Redhill, which is outside the scope of this study at this stage (the site is, however, considered in some detail in Part C of this report).

3. Review of Locational Waste Policy

3.1 Purpose of this Section

The purpose of this section is to set out the policy basis against which an evaluation of Shropshire County Council's site selection methodology can be carried out. Shropshire County Council, in the second section of the draft Waste Local Plan (1st deposit), has already conducted a generic policy review, however, the emphasis here is entirely upon guidance and policy concerning **the selection of sites** for waste facilities (specifically landfill and landraise operations).

This falls into two main parts:

- A review of relevant national and regional policy relating to the management of waste and development plans relevant to Shropshire;
- An assessment of existing and emerging policy at the local level.

3.2 National and Regional Planning Policy

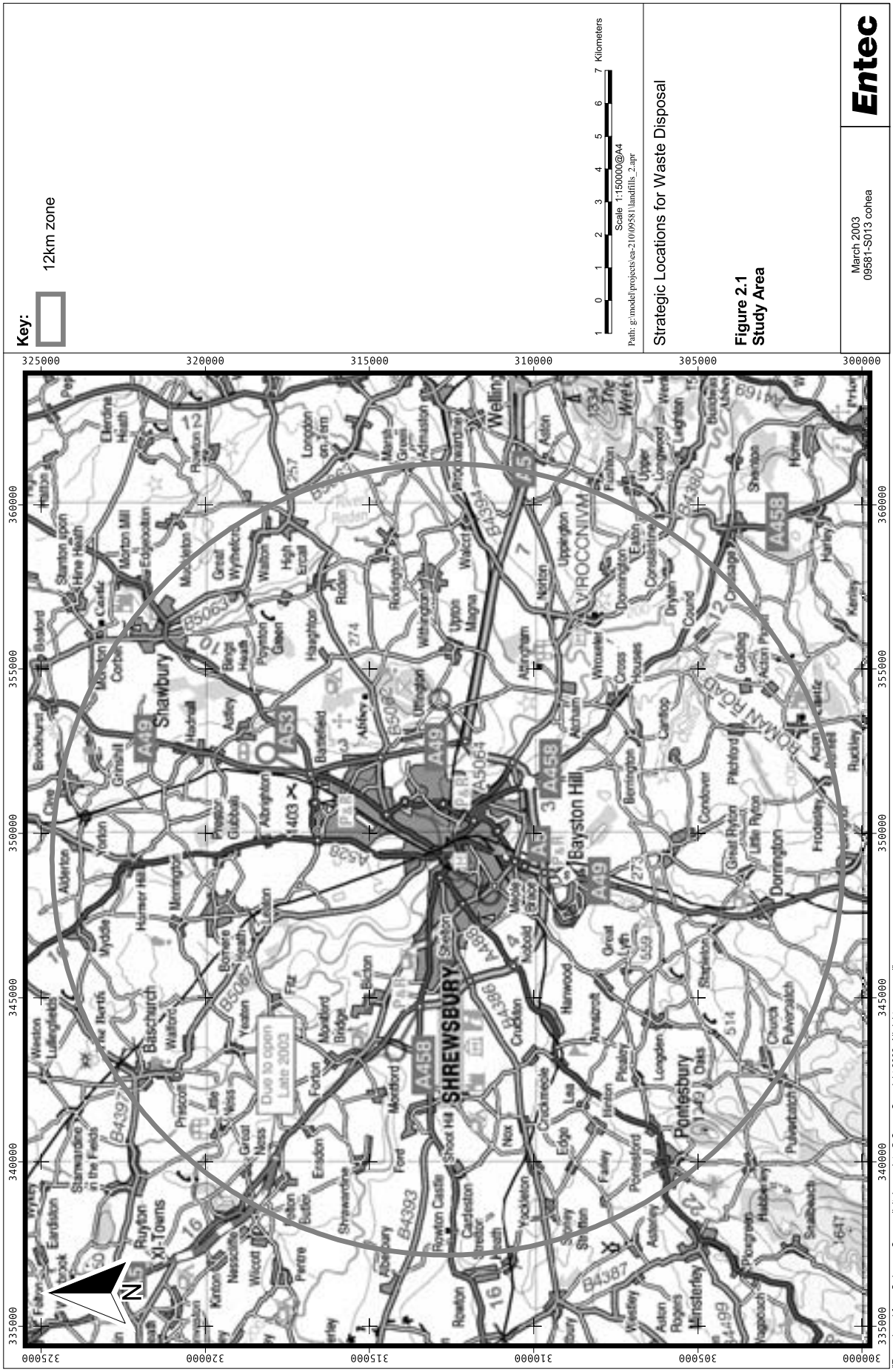
National planning policy guidance on waste was previously set out in PPG23 *'Planning and Pollution Control'*. Although this guidance remains of relevance to waste planning in terms of pollution potential, revised guidance on waste is now contained in PPG10 *'Planning and Waste Management'* (1999). Its contents are discussed below.

3.2.1 PPG 10 Planning and Waste Management

Key Principles

PPG10 advises how the planning system should contribute to sustainable waste management through the provision of appropriate sites for waste management facilities and the effective control of environmental effects. It advises that Waste Planning Authorities (WPAs) should make decisions informed by the National Waste Strategy 2000 (DETR, May 2000) and the following key principles are defined in Box 1 of PPG10:

- **The best practicable environmental option (BPEO)**. PPG10 refers to the definition provided by the Royal Commission on Environmental Pollution. *'The outcome of a systematic consultative and decision-making procedure which emphasises the protection and conservation of the environment across land, air and water. The BPEO procedure establishes for a given set of objectives, the option that provides the most benefits or the least damage to the environment, as a whole, at acceptable cost, in the long term as well as the short term'*.
- **Regional Self-Sufficiency**. This means that most waste should be treated or disposed of within the region that it is produced and each region should provide capacity for at least 10 years.



- **The Proximity Principle**. This requires that waste should be managed as near as possible to the place of production.
- **The Waste Hierarchy**. This is a theoretical framework to guide waste management options. It is based upon:
  - Reduction;
  - Re-use;
  - Recovery (recycling, composting and energy recovery);
  - Disposal.

The Location of Facilities

In Annex A of PPG10, advice is given on the range of issues to be considered in the planning process and in framing planning conditions. Specifically, paragraph A50 states that *"locations should be considered within the context of national and regional policies as set out in national and regional planning guidance and the provisions of the development plan for the area. In general the most appropriate locations will be those with the least adverse impacts on the local population and the environment. Particular care should be taken to avoid locations where new waste facilities may be incompatible with existing land uses."* Paragraph A51 also provides some guidance on the potential siting of waste management facilities. Preferred locations include:

- **Industrial areas**: especially those containing other heavy or specialised industrial uses;
- **Degraded, contaminated or derelict land**: well-located, planned, designed and operated waste management facilities may provide good opportunities for remediating and enhancing sites which are damaged or otherwise of poor quality, or bringing derelict or degraded land back into productive uses;
- **Existing and former quarries**: landfill is commonly used in quarry restoration but there may be opportunities for other types of waste management facilities at some quarried sites;
- **Existing landfill site**: where, for instance, composting facilities may be conveniently located;
- **Existing or redundant sites or buildings**: which could be used, or adapted, to house incineration or materials recycling facilities, or composting operations;
- **Sites previously occupied by other types of waste management facilities**;
- **Other suitable sites**: such as those located close to railways or water transport wharves, or major junctions in the road network.

3.2.2 Other National Legislation and Policy Advice

Whilst PPG 10 forms the main planning policy basis for waste development, the following legislation and national planning policy guidance is also particularly relevant to this study:

The Landfill (England and Wales) Regulations 2002

The Landfill (England and Wales) Regulations came into force in June 2002. These regulations are derived directly from the requirement placed upon Government to transpose the provisions of the EU Landfill Directive (9/31/EC) into UK law. Generally, these regulations seek a diversion of waste from landfill and set out how the UK can meet its ambitious targets set for all Member States for the reduction of biodegradable municipal waste (BMW) disposed to land.

The impact of the full implementation of the Regulations on the type of waste disposed to land, landfill design criteria and the potential for adverse environmental impacts, is assessed in Stage 2 of this study. However, it is appropriate here to consider the provisions of the regulations with regard to the location of landfill and landraise facilities.

Paragraph 1 (1) of Schedule 2 sets out those issues that must be considered when assessing the location of new landfill facilities. The criteria is as follows:

- Distance from the boundary of the site to residential and recreational areas, waterways, water bodies and other agricultural or urban sites;
- The existence of groundwater, coastal water or nature protection zones, (SSSIs, Ramsar Sites, SPAs and SACs) in the area;
- Geological or hydrogeological conditions in the area;
- The risk of flooding, subsidence, landslides or avalanches on the site;
- Protection of the natural or cultural heritage of the area.

Guidance on Policies for Waste Management Planning (DTLR, May 2002)

In May 2002, The Department for Transport, Local Government and the Regions (DTLR) (now the Office of the Deputy Prime Minister), published a good practice guide covering policies for waste management planning. This guidance was the culmination of a research project commissioned by DTLR and was produced with the intention of assisting waste planning authorities in preparing their waste development plans.

In addition to providing advice on, and setting out examples of, good practice relating to the formulation of all aspects of waste planning policy at the local level, the document provides guidance on site identification for waste management facilities. It notes that the criteria used for selecting sites should be transparent and based on robust planning principles. The Gloucestershire Waste Local Plan (deposit draft) is cited as a good practice example, which used the following criteria to identify sites:

- Relative proximity to existing urban areas;
- Use of derelict/despoiled land (as supported by PPG1 *Policy and Principles*, which prefers the development of land within urban areas, particularly on previously developed sites, provided that this creates or maintains a good living environment, before considering the development of greenfield sites);
- Avoidance of the use of greenfield sites, unless already allocated for B2/B8 employment use;
- Sufficient space available to accommodate a facility, allowing for room for expansion;

- Access to different modes of transport;
- Consistency with extant local plans.

The guidance goes on to note that landfill will continue to be required for residual wastes. In this regard it notes the potential opportunity for securing restoration of former mineral workings by means of landfill.

Environment Agency Regulatory Guidance Note 3 (Version 4.0) - Groundwater Protection: Locational Aspects of Landfills in Planning Consultation Responses & Permitting Decisions

To facilitate implementation of the provisions of the Groundwater and Landfill Directives, in December 2002 the Environment Agency published a regulatory guidance note on the locational aspects of landfills (RGN 3). The purpose of this guidance note is to set out the stance that the Agency would adopt when consulted on planning applications for landfills.

The Environment Agency's position on the location of landfills can be summarised as follows:

- The Agency will object to any proposed landfill on groundwater Source Protection Zone (SPZ) I.
- In terms of other locations, where active long-term site management is essential to prevent long-term groundwater pollution, the Agency will object to sites that are:
  - Below the watertable, where groundwater provides an important contribution to river flow or other sensitive surface waters;
  - On a major aquifer;
  - Within SPZ II or III.

As most landfills/landraise sites require some form of active long-term management, these criteria are effectively exclusionary.

Strategic Planning for Sustainable Waste Management: Guidance on Option Development and Appraisal (ODPM Guidance, November 2002)

This guidance sets out a methodology for appraising strategic waste planning options and is aimed primarily at the Regional Technical Advisory Bodies (RTABs). It is, however, recognised that the guidance may also assist strategic planning authorities engaged in planning for waste management. Specifically of relevance to this study, the guidance note provides advice on identifying and agreeing appraisal criteria. Recommended objectives include:

- To ensure prudent use of land and other resources;
- To reduce greenhouse gas emissions;
- To minimise adverse impacts on air quality and public health;
- To conserve landscapes and townscapes;
- To protect local amenity;
- To minimise adverse effects on water quality;

- To minimise local transport impacts (congestion, severance, fear and intimidation, physical damage etc);
- Conservation and enhancement of wildlife habitats and species;
- Preservation of the built and archaeological heritage;
- Conservation and enhancement of the natural beauty and amenity of the land, including tree and hedgerow protection and planning;
- Protection of the best and most versatile agricultural land.

Planning Policy Guidance Note 2 (PPG2): Green Belts

PPG2 sets out the Government's policy to prevent urban sprawl by keeping Green Belt land permanently open and free from urban development. The objectives of Green Belt policy include the enhancement of landscapes close to where people live and the improvement of damaged and derelict land around towns. The restoration of mineral voids within the Green Belt is encouraged by the guidance and the use of waste to secure restoration is not explicitly discouraged, although it is noted that any proposal should seek to maintain openness and support Green Belt objectives.

Planning Policy Guidance Note 7 (PPG7): The Countryside and the Rural Economy

PPG7 provides advice on the role of the planning system in relation to the countryside. It also sets out the over-arching principle that development should bring benefits in the form of economic activity as well as enhancing the environment. It states that voids in rural areas are frequently used for landfilling operations and that rural areas may also be appropriate for other forms of waste processing. However, PPG7 also sets out the special considerations that apply in nationally designated landscapes such as AONB where, in general, policies should favour the conservation of the natural beauty of the landscape.

Planning Policy Guidance Note 9 (PPG9): Nature Conservation

PPG9 advises on the treatment of nature conservation through the planning process. It sets out the obligations of the planning system in meeting international and national obligations and legislation to protect all sites of nature conservation interest, giving greatest protection to those of international or national significance. Sites of local significance or non-statutory sites can be treated with more flexibility, although in the context of a particular site, PPG9 indicates that there may be opportunities to enhance its nature conservation interest.

Planning Policy Guidance Note 13 (PPG13): Transport

A key objective of PPG 13 is to integrate planning and transport at all levels to promote more sustainable transport choices, to promote accessibility to jobs and services and to reduce the need to travel by car.

Planning Policy Guidance Note 15 (PPG15): Planning and the Historic Environment

PPG15 includes planning policy on listed buildings and conservation areas. It requires development plans to include policies for the protection of the historic environment, whether individual listed buildings, conservation areas, parks and gardens, historic battlefields or the wider historic landscape. Greatest protection is conveyed upon statutorily protected sites.

Planning Policy Guidance Note 16 (PPG16): Archaeology and Planning

PPG 16 states that where archaeological remains are identified and scheduled as being of national importance they should normally be earmarked in development plans for preservation. Other unscheduled remains of more local importance may also be identified as being worthy of preservation.

Planning Policy Guidance Note 22 (PPG22): Renewable Energy

PPG22 includes an Annex on landfill gas (LFG) and covers collection and control as well as electricity generation. It indicates that a LFG plant should be located away from housing and sensitive end-uses for health and safety reasons.

Planning Policy Guidance Note 25 (PPG25): Development and Flood Risk

PPG25 sets out planning policy within areas at risk of flooding from either fluvial or coastal inundation. The guidance states that in such areas, Local Planning Authorities should adopt a risk based assessment to establish the probability of flooding and the likely severity. Consultation with the Environment Agency would need to establish that any waste development is sustainable and defences are either available or provided as part of the development. It is vital that any protection measures provided do not pass flood risk onto a third party.

Minerals Planning Guidance Note 7 (MPG7): The Reclamation of Mineral Workings

MPG7 sets out the Government's policy on the reclamation of mineral workings. It is recognised that restoration and aftercare can enhance the long-term quality of land and landscapes. Several possible after-uses are suggested, including agriculture, forestry and amenity use.

For agriculture, it is considered that where the original land was of high agricultural quality, then consideration should be given to returning the land to agricultural purposes.

For amenity uses, it covers open grassland, informal recreation areas, country parks, amenity woodland and water areas. It also acknowledges the benefits that can be achieved from contributing to Government policies on recreation and nature conservation, including the UK Biodiversity Action Plan.

3.2.3 Regional Context

The regional policy context for waste planning in Shropshire is provided by Regional Planning Guidance Note 11 - RPG for the West Midlands Region (April 1998).

With regard to waste planning, RPG11 does not attempt to duplicate policy provided by PPG10, which has been discussed above. Instead, it stresses the importance of applying the proximity principle when evaluating the best locations for new waste management facilities. Where waste cannot be disposed of close to its source, priority is placed on the use of water or rail transport. Moreover, the guidance states that when identifying sites, regard should be given to environmental, geological, hydrogeological and access constraints.

A review of RPG 11 has been initiated by the West Midlands Local Government Association and specifically in terms of waste planning guidance set out in RPG, the recently published West Midlands Regional Waste Strategy, will form a fundamental part of the RPG review.

3.2.4 Conclusions on National and Regional Policy

There are clear principles in place that govern the acceptability and location of waste facilities. The County Council needs to contribute to the principle of regional self-sufficiency and to demonstrate that their proposals provide the BPEO.

In principle, facilities should be provided as close to the source of arisings as possible and PPG10 suggests a number of preferred locations where waste uses might be sited.

Finally, a review of the relevant national planning policy guidance provides the context for the main constraining designations in the County. These include international and national designations pertaining to landscape (AONB), nature conservation, (Ramsar Sites, SSSIs, National Nature Reserves (NNRs) etc), the historic environment (listed buildings, conservation areas) and floodplains. Other designations, such as Green Belt, do not prohibit waste development (particularly in the case of landfill), but do clearly exert a major influence upon the nature and acceptability of a proposal and the final landform, which may particularly affect any landraising.

3.3 Local Policy Guidance

The Shropshire Waste Local Plan is being prepared not only against the backdrop of national and regional policy guidance, but also in the context of the existing local planning policy framework. Consideration of and conformity with this framework will be a further important test for the site selection objectives identified in Section 2.

Shropshire County Council and Telford & Wrekin Joint Waste Planning Strategy

Whilst Shropshire County Council and Telford and Wrekin Council have resolved to prepare separate Waste Local Plans, in an attempt to co-ordinate their approaches, a Joint Waste Planning Strategy was published in May 2002. This strategy contains a number of agreed strategic aims and objectives, the following of which are of relevance to this study:

Strategic Objective A - *"To ensure that there is an integrated network of waste management facilities within Shropshire and Telford and Wrekin, which make adequate provision for waste arising in each area."*

Strategic Objective D - *"To avoid locating waste management facilities where they could cause harm to human health or incur unacceptable impacts on the environment."*

Strategic Objective F - *"To minimise the environmental impacts of transporting waste by encouraging the location of waste management facilities as close as practicable to the point where the waste is produced."*

Shropshire and Telford & Wrekin Joint Structure Plan (Adopted November 2002)

The strategic policy context for waste is provided by Policies P63 - P69 of the Shropshire and Telford & Wrekin Joint Structure Plan. In addition to seeking to ensure that adequate facilities exist for the treatment and disposal of waste, the Structure Plan sets out broad guidance covering locational criteria that should be applied when selecting and assessing potential waste management sites. In particular, strategic policy requires new waste management facilities to fulfil the following criteria and should:

- Be as close as possible to the source of the particular waste stream i.e. new development should be located close to areas of demand;
- Have satisfactory access to the primary road network;
- Cause no unacceptable adverse impact upon people and local communities;
- Be suitably restored with appropriate aftercare;
- Respect local landscape character;
- Pose no threat to water resources;
- Cause no unacceptable impact to the historic environment;
- Cause no unacceptable impact on wildlife interests;
- Protect best and most versatile agricultural land;
- Not be located in areas of designated landscape or nature conservation value.

3.4 Recently Adopted and Emerging Waste Local Plans

The following section sets out a review of the site selection criteria adopted by a sample of local authorities in formulating Waste Local Plans. The focus is a purely factual review of the key elements of the approaches to facilitate a comparison with the approach adopted by Shropshire County Council.

3.4.1 North Somerset Waste Local Plan, (Adopted January 2002)

In their recently adopted Waste Local Plan, North Somerset Council adopt a criteria-only based approach to landfill/landraise proposals - no preferred locations are therefore identified.

The criteria set that are of relevance to this study are as follows:

- Landfill and landraise proposals are only regarded acceptable where elements of waste recovery or re-use are incorporated into a scheme;
- Landfill/landraise should not be located within flooding areas, unless there are no reasonable options available in lower risk areas and any harmful effects caused by the behaviour of floodwater and any increase in flood risk on or off site, could be satisfactorily mitigated;
- Development should not cause significant harm to the character of the local area;
- There would be no significant harm caused to groundwater or surface water resources;
- The proposed access to the site should be safe and capable of accommodating projected increases in levels of traffic;
- Landfill and landraise proposals should generally not be located in built up areas.

3.4.2 Lancashire Minerals and Waste Local Plan, (Adopted December 2001)

Lancashire County Council, in their Minerals and Waste Local Plan, identify two preferred sites for biodegradable landfill. As these are existing landfills with potential for further expansion and/or adjustment of levels or modification of waste type, the waste section of the Local Plan is not underpinned by any detailed site selection process. Having said that, the Local Plan does contain some very clear criteria to be applied when assessing waste proposals - criteria that are relevant to this study. In particular, these include:

- The need for buffer zones around waste facilities. Whilst the plan's policy states that these would need to be determined on a case by case basis, the supporting text eludes to a nominal stand-off distance of 250 m and in the case of landraising, which is deemed to have greater visual impact, an indicative buffer of 1000 m;
- The need to protect the best and most versatile agricultural land from irreversible loss;
- Protection of ecological and landscape designations;
- Protection of water resources and the avoidance of flood risk areas.

Relating to the need to adhere to the proximity principle, the county has been sub-divided into 5 separate areas - the intention being to seek to achieve self-sufficiency at this level as far as practicable.

3.4.3 Essex Waste Local Plan, (Adopted September 2001)

The Essex Waste Local Plan allocates four preferred sites for non-inert land disposal (landfill). In selecting these preferred sites, all existing voids in the plan area have been examined and only those identified in the Waste Plan are considered suitable for landfill to achieve restoration. Other sites have been or could be restored without landfill.

For non-landfill sites, the plan does contain details of the site selection criteria applied to arrive at preferred sites. Criteria relevant to this study are:

- Access - locate facilities near to the main highway network;
- Location - preference should be given to industrial/urban areas;
- Appearance - sites should be physically and visually capable of accommodating waste development;
- Spatial distribution - need to consider proposals against the proximity principle;
- Pollution - particularly in relation to proximity to residential properties. Indeed, one of the plan's general development control criteria is that non-inert waste should not be deposited within 250 m of residential dwellings or other sensitive land uses.

3.4.4 East Sussex and Brighton and Hove Waste Local Plan, (2nd Stage Deposit - May 2002)

In their draft Waste Local Plan, East Sussex County Council and Brighton and Hove Council have allocated a range of sites for waste management facilities by adopting a criteria based approach as follows:

- Transport - the network should have the ability to accommodate additional LGV movements (up to 250 additional movements per day for landfill). Also sites with access to the strategic road network should be favoured, where routes to the network do not pass dwellings;
- Protection of residential amenity - for non-inert landfill, the distance between the boundary of the proposed waste operation and the nearest residential building should be 250 m;
- Sites on designated areas of landscape and historic/cultural heritage importance should be excluded from development;
- Sites on or adjacent to ecological designations should be excluded from development;
- Sites where groundwater levels/movement are adversely affected should be excluded from development;
- Generally preclude sites which adversely affect public rights of way, where the impact cannot be mitigated;
- Sites with significant land-use and policy constraints should be excluded.

Specific landfill policies state that proposals for landfilling with non-inert waste would only be supported where the proposals form part of an overall scheme for the restoration of a former mineral working. In terms of landraising, this would only be supported where it formed part of an overall scheme of restoration for previously developed land, or was part of a scheme of restoration for an existing permitted land disposal site or mineral working. The plan contains a very strong presumption against non-inert landraising on greenfield land.

3.4.5 West Sussex Waste Local Plan (1st Stage Deposit - Preliminary Draft - November 2002)

In their draft plan, West Sussex County Council is proposing to broadly consider a range of positive and negative criteria when selecting suitable sites for waste management facilities. These criteria broadly include:

- Sites should be readily accessible to the major road network, the rail network and navigable waterways;
- Favourable consideration should be given to working and worked out quarries and sites previously occupied by other types of waste management facilities;
- Areas of constraint should be protected. Such criteria would be established to take account of areas where environmental/natural resources are protected e.g. AONB, SSSI etc; the protection of the undeveloped coastline; the level constraint afforded to the countryside (that may not be designated); and 'strategic gaps' between settlements (which perform a similar function to Green Belt).

3.4.6 Derby and Derbyshire Waste Local Plan, (1st Stage Deposit - June 2002)

Although the draft Derby and Derbyshire Waste Local Plan does not allocate any sites for the development of landfill/landraise facilities, the plan does stipulate that for landfill proposals,

waste should be "locally generated". For waste planning purposes, the plan area is divided into three sub areas - each of which is expected to be self-sufficient in terms of waste disposal. As such, locally generated waste is defined as that occurring within the sub-area, or part of an adjoining sub-area or county for which the landfill would be the nearest facility.

3.4.7 Staffordshire and Stoke on Trent Waste Local Plan, (Notice of Intention to Adopt August 2002)

Whilst not making any site allocations in their Waste Local Plan for the disposal of waste to land, Staffordshire and Stoke on Trent's Waste Local Plan contains generic policy statements relating to the assessment of landfill or landraising proposals - namely that such proposals would only be permitted where they represent the BPEO and where there is a need for the facility, which cannot be met by alternative waste management facilities located closer to the waste source. Proposed landfills located within 500 m of built development should be subjected to rigorous examination and only in special circumstances would landfill be considered appropriate within 250 m of residential property.

3.4.8 Cheshire Replacement Waste Local Plan Consultation Draft (September 1997)

In preparing the Consultation Draft of their Replacement Waste Local Plan, Cheshire County Council adopted the following 'major' planning constraints for a non-inert landraising facility:

i) High quality agricultural land graded 1 and 2 on the Ministry of Agriculture Fisheries and Food land classification maps;

ii) Urban areas, villages and conservation areas together with a 250 m buffer zone around these areas;

iii) Areas of Special County Value as designated in adopted, approved or draft district local plans;

iv) National Trust Land (which includes Historic Parks and Gardens and land covered by a covenant with the Trust that prevents its development) and land owned by the Cheshire Wildlife Trust, the Woodland Trust and RSPB;

v) Sites of High Ecological Value, defined as National and Local Nature Reserves, SSSIs, Sites of Biological Importance Grade A and Ancient Woodlands;

vi) Scheduled Ancient Monuments (SAMs);

vii) National Rivers Authority (now Environment Agency) Flood Risk Areas;

viii) Green Belt, as defined in approved, adopted and draft district local plans;

ix) Areas constrained by highway factors, including areas of the County where the highway network and access would be unsuitable to serve the development of a major landraising facility;

x) Areas covered by permissions for controlled brine extraction;

xi) Areas refused planning permission for landraising proposals.

3.4.9 Summary of the Waste Local Plans Review

A number of consistent policy threads emerge that direct the location and acceptability of waste facilities. These vary according to the nature of the facility being considered, but broadly conform to the guidance suggested in Annex A to PPG10 as follows:

- Under the proximity principle, the need for waste management facilities to relate well to the place of production. This suggests locations within or close to existing urban areas and centres of population.
- The objective to minimise the need to travel. This again suggests a close relationship with centres of population, but also an appropriate and adequate spread of local facilities. It also suggests the potential opportunity for larger more strategic facilities to utilise alternative transport modes such as rail and water.
- There is a high level of acceptance of the locations suggested in PPG 10, including existing or former waste sites, existing and former quarries and existing industrial areas. The need to utilise previously developed land in the first instance is not universally present, with allocated waste and employment sites also identified as suitable for waste proposals.
- The impact upon neighbouring and nearby land uses is a key policy concern and this is not restricted to residential amenity. Fundamentally, waste is only permissible where it will not have unacceptable impacts on other landuses or where it can be acceptably mitigated. To achieve this objective, there is widespread application of buffer zones/stand off distances between waste management facilities and sensitive land uses - the most common threshold being 250 m.
- This impact of traffic upon the surrounding highway network is a key concern as is the need to provide a safe and appropriate highway access.
- Proposals should not be located where there is an unacceptable risk of environmental pollution and this risk will vary according to the nature of the proposal being considered and the sensitivity of the potential targets. Nor should it be out of scale or inappropriate to its setting.
- There is a preference for further developing existing waste sites or brownfield land.

PART B: EVALUATION OF SHROPSHIRE COUNTY COUNCIL'S SITE ASSESSMENT METHODOLOGY

4. Critical Assessment of Criteria

4.1 Introduction

Against the locational policy background outlined in the previous section, this report now critically evaluates the exclusionary and discretionary criteria used in the County Council's preliminary desk top exercise i.e. that outlined in Section 2. This evaluation has essentially adopted a two pronged approach:

- Comparing criteria against Government objectives as set out in national Planning Policy Guidance Notes (PPGs); other relevant legislation; regional policy guidance, and other development plans relevant to Shropshire;
- Comparing criteria against recently prepared or adopted UK Waste Local Plans.

4.2 Assessment of Exclusionary Criteria

Exclusionary objectives generally reflect the absolute need to prevent development in certain locations. These include objectives reflecting potential direct impacts on environmental designations of international/national importance and also a number of development related objectives that seek to ensure the practical acceptability of a development location.

The appropriateness of the exclusionary objectives applied by the County Council during their preliminary study, which ruled out sites from consideration, is now assessed. In particular, this section looks closely at assumptions on:

- The application of the proximity principle and the adoption of a search area within 12 km of Shrewsbury. In undertaking this type of exercise some form of yardstick needs to be applied and we will review the origin of the threshold. It would be helpful to look at other Waste Local Plans in this context, particularly those that have progressed through public inquiry.
- The access requirements and the need to pass through settlements.
- The origin of the 10 ha threshold.
- The buffer zone of 300 m from residential properties and again the reference to other Waste Local Plans could be helpful (landfill gas guidance refers to 250 m).
- The coverage of sites in the Environmental Record which cover various designations, international, national and local, together with sites on the Sites and Monuments Record (SMR).
- The buffer zone of 200 m from Ramsar sites, SSSIs or Wildlife Sites.
- The flood risk criteria: in the Shrewsbury area, the floodplains are fairly well defined although there may be areas at the margins that need closer inspection.

- Sites that impact on major aquifers, particularly in the context of the Environment Agency's landfill location policy.

Each of the baseline criteria identified in boxes in Section 2.4.2 of this report are taken in turn and evaluated against the advice and guidance detailed in Section 3.

4.2.1 Assessment of Criterion 1 - Sites to be Located within a 12 km Radius of Shrewsbury

Conformity with Current Policy

The application of the proximity principle, coupled with the need to strive towards self-sufficiency, are cornerstones of current waste planning policy. The basic thrust behind the inclusion of a criterion, which seeks to explicitly apply the proximity principle, therefore sits well with existing planning policy (PPG 10, RPG 11). Moreover, the principle of criterion 1 also sits well with extant strategic policy - specifically Structure Plan policy P68, which requires new waste development to be located close to areas of need. However, what must be considered in more detail is the appropriateness of a 12 km threshold from the source of the waste to the final disposal point.

Existing national and regional policy does not set out any guidance on what constitutes an acceptable distance for waste to travel from its source to its point of disposal/management. This is because at the national and regional level there are simply too many variables to take into account. For example, the definition of acceptable proximity would be different in areas with spatially dispersed settlement patterns, when compared to areas that have much denser patterns of urban development. Moreover, acceptable proximity would vary depending upon the type of transport method to be employed i.e. distances become acceptably greater when waste is moved by means other than road.

Comparison with Other Recently Prepared or Adopted Waste Local Plans

Whilst this criterion cannot be evaluated in any depth against adopted and emerging national and regional policy, some comparisons can be drawn with existing and emerging Waste Local Plans.

As outlined in Section 3, of the existing and emerging Waste Local Plans assessed as part of this study, two have adopted approaches that attempt to determine what constitutes appropriate proximity. Through the delineation of sub-areas, Derbyshire and Lancashire have defined suitable catchment areas for the location of waste management facilities. It is appropriate to consider Derbyshire's approach in more detail as it better resembles Shropshire.

For the purpose of determining where future landfill proposals should be located, Derbyshire has been divided into three sub-areas. All of these areas are larger than 12 km. For example, for the sub-area that includes Derby, the area represents an average radius of approximately 22 km. However, for Shropshire, the application of 12 km around Shrewsbury may have been influenced, to a degree, by the distance to the administrative boundary of Telford and Wrekin Council. This is an important factor given the commitment laid down in the Joint Waste Planning Strategy (May 2002) which states that each waste planning authority will make provision for the disposal of its own waste (Strategic objective A). A site selection criterion that encompasses a greater radial area around Shrewsbury could prejudice the achievement of this strategic objective.

The appropriateness of applying a 12 km threshold to potential sites would become a particular issue if there were any suitable locations just outside the adopted boundary - say at 15 km - or if no potential sites could be identified within the 12 km area. Based on the desk top study already conducted, the latter is not the case. In terms of the former, as a checking exercise, Entec has conducted a sensitivity test to assess whether any potentially suitable sites exist just outside the 12 km boundary. This sensitivity test has been conducted on the basis of Entec's recommended changes to the site assessment criteria (which are summarised in Section 4).

Sensitivity Test

Taking an area 4 km over and above the original 12 km threshold (thereby increasing the radius from Shrewsbury from 12 km to 16 km), the following exclusionary criteria were applied:

- Internationally and nationally significant designations on the Shropshire Environmental Record;
- Indicative floodplains;
- Source Protection Zones I, II and II;
- Major aquifers.

Figure 4.1 illustrates that following the application of the above exclusionary criteria, significant areas of land were immediately ruled out from further consideration.

When the remaining recommended exclusionary criteria are applied i.e.:

- Exclude sites that are not within close proximity of the primary route network;
- Exclude sites that are not within 250 m of private property;
- Exclude sites that do not have a minimum continuous area of 10 hectares,

only two areas are identified as meriting further evaluation. These are:

- Land alongside the A458 between Halfway House and Rowton;
- Land alongside the A49, south of Leebotwood.

In terms of the former, given the dispersed nature of private properties, it is highly unlikely that a minimum continuous area of 10 hectares would be achievable. Moreover, the existence of water bodies, a significant area of Ancient Woodland and the close proximity of Alberbury Castle and Deer Park indicate that the area is constrained to a degree that renders the locality unsuitable for the siting of a non-hazardous waste facility.

Regarding the latter area, it is almost surrounded by an AONB and is a significant locality for the tourist industry (several recreational footpaths and other facilities such as campsites). It is also highly visible from the east and west. It is therefore considered unsuitable for accommodating a non-hazardous waste facility.

Entec's Assessment of the Validity of Criterion 1

The principle of including criterion 1 in the site selection methodology is fully supported by national, regional and strategic policy. However, Shropshire's definition of appropriate proximity equating to 12 km cannot be supported or opposed by existing policy.

When compared to other Waste Local Plans, the 12 km yardstick could be considered small. However, given proximity to the administrative boundary of Telford and Wrekin, local circumstances would appear to dictate that a search area extending 12 km beyond Shrewsbury is a fair and justifiable threshold. A sensitivity test has indicated the absence of any potentially suitable sites just outside the 12 km threshold.

4.2.2 Assessment of Criterion 2 - Sites to be Located Close to Primary Roads

Conformity with Current Policy

The general principle of including a site selection criterion that requires the local highways network to be capable of accommodating extra vehicles generated by waste development fully accords with current national and regional planning policy. In particular, paragraph A17 of PPG 10 states that:

"Where road transport is unavoidable, access to the site is likely to be a relevant consideration. Ideally, there should be direct local access to a new plant from roads of an adequate standard and that ideally, there should be direct local access to a new plant from roads of an adequate standard within the local road network."

Moreover, criterion 2 accords with paragraph A14(d) of the same PPG, which states that use should be made, as far as possible, of the major road and motorway network rather than local roads, for bulk waste movement.

Comparison with Other Recently Prepared or Adopted Waste Local Plans

The need for potential sites to be located within easy access of the main highway network is a common theme of the existing and emerging Waste Local Plans. However, Shropshire's refinement of the basic criterion to exclude sites along parts of the A488 requires evaluation. In the Shropshire Local Transport Plan, the A488 is categorised as a principal highway. Therefore, areas along this route should not be excluded from consideration. However, as the road passes through several settlements, the County Council has resolved that, in the interests of safeguarding public amenity, potential sites should be discounted.

Whilst there is little direct policy support for excluding sites requiring an access that passes residential areas, guidance does indicate that the number of vehicle movements to and from a site may have adverse effects on residential property. It may therefore be appropriate to set limits on the amount of materials or the number of movements to be handled over specific periods.

Shropshire's approach can be directly compared with that being applied by East Sussex and Brighton and Hove, who have favoured sites with access to the strategic road network, where routes to the network do not pass residential areas.

Entec's Assessment of the Validity of Criterion 2

Existing policy guidance on the location of waste management facilities would not appear to fully support a criterion that selectively excludes the siting of facilities on parts of particular primary highways. That being said, sections of the A488 are currently affected by restrictions on LGVs and there would appear to be few obvious routes for vehicles to by-pass the settlements on the A488. The application of criterion 2 would therefore seem to be appropriate.

4.2.3 Assessment of Criterion 3 - Minimum Area of 10 Hectares

Conformity with Current Policy

The requirement for sites to cover a minimum area of 10 hectares cannot be categorically supported or opposed by current national or regional planning policy, as there is no guidance relating to minimum areas is required for landraise or landfill sites.

Comparison with Other Recently Prepared or Adopted Waste Local Plans

Only two of the Waste Local Plans reviewed contain landfill allocations (Lancashire and Essex) and none contain landraise allocations. As the area occupied by landfill facilities can vary greatly, depending upon the depth of the voidspace available, little useful comparison can be made.

Entec's Assessment of the Viability of Criterion 3

The draft Shropshire Waste Local Plan states that to meet anticipated needs, additional landfill/landraise capacity of 3 500 000 cubic metres is required by 2014. Clearly, the area of land-take required would depend upon the height at which waste would be deposited at landraise sites, or the depth of potential voidspace at landfill sites. Calculation of possible land-take in terms of the latter is very difficult as depth can vary considerably. An assessment of potential land-take for landraise facilities is, however, more straight forward as all proposals would generally be starting at or near ground level.

It is Entec's experience that for proposals to be economically viable, landraise sites should be capable of accommodating at least 1 000 000 cubic metres of waste. On a site that covers an area of 10 hectares, this would equate to material being deposited at an average height of approximately 10 m. By comparison, if all of the additional capacity required in Shropshire (3 500 000 m^3) were deposited at a single site, the average height of the waste would need to be about 35 m over a 10 hectare area. Of course, the nature of the landform would mean the highest point would be well above this average.

Clearly, what is acceptable in terms of the height will vary from case to case and landraise facilities can reach 35 m above ground level. It is unlikely, however, that all of Shropshire's additional capacity could be met by a single site.

It must be noted that these very rough calculations make no provision for site infrastructure such as access roads, offices, landscaping etc. Moreover, the calculations do not include any provision for the use of other materials in the landfill/landraise for engineering or daily cover.

Given Entec's experience that sites must be able to accommodate a minimum of 1000 000 m^3 of waste to be economic, seeking sites in excess of 10 hectares is considered an acceptable threshold.

4.2.4 Assessment of Criterion 4 – 300 m Buffer Zone from Private Property

Conformity with Current Policy

The establishment of standard buffer zones is not a principle explicitly supported by guidance contained in PPG 10. Guidance relating to the location of new landfill facilities contained in the Landfill (England and Wales) Regulations 2002 does require distances from the boundary of the site to residential and recreational areas to be taken into consideration. Moreover, guidance laid out in PPG 24 *"Planning and Noise"* suggests that one way of mitigating the impact of noise

from potentially noisy developments (such as landfill and landraise operations) would be to ensure that there is an adequate distance between the noise sensitive area or property and the source. However, what must also be considered is whether a stand-off distance of 300 m is an appropriate threshold to apply.

Comparison with Other Recently Prepared or Adopted Waste Local Plans

The principle of establishing buffer zones around waste management facilities is well established in local waste planning policy. Indeed, of the existing and emerging Waste Local Plans reviewed as part of this study, five had specific buffer zone policies (either used for development control purposes or in the selection of sites), which specify stand-off distances from residential properties and other sensitive land-uses. Although not prescriptive, these indicative figures are all, with the exception of one, set at 250 m (the exception being landraise activities in Lancashire, which refers to a 1000 m buffer). Additionally, it is worth noting that the existing Telford and Wrekin Local Plan applies a 250 m buffer between waste development and sensitive land uses.

Entec's Assessment of the Validity of Criterion 4

Generic support for stand-off distances in both the Landfill Regulations and PPG 24, coupled with the fact that several Waste Local Plans in England contain such a policy, means that the general thrust of criterion 4 can be supported and regarded as appropriate.

However, what is less clear is the appropriateness of setting the threshold of the criterion at 300 m. A distance of 250 m would be more in line with the approach adopted by the latest and emerging Waste Local Plans. In addition, Waste Management Paper 26 refers to a stand-off of 250 m in the context of landfill gas emissions.

4.2.5 Assessment of Criterion 5 - Exclude Sites on the Environmental Record

Conformity with Current Policy

Guidance provided by Appendix A of PPG 10 (paragraph A54) states that sites protected by national and regional policies will not generally prove acceptable for waste management facilities. Moreover, guidance states that other attractive and open rural areas should normally be avoided for most type of facility. In a similar vein, the Landfill Regulations require the protection of nature protection zones and the natural and cultural heritage of an area (specifically SSSIs, Ramsar Sites, SPAs and SACs). The inclusion, therefore, of a site selection criterion that excludes environmentally sensitive sites would generally accord with the provisions of national policy.

The Shropshire Environmental Record, however, covers a range a designations of environmental importance, including nationally designated sites such as SSSIs and National Nature Reserves (NNRs); and designations of more local significance, such as wildlife sites and nature reserves designated by Shropshire Wildlife Trust. Through applying a criterion that places a blanket protection on all environmental constraints regardless of importance/position on the hierarchy, the County Council could be open to challenge/criticism. Indeed, paragraph 18 of PPG 9 and paragraph 4.16 of PPG 7 state that local planning authorities should have regard to the relative significance of international, national, local and informal designations in considering the weight to be attached to nature conservation sites. Local designations should, therefore, generally carry less weight than national designations.

This guidance is also reflected in the County's own strategic policy, which draws a clear policy distinction between sites of international, national and local importance (e.g. policies P45, P46, P47) - although it should be noted that the Structure Plan, in P67 states that:

"Areas of designated landscape or nature conservation value will be protected from waste management development, unless there are exceptional circumstances and where it has been demonstrated that development is in the public interest."

Comparison with Other Recently Prepared or Adopted Waste Local Plans

The stance taken by other Waste Planning Authorities engaged in the site selection process appears to vary. The criteria employed by East Sussex, for example, draws no distinction between designations. However, in other Waste Local Plans, which adopt a criteria-based approach to assessing planning applications, a distinction is drawn.

Entec's Assessment of the Validity of Criterion 5

The incorporation of an exclusionary criterion that precludes waste development in environmentally sensitive areas is fully supported by both waste planning policy and practice elsewhere in the country. However, what requires further assessment is whether site selection criteria should attempt to reflect the degree of weight, and hence protection, that should be applied to designations of lesser importance i.e. regional/local designations.

It is considered that to be consistent with national policy and the County's own strategic policy, the site selection methodology should attempt to draw a distinction between international/national designations and regional/local designations. This could most usefully be achieved by regarding designations higher up the hierarchy as exclusionary criteria, and those designations lower down the hierarchy as discretionary criteria.

4.2.6 Assessment of Criterion 6 – 200 m Buffer Zone from Ramsar Sites, SSSIs and Wildlife Sites

Conformity with Current Policy

PPG 9 places a very high priority on the need to protect the integrity of internationally and nationally significant designations from the adverse effects of development. Although not given the same weight, the protection of more locally significant sites is also recognised as being important.

The Landfill Regulations specifically refer to the importance of considering distance from the boundary of proposed landfill sites to waterways and water bodies which may include environmental designations.

Comparison with Other Recently Prepared or Adopted Waste Local Plans

When compared against other plans, the approach that Shropshire has adopted on protecting other sensitive land uses such as ecological designations can be viewed as broadly consistent. There is little evidence, however, of buffer zones around sensitive sites although there are examples in the context of sensitive land uses (by Essex) and of standard buffer zones around facilities (e.g. Lancashire).

Entec's Assessment of the Validity of Criterion 6

As a means of protecting sites from the indirect effects of landfill/landraise operations, the broad principle of including a criterion requiring a minimum stand-off distance draws support from national policy. Moreover, the experience of other Waste Local Plans would seem to suggest that the application of such an objective forms part of a robust development control framework. Given the reality that landfill and landraise operations could, to some degree, indirectly impact upon adjacent or nearby ecological designations, it would seem reasonable for criterion 6 to form part of the site selection process. However, what requires further evaluation is whether such a criterion should completely preclude potential sites from being allocated i.e. should it be exclusionary?

This report has already concluded that designations of varying importance should not all be regarded as exclusionary criteria (Section 4.2.5). As such, to completely rule out areas that simply abut designations (regardless of the status of the designation), would not comprise a consistent approach. In any case, in reality it is likely that the potential for designated ecological sites to be indirectly affected would vary from site to site depending upon the nature of the designation, local topography and other factors.

With these points in mind, it would seem more appropriate to regard buffer zones of 200 m around all designations as a discretionary criterion, to be assessed on a case by case basis.

4.2.7 Assessment of Criterion 7 - Exclude Sites on the Floodplain

Conformity with Policy

PPG 10 recognises the need to protect the quality of surface water. However, detailed national policy relating to development in areas at risk from flooding is set down in PPG 25. The guidance provides clear support for a site selection criteria that excludes development of a landraise/landfill facility in areas identified as floodplain.

The Landfill Regulations also state that risk of flooding **must** be considered when assessing potential locations for landfill facilities. In this context, locating a facility on the floodplain would be unacceptable.

National policy is reflected in the Structure Plan within a clear policy commitment to ensuring that development is not at risk from flooding (P54) and will not lead to the pollution of watercourses (P53). The Environment Agency's indicative floodplain maps provide an initial indication of the extent of the floodplain.

Comparison with Other Recently Prepared or Adopted Waste Local Plans

The exclusion of sites located on the floodplain is an approach consistent with other Waste Local Plans.

Entec's Assessment of the Validity of Criterion 7

Against the backdrop of current planning policy, an exclusionary criterion that seeks to locate development away from the floodplain can be fully supported. Similarly, when comparisons are drawn with other existing and emerging Waste Local Plans, Shropshire's approach can be validated.

4.2.8 Assessment of Criterion 8 - Exclude Sites on Major Aquifers

Conformity with National Policy

PPG 10 and the Landfill Regulations set out the importance to be attached to protecting groundwater quality. The Environment Agency is responsible for the protection of groundwater and has prepared a draft guidance note on the location of landfill/landraise operations (RGN3). The Environment Agency will object to the location of land disposal operations on major aquifers where active long-term site management is essential to prevent groundwater pollution. In reality, the majority of sites would require such management. Consequently, under the Agency's emerging policy, locating facilities on major aquifers is likely to be unacceptable. A site selection criterion that precludes sites on major aquifers can thus be supported in policy terms.

Comparison with Other Recently Prepared or Adopted Waste Local Plans

Other Waste Planning Authorities have sought to protect groundwater resources and the exclusion of sites on major aquifers can therefore be regarded as consistent.

Entec's Assessment of the Validity of Criterion 8

Criterion 8 accords with the most up-to-date policy relating to the protection of groundwater and the location of landfill/landraise facilities and is consistent with the approach in other Waste Local Plans.

4.2.9 Gaps in Exclusionary Criterion

Following the assessment of existing waste planning policy and a review of approaches to site selection and development control criteria adopted by other Waste Planning Authorities, Entec has identified the following gap in the County Council's exclusionary criteria used to select potential landfill/landraise sites for non-hazardous waste:

- Sites within Source Protection Zones.

Omission of Sites on Source Protection Zones (SPZ)

As set out in Section 3.2.2, the Environment Agency's policy on the future location of landfill facilities precludes such development from SPZ I (inner zone) and only allows development on SPZ II and III where no long-term active site management is required to prevent groundwater pollution. Almost all sites would need some form of long-term active management.

It is our conclusion that the methodology should include SPZs and that these should be exclusionary.

4.3 Assessment of Discretionary Criteria

The County Council's adopted discretionary objectives/criteria reflect their desire to either avoid or promote development in certain locations. In the case of such objectives, not meeting them does not act to preclude development outright. It is merely one consideration to be balanced against the other discretionary criteria.

Based upon the review of policy, the appraisal of the approaches adopted by other Waste Planning Authorities and Entec's own experience in devising and applying site selection

methodologies, this section of the report will now consider the discretionary criteria outlined in Section 2.4.3.

As summarised by Table 4.1, the discretionary criteria employed by Shropshire can all be supported by existing policy. However, also of significance here is the consideration of whether any discretionary criteria have been omitted. This is outlined in the next section.

Table 4.1 Assessment of Discretionary Criteria

Discretionary Criteria	Justification for Inclusion
Suitability of site for development	• To reflect the provisions of PPG 10 • To reflect the ODPM report *"Guidance on Policies for Waste Management Planning"* • Supported by other Waste Local Plans (e.g. Essex)
Current land use including need to protect the best and most versatile agricultural land	• To reflect the provisions of PPG 10 • To reflect the provisions of PPG 7 • To reflect the ODPM guidance on *"Option Development and Appraisal"* • Accords with Structure Plan policy (P42 and P67) • Supported by other Waste Local Plans (e.g. Lancashire)
Local Plan designation	• To reflect the provisions of PPG 10 • To reflect the ODPM report *"Guidance on Policies for Waste Management Planning"* • Supported by other Waste Local Plans (e.g. Essex)
The degree to which any proposal would be contrary to the need to protect and enhance the countryside	• To reflect the provisions of PPG 7 • To reflect the provisions of the Landfill Regulations • To reflect the ODPM guidance on *"Option Development and Appraisal"* • Accords with Structure Plan policy (P42 and P67)
The degree to which any proposal would have an adverse effect on the setting of settlements, including the historic environment	• To reflect the provisions of PPG 15 and PPG 16 • To reflect the provisions of the Landfill Regulations • To reflect the ODPM guidance on *"Option Development and Appraisal"* • Accords with Structure Plan policy (P67)
Proximity to Shrewsbury and the degree of ability of the surrounding road network to accommodate additional traffic	• To reflect the provisions of PPG 10 and PPG 13 • To reflect the ODPM guidance on *"Option Development and Appraisal"* • Accords with Structure Plan policy (P65) • Accords with the Shropshire and Telford & Wrekin Joint Waste Planning Strategy (objective F) • Supported by other Waste Local Plans (e.g. North Somerset, East Sussex)

Table 4.1 (continued) Assessment of Discretionary Criteria

Discretionary Criteria	Justification for Inclusion
The potential for utilising other modes of transport	• To reflect the provisions of PPG 13 and PPG 10 • Accords with Structure Plan policy (P15 and P68)
The degree of risk surrounding the potential pollution of air, water and soil	• To reflect the provisions of PPG 10 • To reflect the ODPM guidance on *"Option Development and Appraisal"* • Accords with Structure Plan policy (P67 and P15) • Accords with the Shropshire and Telford & Wrekin Joint Waste Planning Strategy (objective D)
The degree of impact surrounding potential noise and light pollution	• To reflect the provisions of PPG 10 • Accords with Structure Plan policy (P15)
Existing sources of pollution and potential cumulative impact	• To reflect the provisions of PPG 10 and PPG 23 *"Planning and Pollution Control"*
Scope for the co-location of facilities	• To reflect the provisions of PPG 10 (paragraph A51 – location of facilities) • Accords with Structure Plan policy (P65)

4.3.1 Gaps in Discretionary Criteria

Based on both Entec's experience elsewhere and the need to reflect the provisions of national planning policy, we have identified the following potential gaps in the County Council's discretionary criteria:

- Avoid loss of public footpaths and Public Rights of Way (PROW) – as supported by Circular 2/93 *"Public Rights of Way"*, Structure Plan policy P39 and other Waste Local Plans (e.g. East Sussex).
- Avoid detrimental effect on the tourist industry – as supported by PPG 21 *"Tourism"* and Structure Plan policy P29.

4.4 Assessment of Health Impacts

Members of the public who object to waste related planning applications frequently cite adverse impact upon public health as a reason for their objection. It is therefore reasonable to consider whether the potential for causing an adverse effect on public health should be a discretionary criterion considered in any site selection methodology. Indeed, the ODPM in recent guidance covering waste option development and appraisal at the strategic level, advise that in identifying and agreeing appraisal criteria, recommended objectives should include the need to minimise adverse impacts on public health. Moreover, objective D in the Shropshire and Telford & Wrekin Joint Waste Planning Strategy sets out a need to avoid locating waste management facilities where they could cause harm to human health.

The assessment of the impact of waste development on public health, however, falls within the remit of the Environment Agency through their Integrated Pollution Prevention and Control (IPPC) permit process, which is achieved by conducting risk assessment. The land use planing system is primarily concerned with the best use of land. For example, an important function of the planning process is to protect the amenity of sensitive land uses such as housing from potentially incompatible development such as waste operations. In other words, ensuring that local residents are not subjected to unacceptable levels of noise, traffic odour or visual intrusion. Moreover, in terms of the relationship between controls over development under planning law and those controls under pollution control legislation, paragraph 1.3 of PPG 23 advises that:

"The planning system should not be operated so as to duplicate controls which are the statutory responsibility of other bodies.

It is Entec's recommendation, therefore, that an assessment of health impacts is not included as part of the Waste Local Plan's site selection methodology.

4.5 Conclusions and Summary

4.5.1 Overview

The recommendations provide for limited changes to the original criteria adopted by the County Council. The following provides a summary.

4.5.2 Exclusionary Criteria

Entec's recommendations in respect of the exclusionary criteria are set out in Table 4.2.

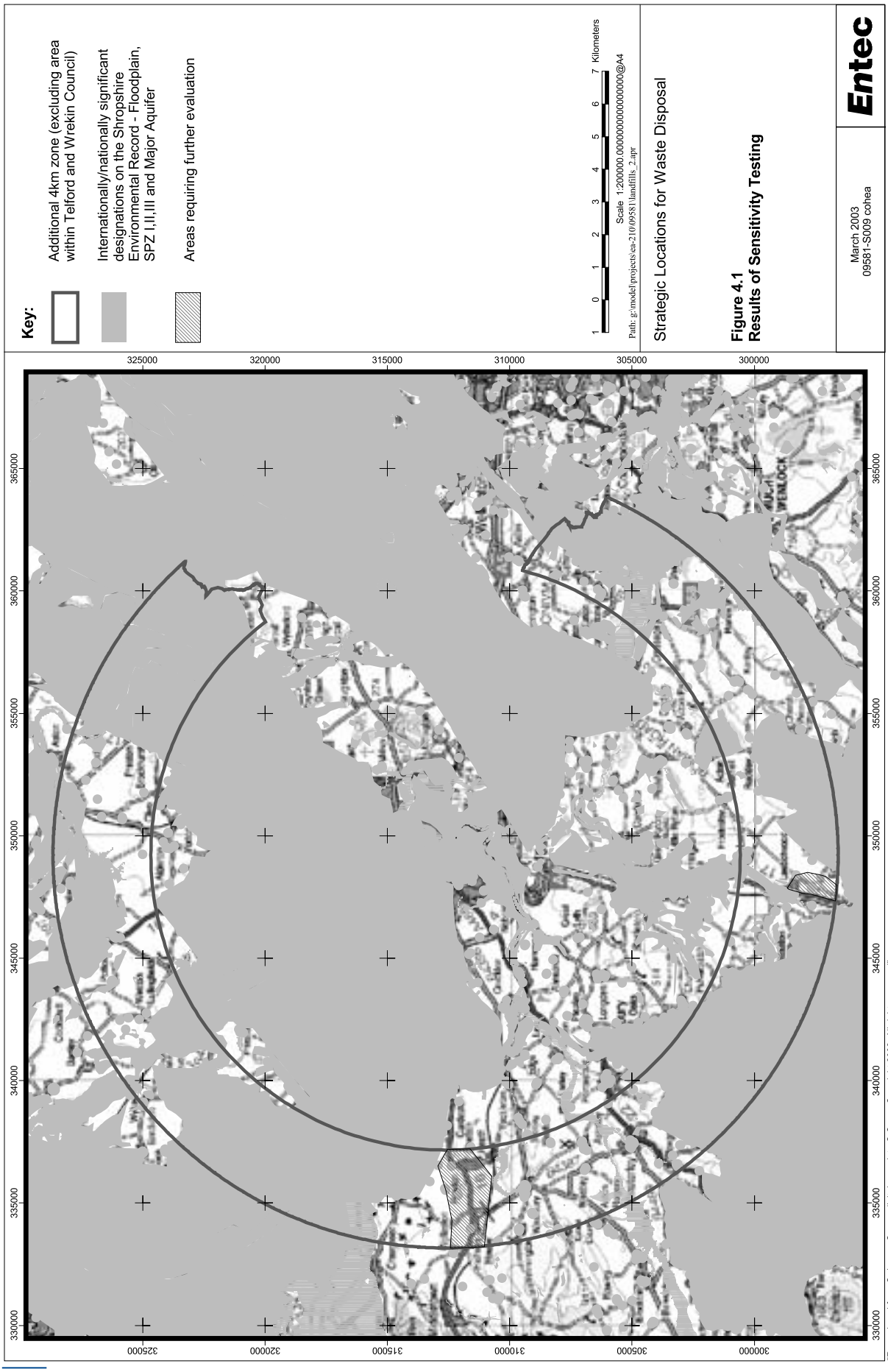
4.5.3 Discretionary Criteria

Entec's assessment of the discretionary criteria adopted by Shropshire County Council has concluded that they can be supported by current policy. Given Entec's experience with other site selection methodologies, however, there would appear to be some gaps, as follows:

- The need to consider the protection of footpaths and public rights of way;
- The need to ensure that the tourist industry is not significantly adversely affected by any potential site allocation.

Table 4.2 Summary of Recommended Changes to the Exclusionary Criteria

Exclusionary Criteria	Entec's Recommendation	Justification
(1) Potential sites should be located within a 12 km radius of Shrewsbury	Retain criterion in full	• Principle supported by policy • Pragmatic threshold given local circumstances
(2) Potential sites to be located either on or close to an A road (excluding parts of the A488 that pass through settlements with LGV restrictions) or identified B roads – the B4386 and the B4393	Retain criterion in full	• Principle supported by policy • Criterion supported by other methodologies • Refinement of criterion to exclude particular parts of the primary network acceptable given local circumstances
(3) Potential sites to cover a minimum continuous area of 10 ha	Retain criterion in full	• Given the level of provision required, the need for allocations to be economically viable and Entec's experience of landfill/landraise facilities, 10 ha is regarded as a minimum area
(4) Potential sites to be at least 300 m away from the nearest private property	Retain principle of criterion but reduce threshold to 250 m	• Principle supported by policy • Practice elsewhere refers to 250 m stand off distance
(5) Potential sites should not be covered by a constraint identified in the Shropshire County Council Environmental Register	Modify criterion to only exclude sites of international/national importance	• To accord with current policy, which requires some degree of hierarchical constraint
	Potential effect on sites of local importance to be regarded as discretionary criterion	• To accord with current policy, which requires some degree of hierarchical constraint
(6) Potential sites should not be located within 200m of a Ramsar site, a SSSI or a Wildlife Site	Modify status of criterion to that of a discretionary objective	• To accord with recommendations relating to criterion (5) • To reflect the fact that circumstances differ from site to site
(7) Potential sites should not be located within the floodplain	Retain criterion in full	• Fully supported by current policy
(8) Potential sites should not be located on a major aquifer	Retain criterion in full but expand to exclude sites on SPZs	• Fully supported by current and emerging policy



PART C: DETAILED SITE ASSESSMENT

5. Application of the Revised Criteria

5.1 Background

An important element of this study has been to identify those sites warranting further more detailed assessment. This has been achieved by applying Entec's amended site selection criteria to the study area. The application of this criteria has not only provided a valuable checking tool for those sites already identified in the draft Waste Local Plan, but also an opportunity to identify and evaluate any potential additional sites that had originally been ruled out or not considered in any depth.

This section now details the results of the application of Entec's revised criteria.

5.2 Exclusionary Criteria

During the early stages of the original desk top study, the County Council identified 49 potential sites/areas. Figure 5.1 shows the location of these baseline sites. When the full exclusionary criteria are applied, the sites outlined in Table 5.1 are identified as being potentially suitable for the location of a non-hazardous landfill/landraise facility.

Figures 5.2, 5.3, 5.4 and 5.5 illustrate that these sites are located close to the primary road network and are not sited on the floodplain, on a major aquifer[1] or on a SPZ.

[1] Entec has noted that there are discrepancies between the Environment Agency's baseline aquifer data, (as set out in the Groundwater Vulnerability 1:10 000 Map Series - Sheet 21: West Shropshire, NRA 1995) and the County Council's own data, which has been applied in this study. This discrepancy occurs in the Bayston Hill/Betton area, which according to the Agency's baseline data, does not host a major aquifer. Recent work conducted by the County Council, however, in connection with the Betton Abbots Landfill site, clearly indicates that the major aquifer does extend into the aforementioned area.

Table 5.1 Potentially Suitable Sites Following Application of Entec's Recommended Exclusionary Criteria

Site	Map Reference
Lower Edgebold	1
Day House Farm	2
Chatford, near Stapleton	3
Corfield's Coppice, near Dorrington	4
Micklewood Farm, Longnor	5
Donnington near Wroxeter	6
Mytton's Coppice	7
Land South East of Bayston Hill Quarry	8
West of Condover Quarry	9
West of Norton Cottages	10
South of Grange Lane, Condover	11
Gonsal Quarry*	12
Ebreywood*	13
Uppington*	14

Note: * additional to the 11 sites identified by the County Council at the same stage of their original desk top exercise

5.3 Discretionary Criteria

Entec's recommended changes to the discretionary criteria did not result in any relaxation in the County's criteria. Indeed, Entec's revised criteria are more stringent. Consequently, it has been assumed that those sites originally discounted by the County after application of the discretionary thresholds remain unsuitable. It is, however, important to consider how the changes to the discretionary criteria affect both the plan allocations i.e. land at Lower Edgebold and land at Day House Farm, and those sites subsequently identified by Entec i.e. Ebreywood, Gonsal Quarry and Uppington. This is set out in Tables 5.2 to 5.6.

Table 5.2 Application of Discretionary Criteria - Lower Edgebold

Discretionary Criteria	Assessment
Proximity to Shrewsbury and the ability of the surrounding road network to accommodate additional traffic	The site is well located - within 3 km of the centre of Shrewsbury. Also, good access off A488 island off Shrewsbury by-pass
Current land use including need to protect the best and most versatile agricultural land	Agriculture - grade 3. Further evaluation would be required to determine whether grade 3a or 3b
Local Plan designation	No allocation
The degree to which any proposal would be contrary to the need to protect and enhance the countryside	In open countryside but bounded by roads and former railway line
The degree to which any proposal would have an adverse effect on the setting of settlements including the historic environment	Close proximity to Hanwood Bank (300 m), but can be designed to stand-off from houses by 250 m. No significant effect on the historic environment
The degree of risk surrounding the potential pollution of air, water and soil	Would require the normal safeguards, but no key potential receptor identified that would be at significant risk
The degree of impact surrounding potential noise and light pollution	Would require the normal safeguards. Stand-off would ensure any impact minimised
Existing sources of pollution and potential cumulative impact	None
The potential for utilising other modes of transport	None
Scope for the co-location of facilities	None
Sites should not be located on regionally/locally significant designations on the Shropshire Environmental Record	No allocations on the site, but Ancient Woodland to the north.
The need for a minimum 200 m buffer zone around wildlife sites	No wildlife sites in the area (but Ancient Woodland located within 200 m of the site)
The degree to which any proposal would have a detrimental impact upon tourism	Limited impact - public rights of way not considered a significant tourist route, although views from the A5 would impact upon tourists travelling between the Shrewsbury/mid-Wales area
The degree to which any proposal would have a detrimental effect on public rights of way and footpaths	Footpath runs through the site, but potential for re-routing

5.3.1 Overall Suitability of Lower Edgebold - Initial Assessment

This site is within close proximity of Shrewsbury and benefits from good links to the primary road network. Furthermore, it is not constrained by the discretionary criteria to the extent that it is unsuitable for the development of a non-hazardous landraise site. As such, Entec has concluded that land at Lower Edgebold is worthy of more detailed evaluation.

Table 5.3 Application of Discretionary Criteria - Land at Day House Farm

Discretionary Criteria	Assessment
Proximity to Shrewsbury and the ability of the surrounding road network to accommodate additional traffic	The site is well located - within 3 km of the centre of Shrewsbury. Also, good access off A488 island off Shrewsbury by-pass
Current land use including need to protect the best and most versatile agricultural land	Agriculture - grade 3. Further evaluation would be required to determine whether grade 3a or 3b
Local Plan designation	No allocation
The degree to which any proposal would be contrary to the need to protect and enhance the countryside	In open countryside but bounded by roads and former railway line
The degree to which any proposal would have an adverse effect on the setting of settlements, including the historic environment	Little impact - Twomile Houses 100 m east of likely access point, but noise/traffic here is dominated by island on by-pass. No significant impact on the historic environment
The degree of risk surrounding the potential pollution of air, water and soil	Would require the normal safeguards, but no key potential receptor identified that would be at significant risk
The degree of impact surrounding potential noise and light pollution	Normal safeguards needed. Stand-off should ensure any impact minimised
Existing sources of pollution and potential cumulative impact	None
The potential for utilising other modes of transport	Yes - rail line and former sidings to the south
Scope for the co-location of facilities	None
Sites should not be located on regionally/locally significant designations on the Shropshire Environmental Record	No allocations on the site
The need for a minimum 200 m buffer zone around wildlife sites	No wildlife sites within the vicinity, although known badger sett adjacent to the site
The degree to which any proposal would have a detrimental impact upon tourism	Little impact, although views from the A5 and the Shrewsbury - Welshpool railway would impact upon tourists travelling between the Shrewsbury/mid-Wales area
The degree to which any proposal would have a detrimental effect on public rights of way and footpaths	No footpaths/public rights of way

5.3.2 Overall Suitability of Land at Day House Farm - Initial Assessment

As with land at Lower Edgebold, this site is within close proximity of Shrewsbury and benefits from good links to the primary road network. It also has potential to utilise alternative means of transport (rail). Additionally, the environmental constraints identified above are not considered to be of sufficient weight to render the site unsuitable for further consideration.

Table 5.4 Application of Discretionary Criteria - Uppington

Discretionary Criteria	Assessment
Proximity to Shrewsbury and the ability of the surrounding road network to accommodate additional traffic	Moderate proximity (12 km from Shrewsbury). Adequate access off B5061
Current land use including need to protect the best and most versatile agricultural land	Agriculture - grade 2/3. Further evaluation would be required to determine specific grade
Local Plan designation	None (area identified as countryside)
The degree to which any proposal would be contrary to the need to protect and enhance the countryside	Open countryside
The degree to which any proposal would have an adverse effect on the setting of settlements, including the historic environment	Proximity to Uppington and the Viroconivm Roman Town Scheduled Ancient Monument at Wroxeter, which is 2 km to the southwest
The degree of risk surrounding the potential pollution of air, water and soil	Strong safeguards required due to proximity of major aquifer to the west. Also Bell Brook 150 m to the south
The degree of impact surrounding potential noise and light pollution	Would require the normal safeguards, but no key potential receptor identified that would be at significant risk
Existing sources of pollution and potential cumulative impact	None
The potential for utilising other modes of transport	None
Scope for the co-location of facilities	None
Sites should not be located on regionally/locally significant designations on the Shropshire Environmental Record	No allocations on the site or in the vicinity
The need for a minimum 200 m buffer zone around wildlife sites	No wildlife allocations within the vicinity of the site
The degree to which any proposal would have a detrimental impact upon tourism	Significant impact given the proximity to the Viroconivm Roman Town at Wroxeter, (2 km to the southwest). Also, the site located on a major tourist thoroughfare (Shrewsbury - Ironbridge area)
The degree to which any proposal would have a detrimental effect on public rights of way and footpaths	Public footpath to the immediate south

5.3.3 Overall Suitability of Land at Uppington - Initial Assessment

The site is located some distance from Shrewsbury. It is also adjacent to a major aquifer, covers higher quality agricultural land and is within close proximity of the nationally significant remains of a Roman town at Wroxeter. Primarily for these reasons, land at Uppington is regarded as being unsuitable for the development of a land disposal facility for non-hazardous, non inert waste.

Table 5.5 Application of Discretionary Criteria - Gonsal Quarry

Discretionary Criteria	Assessment
Proximity to Shrewsbury and the ability of the surrounding road network to accommodate additional traffic	Moderate proximity - 8/9 km to the centre of Shrewsbury. Present access very poor - through Condover. For development to be acceptable, would require a bridge over the railway to access onto A49
Current land use including need to protect the best and most versatile agricultural land;	Sand and gravel quarry
Local Plan designation	No specific allocations
The degree to which any proposal would be contrary to the need to protect and enhance the countryside	Limited views from Lyth Hill, but generally visually well contained
The degree to which any proposal would have an adverse effect on the setting of settlements, including the historic environment	Impact of LGVs through Condover Conservation Area
The degree of risk surrounding the potential pollution of air, water and soil	Located on a minor aquifer. Proximity to Cound Brook (190 m to the west)
The degree of impact surrounding potential noise and light pollution	Significant potential for adverse impact to residents to the immediate south and east of the quarry
Existing sources of pollution and potential cumulative impact	None
The potential for utilising other modes of transport	Potential rail access
Scope for the co-location of facilities	None
Sites should not be located on regionally/locally significant designations on the Shropshire Environmental Record	No allocations on the site, but note close proximity of small coppices to the north and west.
The need for a minimum 200 m buffer zone around wildlife sites	No wildlife sites in the area.
The degree to which any proposal would have a detrimental impact upon tourism	Limited views from Lyth Hill and close proximity of caravan site at Wayford Bridge
The degree to which any proposal would have a detrimental effect on public rights of way and footpaths	None

5.3.4 Overall Suitability of Gonsal Quarry - Initial Assessment

From an environmental perspective, this site is relatively unconstrained. However, as with land at Uppington, it is located some distance from Shrewsbury. Moreover, access into the site from the A49 would prove to be a major obstacle to waste development given that an additional junction onto the A49 would be required. Early discussions between the County Council and the Highways Agency have indicated that the Agency would be reluctant to see an additional junction constructed on this part of the A49. For this reason, this site is regarded as unsuitable for further consideration.

Table 5.6 Application of Discretionary Criteria - Ebreywood

Discretionary Criteria	Assessment
Proximity to Shrewsbury and the degree of ability of the surrounding road network to accommodate additional traffic	Good proximity, (within 5/6 km of central Shrewsbury). Access off A53 near minor road to Haughton (via access to Whetley Farm - however, would need to strengthen bridge)
Current land use including need to protect the best and most versatile agricultural land	Agriculture - grade 3. Further evaluation would be required to determine whether grade 3a or 3b
Local Plan designation	None (identified as countryside)
The degree to which any proposal would be contrary to the need to protect and enhance the countryside	In open countryside
The degree to which any proposal would have an adverse effect on the setting of settlements, including the historic environment	Ebury Hill Fort (SAM) - 200 m southeast; Haughmond Abbey (SAM) - 1.1 km to south
The degree of risk surrounding the potential pollution of air, water and soil	Additional safeguards would be required - brook 200 m to the north
The degree of impact surrounding potential noise and light pollution	Would require the normal safeguards, but no key potential receptor identified that would be at significant risk
Existing sources of pollution and potential cumulative impact	None
The potential for utilising other modes of transport	None
Scope for the co-location of facilities	None
Sites should not be located on regionally/locally significant designations on the Shropshire Environmental Record	No designations on the site but Latham's Coppice Wildlife Site nearby (approximately 500 m to the northeast)
The need for a minimum 200 m buffer zone around wildlife sites	Nearest wildlife site 500 m distant
The degree to which any proposal would have a detrimental impact upon tourism	Ebury Hill Camp Site located 200 m to the southeast
The degree to which any proposal would have a detrimental effect on public rights of way and footpaths	Two footpaths bisect the site

5.3.5 Overall Suitability of Land at Ebreywood - Initial Assessment

Although this site is within good proximity of central Shrewsbury, it is constrained by environmental factors, which primarily centre around the area's importance for the tourist industry. Cumulatively, the potential impact that any waste development would have on Ebury Hill Fort and Haughmond Abbey SAMs, the close proximity of Ebury Hill Camp Site and the position of the site on the County's footpath network, render this site unsuitable for the location of a land disposal facility.

5.4 Preferred Locations for the Disposal to Land of Non-Hazardous Waste

5.4.1 Sites in the Shrewsbury Catchment

Having applied the revised exclusionary and discretionary criteria and drawn conclusions from this initial assessment, the following sites are identified as being the least constrained and thus worthy of more detailed site assessment:

- Land at Lower Edgebold;
- Land at Day House Farm.

5.4.2 Other Sites: Woodhouse Farm, Redhill

So far, this study has concentrated upon evaluating the site selection methodology used to identify non-inert land disposal sites with the potential to serve the Shrewsbury catchment area. The draft Waste Local Plan, however, contains a third allocation at Woodhouse Farm, Redhill, which has been earmarked as having potential for accommodating a landfill facility, particularly to serve the north and east Shropshire catchment area.

As a checking exercise, the revised exclusionary and discretionary criteria, (as recommended by Entec) have been applied to this site to establish whether or not it remains an appropriate allocation. The results of this exercise are presented in Tables 5.7 and 5.8.

Table 5.7 Application of Exclusionary Criteria - Woodhouse Farm

Exclusionary Criteria	Assessment
Sites should cover a minimum continuous area of 10 hectares	Site covers an area of 65 hectares
Sites should be more than 250 m away from private property	Nearest private property - The Oaks Hotel and Telford Crematorium - adjacent to the site and within 250 m. Stand-off should ensure any impact minimised. Nearest residential area 1 km to the south
Sites should not cover any internationally/nationally significant designations listed on the Shropshire Environmental Record	None
Sites should be located to the primary road network	Site located adjacent to the A5
Sites should not be located on the floodplain	Site not located on the floodplain
Sites should not be located on major aquifers	Site not located on a major aquifer
Sites should not be located on Source Protection Zones	Site not located on a Source Protection Zone (I, II or III)

Table 5.8 Application of Discretionary Criteria - Woodhouse Farm

Discretionary Criteria	Assessment
Proximity to market and the ability of the surrounding road network to accommodate additional traffic	Good proximity to the potential north/east Shropshire catchment - within 8 km of Newport; 18 km of Bridgnorth; 4 km of Shifnal and 11 km of Albrighton Good access either directly off the A5 or onto the A5 via B5060
Current land use including need to protect the best and most versatile agricultural land	Agricultural land - grade 3. Further evaluation would be required to determine whether grade 3a or 3b
Local Plan designation	None
The degree to which any proposal would be contrary to the need to protect and enhance the countryside	In open countryside, but bounded by the A5 to the south, urban fringe uses to the north and an existing landfill site to the west
The degree to which any proposal would have an adverse effect on the setting of settlements including the historic environment	Proximity to Uxacona Scheduled Ancient Monument - 100 m to the west
The degree of risk surrounding the potential pollution of air, water and soil	Would require the normal safeguards, but no key potential receptor identified that would be at significant risk
The degree of impact surrounding potential noise and light pollution	Normal safeguards required. Stand off should ensure impact minimised
Existing sources of pollution and potential cumulative impact	Granville landfill site located immediately to the west
The potential for utilising other modes of transport	None
Scope for the co-location of facilities	Significant scope - existing waste management facility (Granville landfill located immediately to the west)
Sites should not be located on regionally/locally significant designations on the Shropshire Environmental Record	No allocations on the site. Ancient woodland 0.5 km east of the northern part of the site; Scheduled Ancient Monument west of the site (Uxacona)
The need for a minimum 200 m buffer zone around wildlife sites	No wildlife sites within 200 m of the site
The degree to which any proposal would have a detrimental impact upon tourism	Some impact - site located on the A5 - main route to and from Shropshire
The degree to which any proposal would have a detrimental effect on public rights of way and footpaths	No footpaths or public rights of way within the proposal site

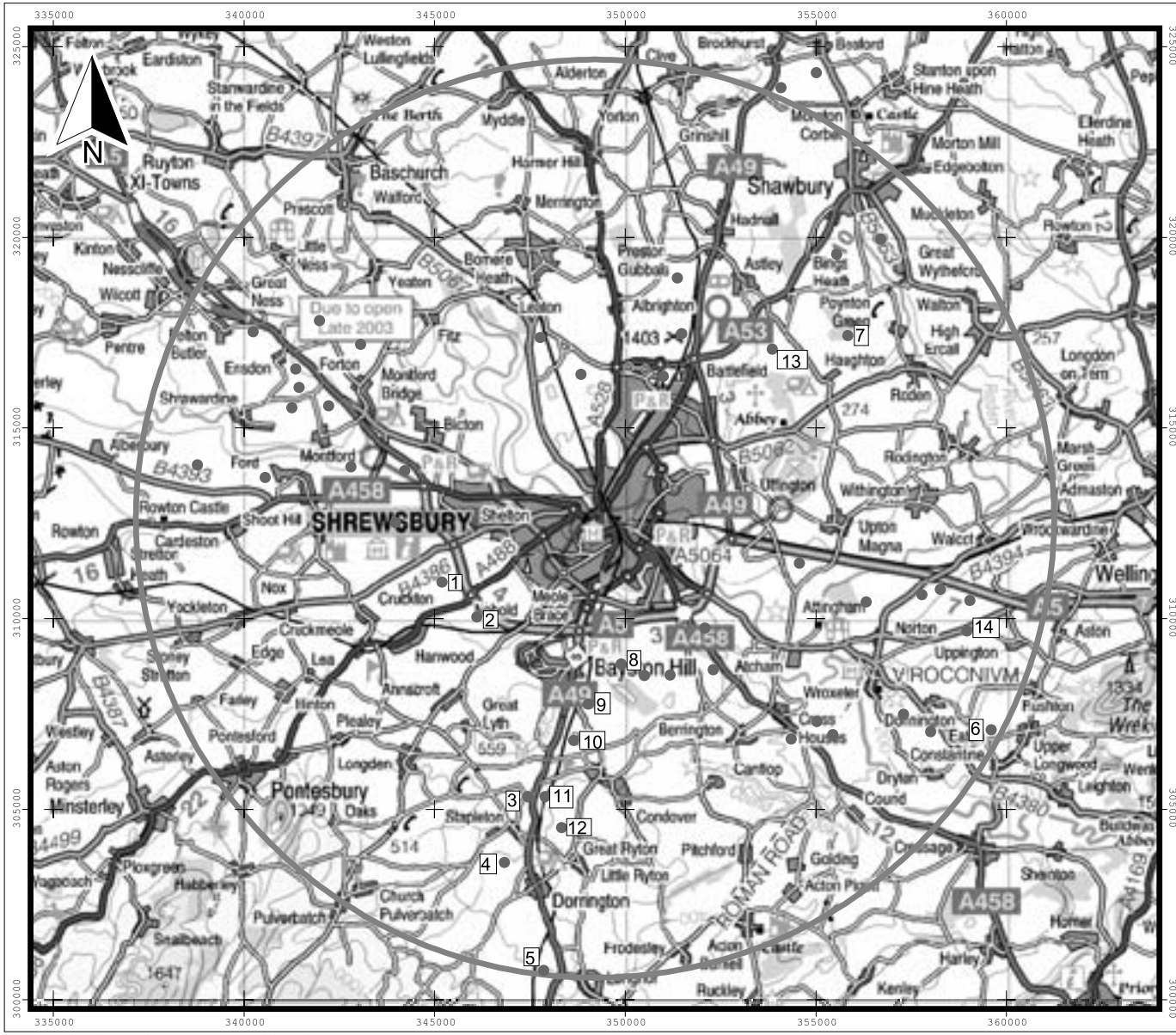
5.4.3 Overall Suitability of Woodhouse Farm - Initial Assessment

From a land use perspective, this site is relatively unconstrained. Few sensitive land uses are located within the vicinity of the site - the nearest residential areas are some 1 km to the southwest (Priorslee, Telford). The Oaks Hotel and Telford Crematorium (both located adjacent to the south) do, however, represent sensitive land uses that would be affected by any waste development at Woodhouse Farm. Notwithstanding this, the site is of sufficient size that appropriate stand-off distances could be designed into any landfill scheme at Woodhouse Farm, thereby safeguarding the amenity of these uses.

The close proximity of the Uxacona Scheduled Ancient Monument (SAM) 100 m to the west represents a key consideration. However, the principle of waste operations in the vicinity of this SAM has already been established, given that the neighbouring Granville landfill site is located immediately to the north. It has therefore been assumed that appropriate mitigation measures could be employed to safeguard the amenity of this feature.

Allowing for the fact that the amenity of neighbouring/nearby sensitive land uses could, in this case, be mitigated, Entec consider that this site is worthy of more detailed site assessment.

The remainder of Part C of this report sets out the detailed assessment work conducted in relation to the three preferred sites - Woodhouse Farm, Lower Edgebold, and Day House Farm.



Key:

- 12km zone
- Sites considered as possible land disposal locations
- 4 See Table 5.1 for site reference

1 0 1 2 3 4 5 6 7 Kilometers

Scale 1:150000@A4

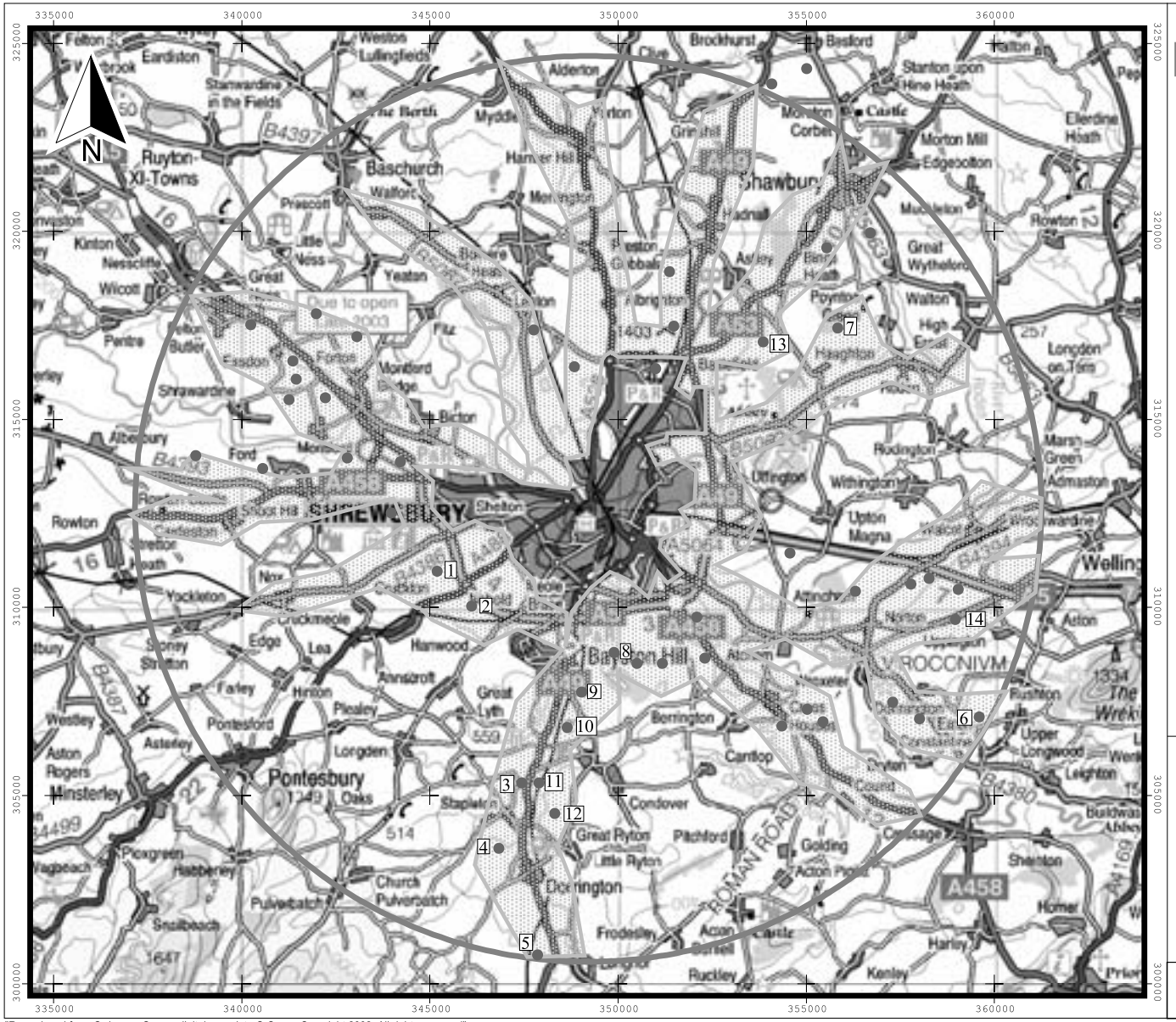
Path: g:\model\projects\ea-210\09581\landfills_2.apr

Strategic Locations for Waste Disposal

Figure 5.1
Location of Baseline Sites

March 2003
09581-S001 cohea

Entec



"Reproduced from Ordnance Survey digital map data © Crown Copyright 2002. All rights reserved".

Key:

- 12km zone
- Sites considered as possible land disposal locations
- 4 — See Table 5.1 for site reference
- Potential HGV access

1 0 1 2 3 4 5 6 7 Kilometers

Scale 1:150000.0000000000000000@A4

Path: g:\model\projects\ea-210\09581\landfills_2.apr

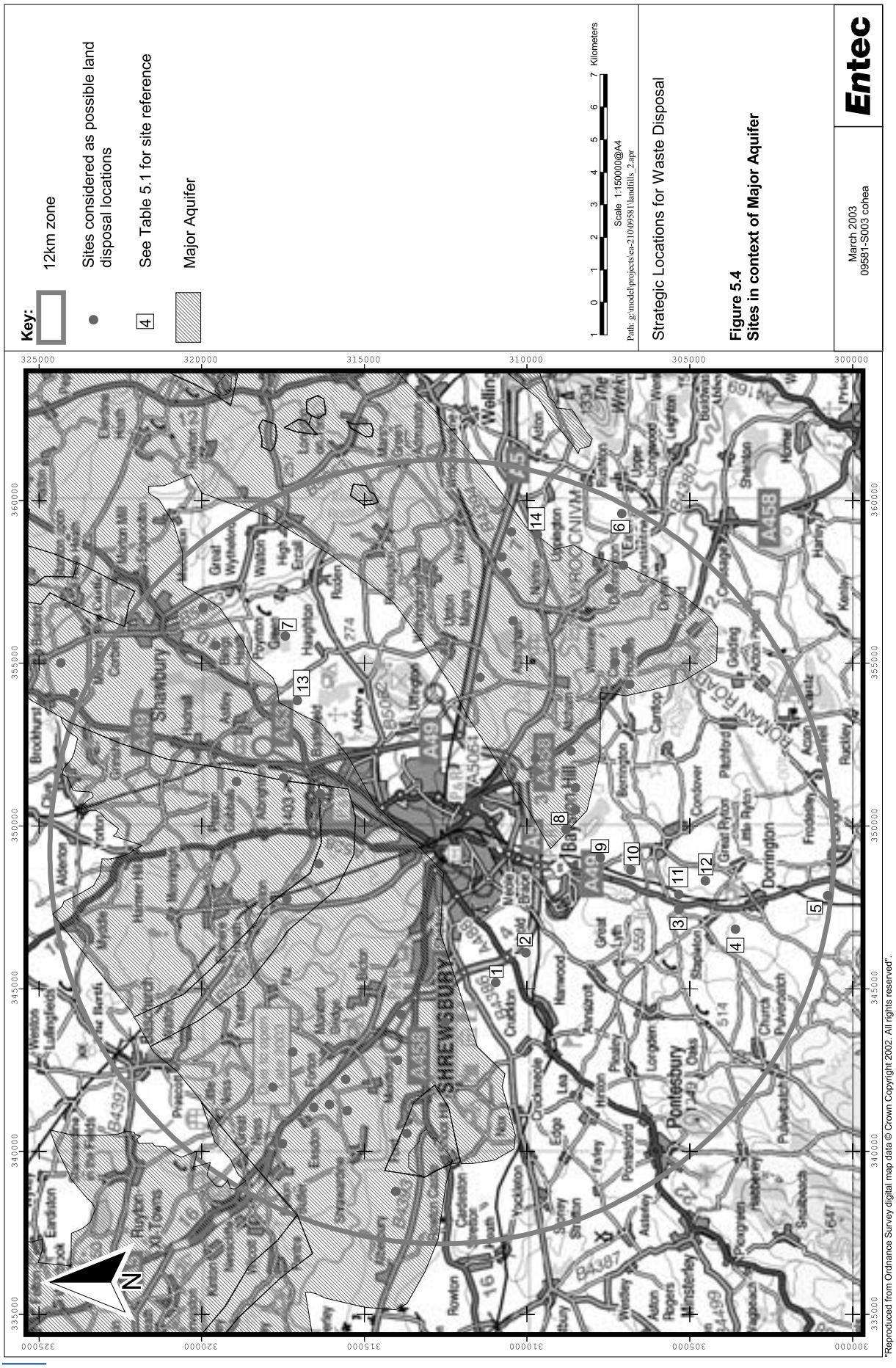
Strategic Locations for Waste Disposal

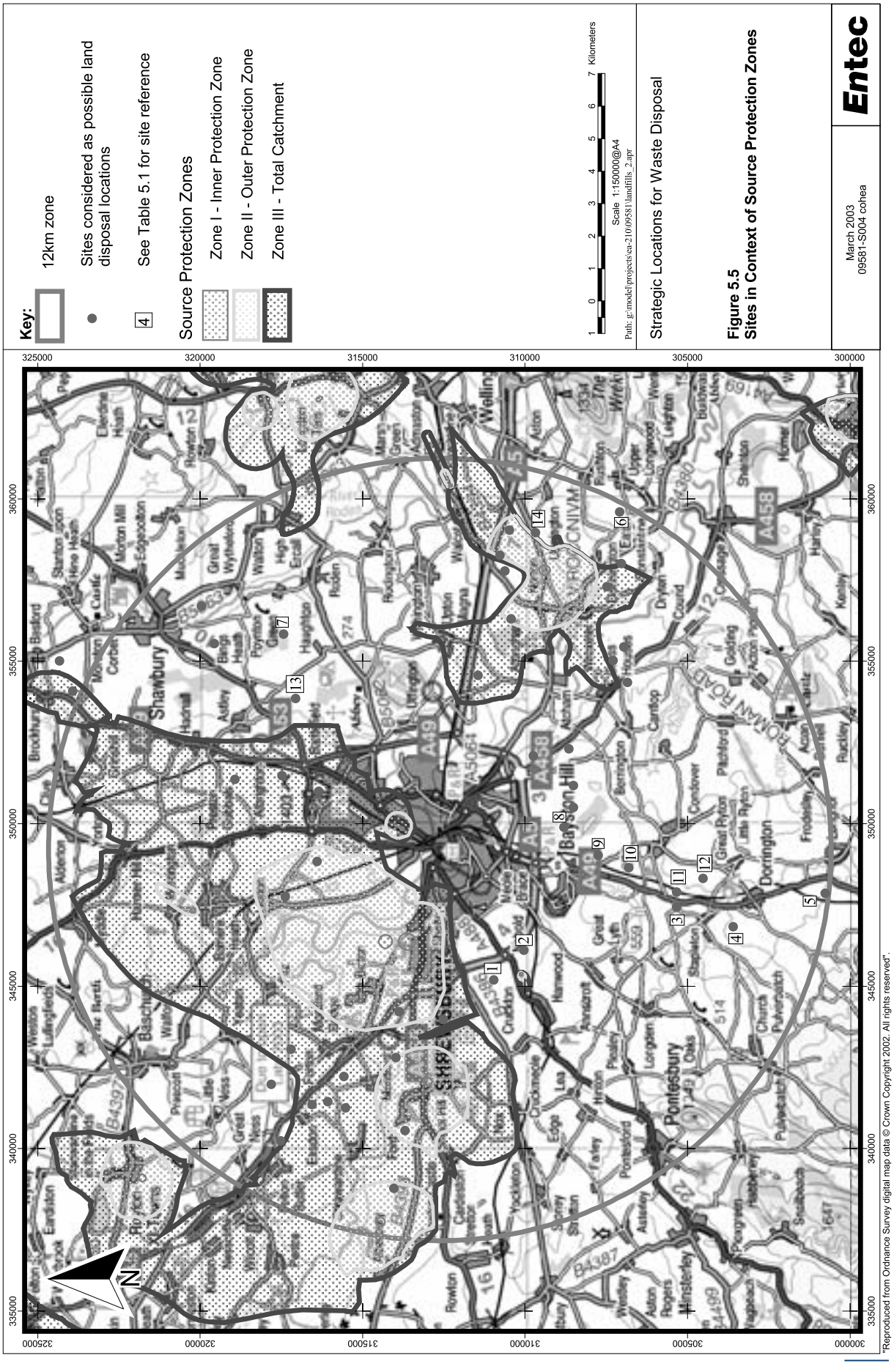
Figure 5.2
Sites in Context of Primary Roads

March 2003
09581-S002 cohea

Entec

Technical Appendix 2 - Annex H: Entec Report





6. Detailed Site Assessment Methodology

6.1 Introduction

This section sets out a methodology for the detailed assessment of the preferred locations for non-hazardous waste disposal operations identified in the previous section. This is a critical task for the study. The methodology needs to be transparent with a view to promoting public confidence in the emerging Waste Local Plan and be founded in "best practice" so it will be capable of withstanding scrutiny at any Public Local Inquiry.

Detailed assessment of the proposed sites has been carried out at two related levels:

- By assessing specific issues surrounding the potential development of a landraise/landfill facility at the proposed sites;
- By conducting an overall site assessment, into which the results of the above more detailed work have been fed (synthesised in site assessment matrices).

6.2 Detailed Assessment of Specific Site Issues

To inform the overall site assessment the following have been assessed in some detail:

- Landscape and visual impact (normally a key issue in determining the acceptability of landraising);
- Hydrogeology (ability of existing groundwater conditions to accommodate a landfill/landraise facility);
- Transport (access and capability of surrounding road network to accommodate additional traffic generated by any new facility); and
- Landfill/landraise design (whether there are any significant restrictions on the sites which would compromise or assist the design/operation of any facility).

In selecting the areas where detailed assessment was required, account was taken of the issues raised by objectors during consultation on the 1st Stage Deposit Waste Local Plan.

Sections 7 to 9 of this report set out in detail the results of these issue specific appraisals.

6.2.1 Landscape and Visual Assessment

The assessments have been undertaken in accordance with the second edition of *"The Guidelines for Landscape and Visual Assessment"* (the GLVIA) published in March 2002 by the Landscape Institute with the Institute of Environmental Management and Assessment. These guidelines are widely recognised within the landscape and planning professions as providing the standard approach to undertaking assessments for proposed developments of this scale. They consider impacts and their consequent effects under the following criteria:

- Landscape impacts: These consist of the changes in the fabric, character and quality of the landscape that it is predicted would result from the proposed development activities;
- Visual impacts: These relate to views of the landscape available from publicly accessible areas and residential dwellings and the predicted effects of these landscape changes on the views available to the public and residents i.e. visual receptors. Specific effects result from changing the constituent elements within an existing view. This may be caused by the construction of an intrusive feature or the obstruction or modification of an existing view. The overall effect upon visual amenity can range from degradation to enhancement.

In line with the above guidelines, each site has been subjected to a desktop study supplemented by field surveys undertaken on 29 January and 4 February 2003. It was possible to undertake a complete site walkover survey for the sites at Woodhouse Farm, Redhill and Day House Farm, facilitating a comprehensive examination of the landscape resources within the sites and views available to the sites. The scope of the evaluation does not allow for the computerised generation of estimated visual envelopes for each of the potential sites. Nevertheless examination of site photographs and notes has allowed a broad estimate to be made of the locations from which the proposed operational waste management activities and post restoration landform would potentially be visible and a preliminary identification of the principle visual receptors. The undertaking of the field surveys in the middle of winter has the benefit of evaluating the sites within a worst case scenario, with limited potential for seasonal screening from deciduous trees and shrubs.

In undertaking the landscape evaluation reference has been made to the following:

- Shrewsbury and Atcham Borough Local Plan Adopted June 2001;
- Shropshire Landscape Character Assessment;
- The Countryside Agency Countryside Character Initiative: Shropshire, Cheshire and Staffordshire Plain;
- The CPRE letter of 31 August 2002 setting out their landscape character assessment carried out on 22 August 2002.

6.2.2 Hydrogeological Assessment

Under the Integrated Planning Pollution and Control (IPPC) licensing regime, landfills are required to comply with the Groundwater Regulations 1998. The Groundwater Regulations:

- Prohibit direct discharges of List I[2] substances to groundwater (subject to certain exclusions);
- Require prior investigation before authorising any direct discharges of List II substances, so as to prevent pollution of the receiving groundwater.

[2] List I substances constitute a range of man-made organic chemicals and the toxic metals, mercury and cadmium. List II substances constitute a range of metals, ammonia and boron.

Following prior investigation and providing all necessary technical precautions are observed, the following may be authorised:

- The direct discharge of List II substances provided pollution of groundwater is prevented.
- The disposal or tipping for the purpose of disposal of List I substances provided discharge to groundwater of such substances is prevented.
- The disposal or tipping for the purpose of disposal of List II substances that might lead to an indirect discharge to groundwater provided pollution of groundwater is prevented.

Prior investigation should include an assessment of the hydrogeology, the "purifying properties of the soil and sub-soil" (i.e. the soil and unsaturated zone) and the risks to groundwater quality.

To meet the requirements of the IPPC Regulations, all landfills require a 'Groundwater Assessment'. The standard approach to risk assessment, endorsed by the DETR – now DEFRA (Guidelines for the Environmental Risk Assessment and Management, 2000) is to ascertain the **hazards (source)** from a site and the **receptors** which could be at risk from the possible **pathways**. The risk is only significant where these three aspects are combined.

In respect of waste disposal, the hazard is the leachate created by the interaction between rainfall derived infiltration and waste. To assess the pathways and targets at a site requires an understanding of the site and the hydrogeology of the area. In particular there is a need to draw together the available hydrogeological information for the site to develop a clear conceptual model of hydrogeological processes operating.

This review has determined key principles that would affect any of the sites being developed as waste disposal facilities. It has not undertaken a risk assessment which would be required as part of any planning or PPC permit application. There is little readily-available published information on the hydrogeology of the sites. Hence the assessment of hydrogeology is based principally on judgement and experience at similar locations. In general it is assumed that groundwater flow beneath the sites will be determined by topography, i.e. groundwater will flow from beneath areas of high groundwater towards lower ground.

In undertaking the hydrogeological assessment, reference has been made to the following:

- National Rivers Authority. 1995. Groundwater Vulnerability 1: 100 000 Map Series. Sheet 21. West Shropshire.
- British Geological Survey. 1978. 1:50 000 Series Geological Map. Sheet 152 Shrewsbury, Solid Edition.
- British Geological Survey. 1974. 1:50 000 Series Geological Map. Sheet 152 Shrewsbury, Drift Edition.
- British Geological Survey. 1968. Geological Map. Sheet 153 Wolverhampton, Drift Edition.
- British Geological Survey. 1971. Geological Map. Sheet 153 Wolverhampton, Solid Edition.

• British Geotechnical. 1991. Letter to Mr J Hancock 'Clay Analysis – Red Hill'. Ref. BG1402/HSL/KL.

6.2.3 Transport Assessment

For this outline assessment of each site, the following factors have been considered:

- Existing highway conditions;
- Indicative traffic generation;
- Resultant form of access required;
- Provision of the required visibility splays;
- Vertical alignment;
- Off-site impacts.

In order to estimate likely number of vehicle movements associated with each potential site, a number of assumptions have been made as follows:

- Each site operates over six days per week;
- Each sites operates for nine hours Monday to Friday (08:00 - 17:00) and four hours on a Saturday (08:00 - 12:00);
- Each site will be served by Large Goods Vehicles (LGVs) with a maximum permitted payload of 20 tonnes;
- 20 tonnes of slightly compacted waste equates to a landfill volume of 12 m^3.

Feedback has also been received from the Highways Agency.

6.2.4 Landfill/Landraise Design

An overview of the potential design of any facility has been undertaken and an indication of the available voidspace. This has included specific design requirements under the Landfill Directive and operational factors such as surface water and leachate management (Appendix A provides a review of the provisions of the Landfill Regulations that stem from the Directive).

6.3 Overall Site Assessment

The outcome of the above has fed into the overall assessment matrices for each site which are included as Appendices B, C and D. These matrices have been compiled following the approach set out in the following sections.

6.3.1 Defining the Criteria and Objectives

Overall, assessment methodologies are often founded upon the identification of discretionary factors or criteria and this is the approach that has been adopted by Entec. However, rather than simply assess sites against criteria, it has been decided to express the criteria as specific objectives. In this way, more focus is given to the implementation of legislative and policy

principles. This process is consistent with the approach adopted in sustainability appraisals and may assist authorities in undertaking Strategic Environmental Assessment (once the European Directive on Strategic Environmental Assessment is implemented in the UK).

The areas to be covered by specific criteria and objectives were identified by refining the discretionary criteria used for the initial assessment of potential sites. This refinement has been undertaken against the backdrop of:

- A full review of national Planning Policy Guidance Notes (PPG) and legislation to identify Government objectives;
- A review of related policy and legislation such as the Environment Agency's policy for the protection of groundwater;
- A comprehensive review of methodologies previously designed by Entec for site assessment purposes.

In terms of the first two bullet points, much of the baseline review work was conducted during Stage 1 of the project and summarised in previous sections. However, an important aspect of the baseline work not previously covered in any detail has been the need to conduct a comprehensive review of the locational aspects of the Landfill Regulations 2002 and reflect its provisions accordingly in the detailed assessment criteria and objectives. This review is set out separately in Appendix A.

6.3.2 Measuring the Objectives

Indicators and Thresholds of Concern

For the overall site assessments, indicators and thresholds of concern/opportunities have been identified for each objective. These can be either negative or positive in nature, depending upon whether the objective is to prevent or encourage an event happening.

Qualitative Assessment of Discretionary Objectives

The scale of effect for the discretionary objectives has been assessed through both desk based assessment and more detailed on-site appraisal.

The results of the overall comparative appraisals are presented in matrix format.

Grading

The approach to comparative appraisal is based upon a simple measurement scale in order to assess the extent to which a potential site meets the discretionary objectives. The scale comprises:

- Grade A: Move significantly towards an objective;
- Grade B: Move marginally towards an objective;
- Grade C: Neutral;
- Grade D: Move marginally away from an objective;
- Grade E: Move significantly away from an objective.

This scale allows for potential effects to be assessed and categorised against a consistent framework, permitting a level of comparison to be made between sites.

Alternative methods of measuring the effect of development on the discretionary objectives were considered, but dismissed on the basis of being less appropriate. In particular, scoring methods (where a score is given to each objective) were dismissed on the basis that they do not encourage an expert decision to be taken on the inherent acceptability of a particular discretionary objective. Most notably, there is a temptation to add up the scores for each potential location. This approach is seriously flawed as individually significant effects that might preclude development have the potential of being lost within an overall score.

Commentary

The inclusion of a qualitative commentary in the matrices allows for the allocation of a grade to be explained in each case.

6.3.3 Methodology Track Record

The comparative site assessment methodology adopted by Entec for Shropshire County Council reflects an approach adopted by Entec in assessment work in other parts of England, namely:

- Wiltshire and Swindon Waste Local Plan (Wiltshire County Council and Swindon Borough Council) - assessment of sites for inclusion in the Waste Local Plan;
- Avon Sub-Regional Waste Study (Joint Strategic Planning and Transportation Unit) - assessment of potential strategic waste sites/allocations;
- West Sussex Waste Local Plan (West Sussex County Council) - assessment of locations for a materials recovery facility.

7. Detailed Site Assessment of Woodhouse Farm, Redhill

7.1 Baseline

7.1.1 Location

The site covers an area of 65 ha and centres at grid reference 728118, approximately 2 km to the east of Telford. Any waste development would take place in an area north of the A5 and bounded to the west by Woodhouse Lane. There are field boundaries to the north and east. A recently constructed crematorium (Telford Crematorium) is located to the immediate southwest of the site, whilst Woodhouse Farm itself operates an equestrian business. Also of note are a maggot farm and an existing landfill/landraising site (Granville), both to the immediate northwest. It is understood that Granville is a SITA operated facility, with an estimated operational life of ten years.

7.1.2 Topography

The surrounding area has a distinctive topography, which would be the principle determinant of the availability of views of any landraising. The site is relatively elevated and has a marked northeastern aspect, with levels falling steadily from 180 m AOD in the southwestern corner (next to the crematorium) to approximately 143 m AOD at the northeastern corner. The site lies to the east of Telford and just to the northeast of the highest point in the local area, which reaches 186 m AOD. A telecommunications mast emphasises the elevation of this hill in many local views.

The area to the west is topographically complex with a considerable amount of human modification due to clay and mineral extraction. To the south of the A5, the ground falls away regularly for 2 km to the M54 descending to 110 m AOD. There is also a pronounced but gradual eastwards fall over 3 km to approximately 110 m AOD in the vicinity of Sheriffhales, beyond which the gently undulating topography continues at heights between 100 m and 127 m AOD. General elevations are even lower to the north of the proposal site. They are as low as 70 m in locations around Lilleshall 3 km away, however, this area is topographically more complex with short ridgelines and abrupt slope changes.

7.1.3 Geology

The site lies over the Enville Beds of the Upper Coal Measures, which are described as 'red marls with calcareous sandstones and conglomerates'. These pass downwards into the Keele Beds ('red marls and sandstones') and then into the Coalport Beds (Etruria Marl), which are described as 'red and grey marls with thick sandstones, thin coals and a Spirobis limestone'.

A cross-section on the geological map (BGS, 1971), passing through the southern part of the site, shows the Enville Beds to have a thickness of ~32 m and the Keele Beds to have a thickness of ~85 m. The Keele Beds dip to the east at a low angle. The geological map indicates that drift deposits are absent.

7.1.4 Planning Designations

The site is located within Bridgnorth District, however, the western edge of the site marks the boundary between Bridgnorth District Council and Telford and Wrekin Council. An examination of the proposals map in the Bridgnorth Adopted Plan (September 1994) shows that there are no landscape, ecological or other designations. The A5, however, does mark the northernmost extent of the District's Green Belt.

7.1.5 Land-Use and Vegetation Resource

Apart from Woodhouse Farm and its surrounding complex of outbuildings and stables, the site is completely given over to improved pasture, mainly used for the grazing of the horses associated with the Farm's equestrian business. The fields are divided by mature and well maintained hawthorn hedgerows with only very occasional hedgerow trees. There are several parkland oaks in the nearest fields to the Farmhouse, however, there are no copses or field corner planting.

Beyond the site boundaries, there is a contrast in land cover between the rural areas to the north, east and south, and the rural-urban fringe of Telford to the west. The latter area has a typically fragmented land-use pattern and a correspondingly more varied vegetation resource. This area contains the Granville Country Park and two golf courses with associated high levels of tree cover from native and ornamental species. Figure 7.1a illustrates the view southeast to the proposed Woodhouse Farm site from the fairway that is closest to Muxton Grange Cottages.

In contrast, other land-uses include the existing landfill facility at Granville, which lies between the site and the Country Park and an equestrian business. The existing landfill site includes a large void, vegetated perimeter bunding and some partial landraising at the site's northern end, which has raised levels by approximately 15 m.

In other directions, land-use is similar to that within the site with angular, medium-sized fields used exclusively for pasture. The angular hedgerow pattern remains strong, although there are relatively few hedgerow trees and only occasional ponds or copses, the most visually important of which are Cooper's Coppice and Millington Coppice. Figure 7.1b illustrates the view west across this open pastoral landscape towards Woodhouse Farm which is on the horizon. The extent of woodland cover and the size of the woodlands increases markedly to the north of Lilyhurst Road, 2 km north of the site. The handful of properties located close to the A5 generally have some screen planting around them, often including coniferous species. Similarly there is a considerable amount of immature mixed woodland and shrub planting in the grounds of the crematorium.

7.1.6 Public Rights of Way (PRoWs)

There are no PRoWs within the site and only a small number of PRoWs in the surrounding area, which do not link up to form a network. There is an 800 m long public footpath running west from Woodhouse Lane to Grange Lane which, given the absence of linkages to other publicly accessible areas, is likely to be poorly used. Public footpaths also run across the fields from the nearby Ferndale Farm to the closest village to the east; Sheriffhales, and from Sheriffhales to the A5. There is also a 'route with public access' along a dog-legged track from the A5 to Sheriffhales.

7.1.7 Settlement Pattern

The continuing expansion of Telford has led to a strong contrast between the settlement pattern to the west of the site and the pattern in the rural areas in other directions. The closest residential part of Telford is Priorslee, which extends to within 1 km of the southwest of the site, however, the other residential areas are at least 1800 m distant. The eastern fringe of Telford consists of a mixture of residential areas interspersed with employment areas and other typical urban fringe land-uses. It should be noted that all these extensive, generally recent developments, are at elevations 20-50 m below those within the site. There are a small number of older, usually isolated properties that have been subsumed in this eastern expansion of Telford, such as Muxton Grange Cottages. Moreover, there are occasional properties situated just off the A5, including two cottages to the west of the former A5 junction with Woodhouse Lane. The settlement pattern within the rural areas conforms to that noted as a characteristic of the Shropshire, Cheshire and Staffordshire Plain landscape character area i.e. large farmsteads regularly spaced throughout the countryside with dispersed hamlets, of which Sheriffhales is the most relevant.

7.2 Landscape and Visual Assessment

7.2.1 Landscape Character

The Woodhouse Farm site is situated in the same national landscape character area as the two other potential waste disposal allocations to the west of Shrewsbury, however, the Shropshire Landscape Character Assessment picks out several differences at more detailed levels of assessment. As the site lies off the eastern side of a 186 m AOD hill, it is more readily associated with the landscape character of the low lying, gently undulating rural area that extends eastwards into Staffordshire. This area is characterised by relatively low levels of tree cover, which in association with the gentle topography generates a relatively open, large-scale landscape. Horizons tend to be distant but well defined. This places a visual emphasis on any elements that intrude above it and facilitates sweeping panoramic views from occasional elevated areas, such as the allocated site or the area around Hilton Farm to the north of Sheriffhales.

The strong angular pattern formed by the hedgerow network is the dominant pattern determining the grain of the landscape. The dominance of pasture results in few colour and textural contrasts within the landscape. These characteristics are demonstrated in Figure 7.1c which shows the landscape between Sheriffhales and the site. The relatively poor levels of access by either roads or PRoWs helps to reinforce the impression of a relatively isolated area with very little movement (aside from the A5), and a corresponding sense of calm. The relatively low level of modern development helps to give this area a strong sense of time depth. The strong hedgerow framework and occasional copses result in the landscape having some capacity to absorb limited small scale development, however, its openness and gentle topography mean that many large or extensive developments would be difficult to absorb without local modifications to landscape character.

7.2.2 Key Landscape Issues

The key landscape issues at this site would focus upon the incorporation of the post restoration landform into the existing landscape without substantially modifying the established character; and ensuring that during the operational period the range of landscape impacts associated with

such activities does not have an undue adverse impact upon the rural characteristics that predominate around the site.

With regard to the latter, a proposed large scale land disposal operation could generate contrasts in terms of movement levels, calmness and tranquillity and the colours and texture of the grain of the landscape.

Coupled with the mitigation measures outlined in Section 7.2.4, the detailed operational phasing, design and specification of working methods could substantially reduce the magnitude of adverse operational landscape impacts. This could be achieved by minimising the contrast generated by areas stripped in advance of excavation/landraising, applying working methods that minimise the generation of noise, dust and unnecessary movement within and around the proposed site, and ensuring that the introduction of potential new alien landscape elements such as lighting, security fencing, offices and signage is minimised.

A relatively small number of landscape resources would be lost, including a number of mature parkland trees, some sections of hedgerow and an ornamental pond, as well as the two hundred year old farmhouse and all its outbuildings. With the exception of the farmhouse and buildings, these features can be relatively easily reproduced elsewhere within the land ownership area, with the land immediately north of the A5 being the most likely location. With regard to this area, the field survey noted the poor progress made by planting undertaken in 1997 in association with the crematorium. This is likely to be the result of a lack of management during the critical establishment period as opposed to the area being inherently poorly suited to tree and shrub growth.

It is noted that there are no national or local landscape designations applying to the site or its immediate environs. In addition the land to the west has a history of land-uses such as the maggot factory (formerly a knackers' yard) and the existing landfill which have already had an adverse impact upon the landscape character of the tract of land between the site and the eastern edge of Telford. The OS 1:25 000 map provides some evidence that similar activities have previously been carried out in this area e.g. old clay pits and disused mine shafts.

7.2.3 Key Visual Issues

The location of the Woodhouse Farm site beside the most elevated point in the area, would result in any landfill/landraising generating a large estimated visual envelope. Some activities and the post restoration landform would be potentially visible over substantial tracts of eastern Shropshire. However, a more detailed consideration indicates that visual impacts would not necessarily be of high magnitude. There are low numbers of potential sensitive visual receptors with close distance views and few residents and users of the limited PRoW network that would sustain significant adverse visual impacts during the operational period.

At this outline assessment stage, it is considered unlikely that views of the operational period will be available to residents in eastern parts of Telford, until the latter stages, when disposal operations would be occurring on the more elevated southeastern part of the site. Much wider and more sustained views of the operational period would be available to receptors in an arc from the A5 anti-clockwise to the Lilleshall area. However, as already noted, the settlement pattern in this area is very sparse.

Over the 3 km distance between the site and the only sizeable group of residential receptors in Sherrifhales, individual activities would be difficult to discern, especially in the afternoons when views towards the site would be into the sun (see Figure 7.1c). Nevertheless, the

openness of the landscape places strong visual emphasis on the low horizons, so any activity or even subsequent woodland on the highest point of the horizon will have an increased visual prominence.

As noted above, there is scope for advanced perimeter and/or off-site screen bunding and planting to mitigate views from some of the individual properties that are predicted to sustain clear short or middle distance views. Examples of such properties could include Redhill Farm, the hotel on the A5 to the immediate southeast of the site, Ferndale Farm and New Lodge. During the subsequent post restoration period, if the site were to be restored to woodland and pasture fields, it is predicted that it would generate positive visual impacts, or at least neutral impacts.

7.2.4 Potential Mitigation Strategies

The overall mitigation strategy would need to be developed having regard to the rolling restoration proposals as outlined below. The land disposal and therefore the restoration operations are likely to move south to north and consideration will need to be given to the final landform for the present permitted landraising activity. Careful phasing and restoration design should ensure that the earlier restoration works act as a screen for key visual receptors and ensure that at least parts of the operational site continue to provide a positive landscape resource.

The long time-scale of any proposed operations (potentially up to twenty years) provides a good opportunity to put in place perimeter and, if required, off-site screen bunding and advance planting. Over such a time-scale there is strong potential for appropriately selected, planted and managed woodland shelterbelt mixtures to be reaching maturity by the time that operations advance towards the A5 southern boundary. Particular consideration would need to be given to screening potential views from the A5, the hotel to the immediate southeast, the two cottages on its north side of the A5 and most importantly, the crematorium as well as Ferndale Farm to the north. In visual and landscape terms extensive screen planting (with or without bunding) will need to be designed so that it reflects the impacts of the occasional woodlands and plantations in the vicinity. With regard to views from areas to the west i.e. Telford, the mitigation and restoration planting should be designed to form linkages with the landscape in and around Granville Country Park.

7.2.5 Potential Restoration Strategy

A indicative restoration strategy is illustrated in Figure 7.2. The potential restoration strategy will focus upon the gradual re-establishment of areas of permanent grassland interspersed with woodland shelterbelts and copses. The grass will be either pasture or suitable low maintenance restoration and/or biodiversity mixtures with the potential for wildflower mixtures to be incorporated. The latter mixes will be especially suitable for any areas which are to be incorporated into a potentially extended Granville Country Park. Hedgerow replanting will also be an important component from wildlife and landscape structure considerations. The woodland planting will need to be carefully designed as it is likely to be visually prominent on or near the horizon in many views and it would not be in accordance with the local landscape character if the restoration woodland planting coalesced to form the illusion of a large single block of woodland. The topography of the final landform will likewise require careful design to try and achieve a strong sense of naturalness and not provide an over-engineered landform.

Particular consideration will need to be given to how to incorporate the proposed Woodhouse Farm restoration landform with the nearby final landform at the Granville Landfill.

7.2.6 Landscape and Visual Summary

An evaluation of the suitability this site under landscape and visual criteria leads to the conclusion that the proposed site is a location at which a landraising operation could be acceptably accommodated. This conclusion is based upon the following considerations:

- The site is not subject to any landscape planning designations including Green Belt or any overarching 'Countryside' type designations in the Local Plan;
- The site contains a limited number of landscape resources that will be lost and these are all replicated in the surrounding area;
- The local landscape character around the Redhill area is already strongly influenced by the area's history of similar activities, including landraising;
- The elevation of the site and immediate environs means that the type of steep gradients necessitated by a landraise are already an element in the local landscape character. Nevertheless, most of the operational activities would be screened by intervening topography in the potential views of the large number of receptors in eastern Telford;
- A carefully designed final landform with mixed grassland and woodland restoration could be acceptable within the existing landscape character framework as there are woodlands on a comparable scale. There is potential for long-term recreational linkages with Granville Country Park.

7.3 Hydrogeological Assessment

7.3.1 Hydrogeological Background

As noted above, the site has a marked northeastern aspect, with levels falling steadily from the site's southwestern to northeastern corners. As such, the direction of groundwater flow is likely to be predominantly in a northeastwards direction. It is likely to discharge to a small un-named stream draining to the River Worfe. The River Worfe is understood to experience low flows and this may mean that there is little or no dilution available for any site discharges to it. The River Worfe downstream of the site (Albrighton Brook to water abstraction river stretch) has been assigned Grade B (good) status under the Environment Agency's General Quality Assessment system.

A report by British Geotechnical (1991), which was supplied to Entec by the landowners of the site, indicates that trial pits and boreholes (locations unknown) found the site to be underlain by a coarse sandstone in places, passing down into thinly bedded silty mudstone.

7.3.2 Hydrogeological Assessment

The presence of sandstone horizons in the Enville Formation, as indicated by British Geotechnical (1991), may mean that there is potential for rapid lateral movement of

groundwater, should these be laterally continuous. However, vertical migration is likely to be limited by the existence of extensive clay layers.

Due its location at the head of a catchment, there is not likely to be significant groundwater flow beneath the Redhill site, and the construction of a landfill/landraise would further reduce infiltration to ground and hence groundwater flow. This means that any leakage from land disposal operations would not be diluted in groundwater beneath the site and therefore concentrations of unattenuated compounds (e.g. chloride) may be high in the immediate vicinity.

It has not been determined, from the data sources consulted, whether the Enville Beds, Keele Beds or underlying strata are used for private groundwater supplies in the area and therefore proximity to groundwater receptors has not been ascertained.

Mitigation in the form of a low permeability engineered lining system will be required to prevent excessive leachate leakage from the proposed landfill. In addition a groundwater, surface water and leachate monitoring system will be required. Background monitoring will have to commence prior to the development of any waste facility.

7.4 Transport Assessment

7.4.1 Current Conditions

There is currently no direct access to this site, although the site is bound by the A5 'Watling Street' (non-Trunk) to the south and by Woodhouse Lane to the west. Woodhouse Lane appears to be an unadopted highway, giving access to Telford Crematorium and, via a gate, to Woodhouse Farm.

This section of the A5 is subject to relatively high traffic flows and as such, the junction of Woodhouse lane with the A5 is a priority junction with single lane dualling. The result is a high quality junction with a direct taper and deceleration lane provided for traffic turning right into Woodhouse Lane. An unadopted track from the south also meets the A5 at its junction with Woodhouse Lane. Although the A5 is relatively busy at this point, the use of Woodhouse Lane is extremely light and sporadic, given the nature of the Crematorium use.

7.4.2 Estimated Traffic Generation

The Woodhouse Farm site is estimated to have a capacity of approximately 5.8 million m^3 (see section 7.5), with a lifespan of approximately 20 years. An indicative input is therefore 290,000 m^3 per year equating to around 9 LGV movements into and out of the site per hour, on average, throughout the hours of operation. Subject to the findings of a more detailed transport assessment, this level of traffic generation should not have a significant impact on the operational capacity of the local highway network.

7.4.3 Access Issues

Although the junction of Woodhouse Lane with the A5 is of a suitable standard for the scale of the likely development, the proximity of the Crematorium is likely to be considered unacceptable given the sensitivity of its use. However, it may be considered acceptable to share the access on Woodhouse Lane and take access from it to the site only a short distance from the

A5, therefore limiting the conflict between the Crematorium and the waste disposal site. This being the case, only minor works would be required to Woodhouse Lane such as localised widening and larger corner radii. Similarly, only minor amendments may be required to it's junction with the A5, such as the provision of compound corner radii. However, consideration would need to be given to the impact on the through flow of slow moving vehicles emerging from Woodhouse Lane onto the A5.

An alternative access strategy may be via the B5060 towards Donnington Wood, then along an unclassified road via Granville Country Park, Lodgebank and Woodhouse Farm. This route is known as the 'Western Approaches'. However, of the 2.5 km of this route, the majority is less than 4 m in width and over 1 km is currently unpaved. Therefore, significant works (likely to include some retaining structures) would be required to bring this approach up to a reasonable standard to facilitate its safe use for LGVs. In addition, the land ownership situation along the length of the route is unclear.

The provision of a new access from the A5 between Woodhouse Lane and the Hotel would not be suitable as the southern end of the site is to be retained as a barrier between the site and the A5. Furthermore, the addition of another access in this location is likely to be considered unacceptable due to inadequate junction spacing, adverse safety implications and the impact on the Hotel. Visibility splays and vertical alignment are, therefore, not considered further as part of this assessment.

7.4.4 Off-site Impacts

It is likely that the vast majority of development related traffic would leave the site and access the Trunk Road network at Junction 4 of the M54 via the B5060, or at Junction 5 via the A5 (limited by condition if required). Both routes offer high quality access to the M54 and, given the level of traffic generation predicted, it is unlikely that any off-site junctions would fail to operate within generally accepted capacity indicators as a result of the development traffic. This would need to be confirmed should detailed proposals come forward.

7.4.5 Summary

Therefore, in principle:

- Satisfactory access could be taken from Woodhouse Lane subject to the issue of conflict with the Crematorium;
- A new access from the A5 does not appear to be feasible;
- The Western Approaches route may be feasible subject to substantial engineering works in order to make good the existing tracks.

A preliminary view from the Highways Agency's consultants broadly concurs with this assessment.

7.5 Assessment of Operational Issues

7.5.1 Landfill Engineering

Given the baseline geology of the site, more detailed site investigation would need to be carried out to determine the exact depth, type and geotechnical properties of the red marls and their suitability for use as a liner for a landfill/landraise operation. Moreover, the indication that the site is underlain by Upper Coal Measures would require investigation into whether any coal working has taken place in the area and if so, the extent and depth of workings and location of any mine shafts. If coal workings are located under the site this may affect the construction of the basal lining system. Depending on the outcome of further site investigation, the red marl underlying the site may be suitable to form the basal lining of any landfill/landraise operation (1 m of re-compacted mineral liner with a permeability of $1x10^{-9}$m/s). The clay would have to be excavated and then re-compacted to achieve the required permeability.

7.5.2 Surface Water Management

The stream to the northeast boundary of the site, which flows to a series of ponds, would take any surface water run-off from the northern and eastern side of the site. The surface water drainage from the southern and western side of the site would have to drain via a new ditch to a stream to the northwest. A more detailed appraisal of the surface water management system would be required at the design stage to assess the available capacity in the existing streams.

7.5.3 Leachate Management

Prior to development, the existence of any foul sewers close to the site for the discharge of leachate would have to be established. Dependant on the sewage treatment works that the sewer discharges to and following negotiation with Severn Trent, it could be possible to discharge treated leachate to the foul sewer.

7.5.4 Indicative Landfill Void Volumes

Due to the proximity of the Oaks Hotel and the Telford Crematorium and the requirement for a stand-off distance from sensitive land uses, approximately 10 ha to the south of the site, adjacent to the A5, is considered unsuitable for land disposal operations. The useable area for landfill/landraise may be further reduced by approximately 5 ha, as land is required for the site compound area (including site offices, weighbridge etc), landscape screen planting and forming screening bunds. The void volumes have thus been based on an area for landraising or landfilling of 50 ha.

The void volume for the landraise has been calculated on the basis of the restored landform being domed to a height of 25 m above existing ground level. This assumes that the resulting shape is approximately pyramidal and is therefore one third of the base area times the height of the landfill. The landfill volume includes the void volume below ground level. In setting the basal levels at 4 m below existing ground level, sufficient material will be available for the restoration soils and impermeable capping layer. Excavation to a lower level may be considered depending on precise site requirements. The approximate void volumes are given in the Table 7.1.

Table 7.1 Potential Void Volumes at Woodhouse Farm

Depth of Landfill (m)	**Gross Void** (m^3)	**Restoration Soils** (m^3)	**Net Void** (m^3)
25 (landraise only)	5 000 000	1 200 000	3 800 000
29 (landfill)	7 000 000	1 200 000	5 800 000

The net void includes daily cover material. The restoration soils volume has been based on a 1 m thick impermeable mineral liner, a 500 mm thick drainage layer and 1 m thick restoration soil cover. The net void could be increased by approximately 250 000 m^3 by replacing the drainage layer with a geocomposite layer.

7.6 Other Relevant Issues

7.6.1 Cultural Heritage

As already discussed, the Uxacona Scheduled Ancient Monument is located approximately 100 m west of the site. The existence of such a feature is clearly a potential constraint to the development of a waste facility, which at the very least would require the implementation of appropriate mitigatory measures. However, the principle of locating a waste facility within close proximity of the SAM has already been established, with the development of the neighbouring Granville landfill site. As long as appropriate stand-off distances between the SAM and any landfill/landraise operation at Woodhouse Farm is maintained (which could be achieved with relative ease given the extent of the site), this feature should not preclude the development of Woodhouse Farm.

7.6.2 Utilities

A 20" water pipe owned by Severn Trent presently bisects the site. Based on information supplied to Entec by the landowner, the pipeline appears to start in the southern area of the site (next to the A5) and extend northwards to the farmhouse buildings. Further detailed investigation would need to be conducted to ascertain the number of properties the pipeline serves. However, given the line of the pipeline and the lack of other properties in its locality, it is possible that it only serves Woodhouse Farmhouse and its associated outbuildings. If this is the case, the pipeline would be rendered redundant given the farm buildings would be removed should the site be developed.

Should further investigation reveal that the pipeline serves more than just the farmhouse, appropriate mitigatory measures would need to be employed. Entec understand from the landowner's land agent, that a Severn Trent water pipe was moved as part of the development of the adjacent Granville Landfill site. Based on the evidence available to Entec, there is nothing that would suggest that similar mitigatory measures could not be employed at the Woodhouse Farm site, should they be required.

7.7 Overall Site Assessment

Using the discretionary site assessment objectives established via the methodology detailed in Section 4, an overall evaluation of the appropriateness of Woodhouse Farm as a site for the disposal of non-hazardous waste has been carried out. The results of the detailed site investigation work have been fed into this overall evaluation. The completed matrix is attached at Appendix B and a summary of this assessment is as follows:

7.7.1 Land Use

The site performs reasonably well against the objectives given that its potential development would not impact upon any established or emerging development plan allocations, is not located in the Green Belt and no footpaths or public rights of way would be adversely impacted in any significant way. The fact that the site is within an area of open countryside and is in close proximity to an area of Ancient Woodland is, however, disadvantageous. In terms of the former, existing Structure Plan policy 42 states that the countryside around towns has particular importance and should be subject to management initiatives to secure visual enhancement, use for access, wildlife, open space, agriculture and appropriate development having regard to local distinctiveness and setting and character of the town. This position is, however, tempered to a degree given that the site is adjacent to an established landfill site.

7.7.2 Amenity

From an amenity perspective, the site performs well in that there are few sensitive receptors in the immediate area. The Oaks Hotel in the south and Telford Crematorium to the southwest, represent the only sensitive land uses that would be affected by any waste development. However, it is considered that the site is of sufficient size that appropriate stand-off distances could be designed into any scheme.

7.7.3 Landscape and Visual

The site is not affected by any landscape designations and screening could minimise visual impact.

7.7.4 Traffic and Transportation

Although no opportunity exists at the site for the potential use of alternative means of transport, the potential highways accesses are located in close proximity to the primary route network and would not necessitate vehicles passing through areas of significant sensitive land uses such as residential areas.

It has been established that access to the site is feasible from Woodhouse Lane subject to a more detailed Transport Assessment and minor highway improvements. Whilst this represents the most convenient access from a highways perspective, there are issues surrounding the appropriateness of a waste facility sharing the same access as Telford Crematorium, (even with the implementation of mitigatory measures). An alternative access via the western approaches is regarded as possible, although it must be noted that this would require significant engineering works to upgrade the stretch of unclassified road.

7.7.5 Water Environment

Given that the development of this site would probably have minimal impact on public water supplies and would not affect the integrity of the area's floodplain, from a water environment perspective, this site performs well. Proximity to the River Worfe, however, would necessitate the implementation of necessary safeguards at the design stage of any waste development.

7.7.6 Nature Conservation

It is predicted that the development of Woodhouse Farm as a landfill/landraise operation would have minimal indirect impact on features of recognised ecological importance. The proximity of Coopers Coppice Ancient Woodland (250 m to the east) is noted, but given its distance from the site, any impacts would probably be negligible.

7.7.7 Cultural Heritage

The close proximity of the Uxacona SAM (100 m to the west) potentially constrains the development of a landfill/landraise facility at Woodhouse Farm. However, the principle of waste operations in the vicinity of this feature has already been accepted (Granville landfill site). This, plus the fact that the site is of sufficient size to allow an appropriate stand-off distance to be maintained, means that development is unlikely to be precluded by the existence of the SAM.

7.7.8 Economic

There appear to be few economic factors that render this site unsuitable for the development of a non-hazardous waste facility. A limited impact on tourists using the A5 has been noted, but is regarded as insignificant given the potential for the site to be screened from users of the road.

7.7.9 Proximity

The site is considered well located to serve the waste management needs of north and east Shropshire.

Plate A: View south east to proposed Woodhouse Farm site from golf course fairway near Muxton Grange Cottages

Plate B: View west towards Woodhouse Farm from PRoW off A5

Plate C: View west towards Woodhouse Farm from near pond in Sheriffhales

Strategic Locations for Waste Disposal

Figure 7.1
View of Woodhouse Farm Site Red Hill, Telford

March 2003
09581-S06.cdr drewc

Entec

- Eastern portion of site restored to agriculture
- Western portion of site restored to form possible extension to country park
- Southern fields left as buffer with screen bund and planting to mitigate potential adverse effects on crematorium and S.A.M.
- Limited screen bunding and planting on northern and north-western edge
- New woodlands of appropriate scale and shape in relation to established landscape character
- Access off Woodhouse Lane or via western approaches
- Potential location of office/ weighbridge besides existing farm buildings in well screened location

0 m 500 m

Scale 1:10,000 @ A4

Key

- Site boundary
- Indicative direction of working
- Indicative location of office/ weighbridge
- Indicative gradients
- Potential access route (Woodhouse Lane)
- Potential access route (western approaches leading to/from B5060)
- New hedgerows including hedgerow trees
- Mitigation woodland with bunding
- Restoration woodland planting
- Area not to be subject to landfill/ landraise

Strategic Locations for Waste Disposal

Figure 7.2
Indicative Restoration Scheme for Woodhouse Farm, Redhill

March 2003
09581-S10.dwg drewc

Entec

8. Detailed Site Assessment of Land at Lower Edgebold, Shrewsbury

8.1 Baseline

8.1.1 Location

The site is located within an area bounded by the A5(T) to the east, the B4386 to the north, a disused railway situated in a deep cutting to the west and the A488 to the south. It is centred on grid reference 454110 and covers an area of approximately 40 ha. The closest properties in the village of Hanwood Bank lie 300 m to the southwest of the proposed site, whilst the closest area of Shrewsbury, (housing off Mytton Oak Road), is approximately 1250 m to the northeast.

8.1.2 Topography

The context of the site is a gently rolling plain, periodically incised by streams and rivers such as the Rea Brook which flows west to east within 750 m to the south. Aside from the valley bottoms, the area has an elevation between 90 and 110 m AOD with the topography rising gently to the south. The site has a flat-topped low ridgeline that extends in a northeasterly direction from a high point of 121 m AOD to the southwest. Hence the site's high point is located close to, or on its southwestern boundary with a plateau defined by the 100 m contour line occupying the central part of the site. The photograph in Figure 8.1b is from this area and shows the lack of topographical variation in the northern part of the site. The topography then falls away gently in all direction except southwest, however, the changes in elevation are too slight to be readily discernible on or around the site. The relative lack of topographical variation would makes it more difficult to use natural topographical variations to screen any proposed landraising activity. Conversely, the lack of variation emphasises the screening role of existing blocks of woodland and shelterbelts and the long-term potential for introducing new mitigation screen planting.

8.1.3 Geology

The site is underlain by the Keele Beds, described (BGS, 1978) as purple and brown mudstones and mottled sandstones with a total thickness in the range 45 to 450 m. The Keele Beds are underlain by the Coed-yr-Allt Beds (grey mudstones with sandstone beds and coal seams. Coal seams are found at depth and have been worked in the Hanwood area. The Keele beds thin to the south. Dips are shown to be to the northwest at 20 degrees.

The drift geology (BGS, 1974) is shown to be predominantly boulder clay (glacial till). Small areas of alluvium and pockets of sand and gravel are found across the boulder clay cover. To the south and west of the site, in the valley of the Rea Brook, a ribbon of fluvo-glacial gravels is shown on the map. Alluvium is shown along the course of the Rea Brook. It is noted that some inert fill is present resulting from the construction of the Shrewsbury Bypass.

8.1.4 Planning Designations

The only designation in the Shrewsbury and Atcham Borough Local Plan that affects the site is the widespread 'Countryside' designation. This relates to Policy LNC3 which states that development will only be permitted if it does not have a "*significant adverse effect on the character or quality of the open countryside*".

8.1.5 Land-Use and Vegetation Resource

The site and environs are given over to predominantly agricultural land-uses, with improved pasture being the dominant crop. The southern part of the site contains a field presently given over to arable cropping. There are no blocks of woodland within the site, however, there are three separate blocks of Ancient Woodland just beyond the site boundaries. These appear to be plantation woodlands comprising both non-native coniferous and native deciduous species. The largest of these three plantations, (Woodcote Coppice) is designated under *'Conservation of Regional and Local Sites of Ecological, Geological and Physiographical Importance'* in the current Local Plan. These woodlands are prominent in Figure 8.1a which is a view across the northern portion of the site from the vicinity of Upper Woodcote Farm.

The field boundaries are a mixture of modern electrified wire fencing and the earlier enclosure hedgerows. The best example of the latter is the strong hedgeline that lies to the east of a PRoW and is a thick, well maintained hedgerow consisting almost entirely of hawthorn (*Crataegus monogyna*). The most visually important elements are the hedgerow trees which are particularly prominent in the central and northern parts of the site as shown in Figure 8.1a. These are overwhelmingly oaks (*Quercus robur*), with a small number of ashes (*Fraxinus excelsior*) and are all mature or showing signs of over-maturity, such as becoming stag-headed. Many of these are now isolated, with their original hedgerows having been removed. Other locally important vegetation is the mature woodland and scrub that has developed within and along the top of the disused railway cutting, effectively forming a strong shelterbelt that is of particular importance in determining the views that would be available to residents on the north-eastern edge of Hanwood Bank.

8.1.6 Public Rights of Way (PRoWs)

The site and its immediate environs do not have a good level of public access and there is a limited PRoW network. The site is crossed by a public footpath that runs from the B4386 through Upper Woodcote Farm in a southwesterly direction, crossing the railway cutting by a footbridge. On the western side of the railway cutting it meets a PRoW that runs between Hanwood and the B4386. Both Figure 8.1a and 8.1b are taken from this footpath.

Following a brief discussion with one of the County Council's PRoW officers, it was confirmed that the **principle** of a footpath diversion at this site would be acceptable. Clearly though, the details of any potential diversion would need to be discussed with the County Council if proposals come forward.

8.1.7 Settlement Pattern

The surrounding area has a very limited settlement pattern that is typical of the Shropshire, Cheshire and Staffordshire Plain, being quite extensive with only a limited number of villages at wide intervals. There is a relatively high density of farmhouses, often in isolated locations. Despite the proximity to Shrewsbury, the site shows no evidence of urban fringe blight. The

only example of an urban influence is the suburban estate development that comprises that part of Hanwood Bank north of A488.

To the north of the site are the working Lower and Upper Woodcote Farms, whilst to the south is Lower Edgebold Farm and a large adjoining property, plus a handful of small industrial units. Along the A488 are Edgebold Cottages, a semi-detached property and Two Mile Houses, whose residents would be important potential visual receptors.

8.2 Landscape and Visual Assessment

8.2.1 Landscape Character

The site at Lower Edgebold naturally shares many landscape characteristics with the nearby Day House Farm, however as noted by the CPRE study in 2002 and the Shropshire Landscape Character Assessment there are subtle differences between the two sites. The Lower Edgebold site has good sense of enclosure and intimacy generated in the main by the adjoining woodland plantations, whilst the remnant, mature hedgerow oaks increase the area's diversity as well as its time depth continuity. This continuity is reinforced by the small pond in the centre of the site and the width and continued functionality of the long hedgerow alongside the PRoW. The area has a strong sense of calm and little movement and its relative sense of isolation is only slightly undermined by the residual traffic noise from the A5(T) and the elevated light standards at the A5(T) and B4386 junction. The site has no special landscape features or patterns that are not replicated widely throughout western-central Shropshire.

8.2.2 Key Landscape Issues

The key landscape issue will be the strong contrast between any landraising operation and the surrounding landscape, in which rural landscape characteristics are predominant. A large scale landraising operation would generate contrasts in terms of movement levels, calmness and tranquillity and the colours and texture of the grain of the landscape. A number of landscape resources would be lost, including numerous mature hedgerow trees, some sections of hedgerow and at least one pond. As landraising proceeds, the topographical contrast with the immediate area will become more pronounced and even after post-restoration settlement, will remain. The scale of the changes will modify the local landscape character with a predicted undermining of the present rural nature of the area. The operation could have cumulative landscape effects, particularly with regard to noise and possibly lighting, in combination with the nearby A5(T). There is the potential for an enhanced link between the Lower Edgebold area and the western fringe of Shrewsbury.

The long-term landscape effects will be dependent upon the design, implementation and management of the restoration scheme for the completed landraise (see Section 8.2.5). A maximum land raise final level of 15-20 m above present site levels (circa 115-120 m AOD) is likely to be a contrast to the immediate surrounding topography. However, it is noted that a kilometre to the southwest a hillock does reach 121 m AOD, hence the design of the final landform should seek to reflect the gradients and landforms that could aid in assimilating the restored site back into the landscape.

8.2.3 Key Visual Issues

There is overlap with the consideration of landscape issues, especially any predicted landscape contrasts between the operational site and surrounding pastoral farmland. As landraising proceeds, it would have greater potential for intruding into existing views and becoming visible to more visual receptors. This situation is likely to be particularly applicable to a number of potential residential receptors in some locations on the western fringe of Shrewsbury, such as around the Royal Shrewsbury Hospital, parts of Radbrook and around Nobold. During the latter stages of the operational period, there would be potential for landraising to intrude above the mature intervening and surrounding plantations and intrude above a small section of the present horizon. Such an intrusion might be visually emphasised by the movement of plant and the need for litter nets and/or enclosing elements to reduce the risk of any potential bird strike associated with the flight path of the nearby Royal Shrewsbury Hospital air ambulance. This situation could also apply to the northeastern views available to some of the residents of the northern edge of Hanwood Bank.

Nevertheless, the preliminary study notes that apart from the users of the A5(T), there are a relatively small number of potential visual receptors with close or middle distance views into or across the site. As already noted, detailed proposals for the design of any landraising would need to consider the potential for boundary and off-site screen planting with regard to properties located within the area defined by the A5(T), A488, the former railway cutting and the B4386. Detailed consideration would also need to be given to the views of the operations that would be available to the recreational pedestrians using any diverted public footpath.

However, there are some considerations that are visually favourable to the Lower Edgebold site. The limited number of nearby visual receptors combined with the micro-topography and density of woodland cover around the site would restrict the publicly available views of the ground level operations which would be the most visually adverse aspects of the operational period. The majority of visual receptors will only have either glimpsed or filtered views or else have longer distance views of the final operational stages and the subsequent upper part of the restoration landform.

8.2.4 Potential Mitigation Strategies

The principal strategy is likely to concentrate upon provision of effective screening for key potential receptors and this can be in the form of either screen earthworks and/or screen planting. The use of earthworks, usually in the form of perimeter bunding, can often be as visually intrusive as the activity they are intended to screen. In the case of a landraising operation with a final nominal height of 15-20 m, the use of a perimeter bund would have very limited mitigation value if just placed around the base of the landraising area. However, there may be potential for localised bunding to foreshorten views across the site for individual groups of visual receptors. For example, bunding may be appropriate around the boundaries of nearby inhabited farms or close to the boundary with the A5, to accentuate the partial screening provided by the slight rise, which helps to separate the proposed site from the A5 road corridor. These mitigation proposals are illustrated along with the indicative restoration proposals in Figure 8.2.

The potential for effective mitigation screen planting is also limited. This is because the final landform is likely to be 15-20 m higher than existing levels (not including the associated plant moving across the elevated surface and other infrastructure such as litter nets). There are only a limited number of appropriate tree species which reach these heights and they are unlikely to be

attained within the operational lifespan of the site (assumed to be in the region of 15 years). In addition, large scale woodland plantations are not an element in the local landscape character, with Woodcote Coppice being the best extensive block of woodland in the area to the west of Shrewsbury. As with the potential for using screen bunds, it is likely that carefully designed and maintained woodland plantation and shelterbelt planting could have a mitigating role for individual groups of visual receptors. However, in general this planting would only be visually effective for individual receptors if it is located off-site and closer to them.

8.2.5 Potential Restoration Strategy

The final landform should be designed to minimise potential adverse landscape and visual impacts by ensuring that it appears as naturalistic as possible. Hence, the contours should reflect those prevalent in the more rolling landscape south of Hanwood Bank, where the hillocks are rounded and tend to have concave slopes which would have the additional advantage of allowing more 'feathering in' of contours at the edge of the landraise. The restoration land-use should reflect the dominant land-uses in the surrounding area i.e. pasture with limited woodland in the form of irregular, medium sized blocks of deciduous species. In keeping with the Shropshire Landscape Character Assessment, the pasture fields should be irregular in shape, of medium size and bounded by hawthorn hedgerows with oak and ash hedgerow trees. It may be desirable to return the diverted PRoW to its original alignment across the restoration area in order to take advantage of the slightly elevated views that would be available to users.

8.2.6 Landscape and Visual Summary

The Lower Edgebold site is located in an area that retains predominantly rural landscape characteristics, despite its proximity to Shrewsbury. The introduction of the A5(T) to the east of the site has led to an undermining of some of these characteristics principally noise and lighting. In landscape terms the site is characteristic of the predominantly rural area that extends westwards from Shrewsbury along this section of the Severn Valley, although the three surrounding woodlands do give an impression of a higher proportion of tree cover. A number of local landscape resources would be lost. As landraising proceeds, there is likely to be increasing contrast with the immediate surrounding topography which will continue in the longer post-restoration period. If the site was developed, the design of the final landform would be a crucial determinant of long-term landscape and visual effects.

Overall the key landscape and visual issues can be summarised as follows:

- The proposed site is not subject to any local or national landscape designations;
- The landraising would necessitate the loss of approximately 40 ha of mainly pastoral farmland, several mature hedgerows, several dozen mature hedgerow trees and a small pond;
- Aside from the recent A5(T) and the dismantled railway to the west, the area is under rural land-uses with no immediate evidence of any other large-scale non-rural land-uses;
- The local topography is gently undulating around 85-100 m AOD, hence the post settlement landraise landform could have a maximum height of 115-120 m AOD making it potentially visually prominent. However, there are knolls and hillocks of similar heights within a kilometre to the west;

- The present site and its immediate environs have a moderate capacity to absorb change due to the relatively strong surviving landscape framework, however, the proposed landraising would exceed that capacity, especially during the operational period;
- The detail design of the final post restoration landform will be crucial with regard to gradients, tying in with the immediate surrounding topography, land-use and land cover and long-term management objectives and funding;
- The site is visually well enclosed for the landscape character type;
- There are only a small number of sensitive visual receptors predicted to sustain close distance views of the majority of the operations. There is a possible need for off-site bunding and screening;
- A substantial length of PRoW will need diverting and the diversion could provide sustained close distance views;
- There are predicted to be minimal views from the village of Hanwood Bank due to filtering and screening of intervening vegetation and the post restoration landform should be designed so that it does not intrude above the intervening vegetation;
- The final operational stages and the resultant post restoration landform will potentially be an intrusive element in some long distance views, particularly from some residential areas on the western fringes of Shrewsbury and the users of the A5(T) potentially undermining the area's image for through travellers.

8.3 Hydrogeological Assessment

8.3.1 Hydrogeological Baseline

The groundwater vulnerability map (NRA, 1995) shows the Keele Beds to be a minor aquifer of low vulnerability over the Edgebold site. Areas of higher vulnerability exist to the south and southwest of the site, in the valley of the Rea Brook, where there are gravel deposits.

The topography of the site is complex, but with an overall fall towards the east. It is not easy to predict the direction of groundwater flow. Possible discharge points are the Rea Brook to the west, a small stream starting at Woodcote Farm to the north and Bow Brook to the east.

8.3.2 Hydrogeological Assessment

The Keele Beds consist of mudstones and sandstones and are overlain by glacial till (boulder clay). A combination of a clay rich glacial till and mudstone dominated Keele Beds would result in limited infiltration and low rates of lateral movement. In addition, the presence of substantial clay horizons means that attenuation of ammonia (a key landfill leachate contaminant) will be significant. However, it is also possible that the glacial till is relatively sandy and the Keele Beds could contain substantial sandstone horizons and in this case there may be significant potential for infiltration of landfill leakage and more rapid lateral movement. Further investigation is clearly required should any proposals come forward.

Recharge to, and groundwater flow within, the Keele Beds is likely to be limited due to the presence of low permeability horizons. This means that there would be limited dilution of any landfill leachate leaking through any liner. However, the presence of low permeability, clay rich horizons, will mean that travel times from the base of the landfill to groundwater are likely to be long, permitting time for degradation processes to act. In addition, the clay fraction is likely to provide significant attenuation of ammonium by the process of cat-ion exchange.

The vulnerability of the Keele Beds will depend upon the proportion of permeable sand horizons present and this is only likely to be determined by detailed site investigation.

It has not be determined, from the data sources consulted, whether the Keele Beds or underlying strata are used for private groundwater supplies in the area and therefore the proximity to groundwater receptors has not been ascertained.

A groundwater supply and associated source protection zone[3] occur at Lower Edgebold. The source protection zones form a southwest – northeast trending ellipse. The outer protection zone does not extend beneath the potential operational area. It is not known from which strata the source abstracts groundwater.

Mitigation in the form of a low permeability engineered lining system will be required to prevent excessive leachate leakage from the landfill. In addition a groundwater, surface water and leachate monitoring systems will be required. Background monitoring will have to commence prior to the development of the landfill.

8.4 Transport Assessment

8.4.1 Current Conditions

The site is adjacent to the A5(T) at its junction with the A488. The A488 links the centre of Shrewsbury with the villages of Hanwood and Pontesbury, and with other destinations further to the southwest. The A488 is subject to relatively light traffic flows outside peak hours, although the proportion of LGVs is significant. The only access at present is via a gated field track off the A488, approximately 10 m from the roundabout on the A5(T).

8.4.2 Estimated Traffic Generation

The Lower Edgebold site is estimated to have a capacity of approximately 3 million m^3 (see section 8.5), with a lifespan of approximately 15 years, giving an indicative input rate of 200 000 m^3 per year. This would equate to around 7 LGV movements into and out of the site per hour, on average, throughout the hours of operation. Subject to the findings of a more detailed transport assessment, this level of traffic generation should not have a significant impact on the operational capacity of the local highway network.

[3] Source Protection Zones are defined in the Policy and Practice for the Protection of Groundwater (Environment Agency 1998), and shown on maps available at Environment Agency offices or via the Agency's website (www.environment-agency.gov.uk)

8.4.3 Access Issues

Modification of the existing access via the gated farm track is likely to be unacceptable due to its proximity to the A488/A5(T) junction. Any access at this location would present a significant danger as traffic from the A5(T) turning onto the A488 would be impeded almost immediately by any vehicles waiting to turn right into the site. In addition, an access at this location may result in unacceptable levels of disturbance to residents of Twomile Houses due to the turning movements of LGVs.

The provision of a new access from the A488 would also be problematic given the horizontal and vertical alignment of the carriageway at this point. Given that the A488 is subject to the national speed limit of 60mph, the required major road visibility would be 215 m. It would appear from a site visit that this distance would be unachievable.

An alternative access strategy may be via the B4386, however, achieving satisfactory visibility splays would also be unlikely. In addition, the impact of an access in this location on Woodcote Coppice and Upper Woodcote Farm may also be considered as unacceptable.

8.4.4 Off-site Impacts

Given the level of traffic generation predicted from the site, it is not considered to have a significant impact on the operational capacity or safety of any routes used.

8.4.5 Summary

Therefore, in principle:

- Modification of the existing field access would be unacceptable;
- It is unlikely that an alternative access from the A488 could be accommodated with the required visibility standards;
- An access from the B4386 is also unlikely to be satisfactory.

The Highways Agency's consultants broadly concur with this assessment. They add that should an allocation be retained at this location, the access would have to be moved further west and take the form of a ghost right turn junction.

8.5 Assessment of Operational Issues

8.5.1 Landfill Engineering

Against the backdrop of the site's prevailing geology, detailed site investigation would have to be carried out to determine the exact depth, type and geotechnical properties of the mudstone and the extent and depth of the coal workings and location of any mine shafts. If coal workings are located under the site this may affect the construction of the basal lining system. The mudstone underlying the site, depending on the outcome of any site investigation, may be suitable to form the basal lining (1 m of re-compacted mineral liner with a permeability of $1x10^{-9}$m/s, to the landfill). The clay will have to be excavated and then re-compacted to achieve the required permeability.

8.5.2 Surface Water Management

There is a stream to the north of the site at Lower Woodcote Farm. The surface water discharge from the site could be directed towards this stream.

8.5.3 Leachate Management

It would have to be established if there is a foul sewer close to the site for the discharge of leachate. Dependant on the sewage treatment works that the sewer discharges to and following negotiation with Severn Trent, it may be possible to discharge treated leachate to the foul sewer.

8.5.4 Indicative Landfill Void Volumes

The useable area for landraising may be reduced by approximately 4 ha, to account for the site compound (including site offices, weighbridge etc), landscape screen planting and the establishment of screening bunds. The void volumes for the site have been calculated on an area of 36 ha and a restored landform being domed to a height of 20 m above existing ground level. This assumes that the resulting shape is approximately pyramidal in shape and is therefore one third of the base area times the height of the landfill. The approximate void volumes for the proposed landfill as a landraise are given in the Table 8.1.

Table 8.1 Potential Void Volumes at Edgebold

Depth of Landraise (m)	Gross Void (m^3)	Restoration Soils (m^3)	Net Void (m^3)
20	34 000 000	1 000 000	3 000 000

The net void includes the daily cover material. The restoration soils volume has been based on a 1 m thick impermeable mineral liner, a 500 mm thick drainage layer and 1 m thick restoration soil cover. The net void could be increased by approximately 180 000 m^3 by replacing the drainage layer with a geocomposite layer.

8.6 Other Relevant Issues

8.6.1 Bird Strike

Proximity of the Royal Shrewsbury Hospital (1.5 km to the northeast), which operates an air ambulance service, would require the issue of bird strike to be considered in detail at the application stage. Mitigatory measures (appropriate netting, bird scare equipment etc) would need to be considered.

8.6.2 Cultural Heritage

The Shropshire SMR record indicates that the interior of the site contains crop mark features. The County Council's archaeological unit have indicated that prior to any development of this site, there would be a need for detailed evaluation (and possible recording) of these features.

8.7 Overall Site Assessment

Using the discretionary site assessment objectives established via the methodology detailed in Section 4, an overall evaluation of the appropriateness of land at Lower Edgebold as a site for the disposal of non-hazardous waste has been carried out. The results of the detailed site investigation work have been fed into this overall evaluation. The completed matrix is attached at Appendix C and a summary of this assessment is as follows:

8.7.1 Land Use

Although the site is not allocated in the Local Plan (Shrewsbury and Atcham), there are policies that potentially affect the site. Specifically, it is in an area of open countryside, with no other industrial/waste management uses in the vicinity; it is adjacent to an area of Ancient Woodland; hosts good quality agricultural land; and contains a public right of way.

8.7.2 Amenity

From an amenity perspective, the site does not perform particularly well given the close proximity of Hanwood Bank (300 m to the southwest). Should the site be developed as a landraise facility, it would be necessary to ensure that appropriate screening and stand-off distances were maintained between any development and Hanwood Bank.

8.7.3 Landscape and Visual

Although not within or in the vicinity of any landscape designation, any final landforms at this site would be conspicuous topographical features in the context of the prevailing local landscape character. This is because the site does not offer any potential for linking restoration into a wider local context.

8.7.4 Traffic and Transportation

Whilst no opportunity exists at this site for the potential use of alternative means of transport, the site is well located on the primary route network (A488/A5). The proposed access would not necessitate vehicles passing through residential areas, however, at the design stage, there would be a need to ensure that traffic flow at the A488/A5 roundabout is not affected to such a degree that highway safety is compromised. However, achieving a satisfactory access would appear, at present, to be difficult and may prohibit development.

8.7.5 Water Environment

The development of this site would have minimal impact on public water supplies and would not affect the integrity of the Shrewsbury floodplain. Proximity to the Rea Brook to the west, a small stream starting at Woodcote Farm to the north and Row Brook to the east, would require the implementation of necessary safeguards at the design stage of any proposed waste development.

8.7.6 Nature Conservation

The development of this site as a landraise facility is expected to have minimal impact on features of recognised ecological importance.

8.7.7 Cultural Heritage

From a cultural heritage perspective, the development of this site is relatively unconstrained. That being said, The Shropshire Sites and Monuments Record (SMR) does identify the existence of crop mark features, which would require further evaluation prior to development.

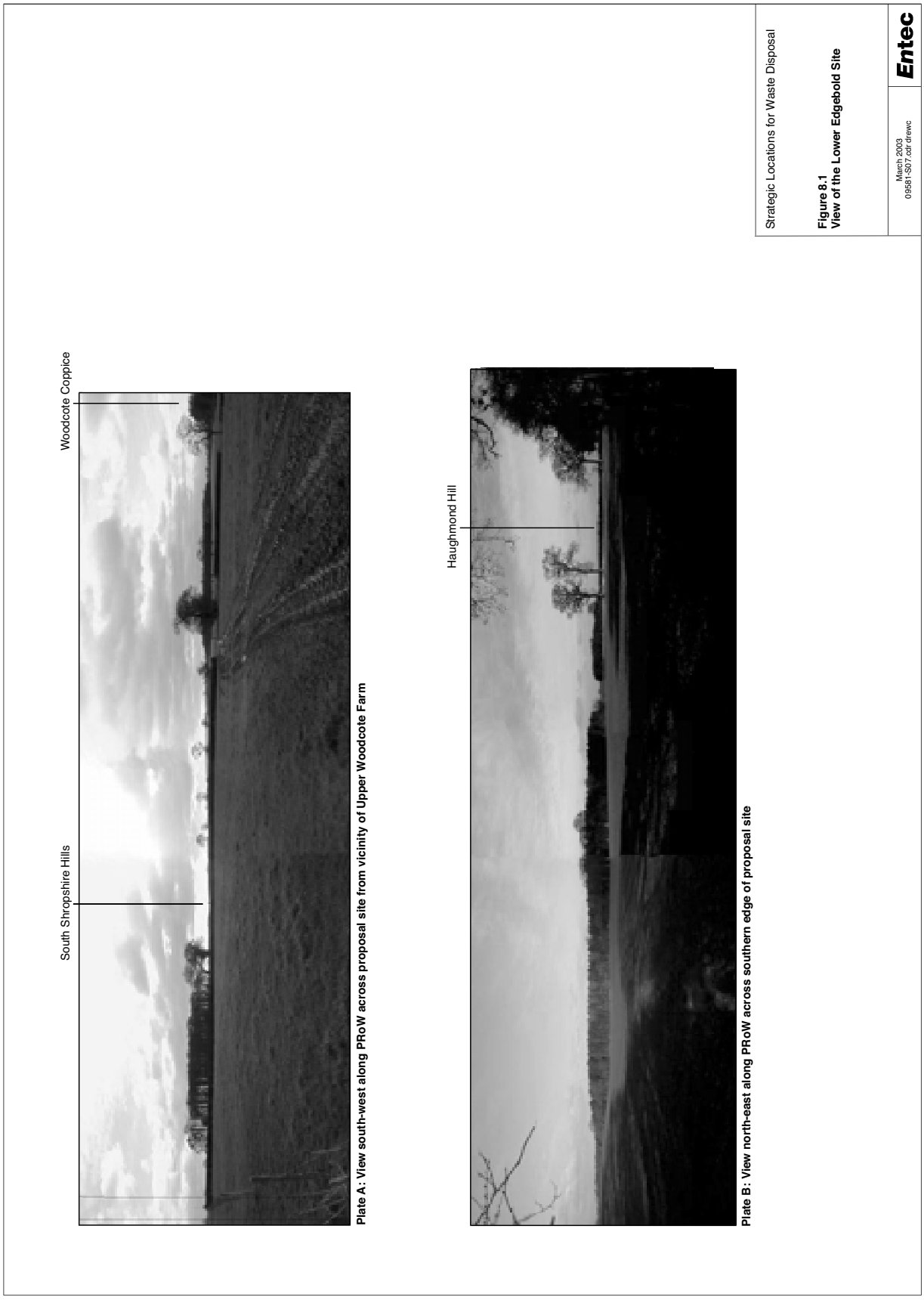
8.7.8 Economic

There are few significant economic factors that render this site unsuitable for development as a non-hazardous landraise facility - the only potential impact of note being the use of the A5 by tourists travelling from the Shrewsbury to the mid-Wales area.

8.7.9 Proximity

The site is considered very well located to serve the waste management needs of the Shrewsbury area.

Technical Appendix 2 - Annex H: Entec Report



- Site to be restored to pastural agriculture
- Introduce new framework of hedgerows and hedgerow trees
- Mitigation bunding and planting beside A5 corridor
- Mitigation bunding and planting along south-western fringe to reinforce intervening screening elements towards Hanwood Bank
- Public footpath potentially diverted with good separation from site operations
- Access point as shown unacceptable
- Requires further detailed transport assessment

0 m 500 m

Scale 1:10,000 @ A4

Key

- Site boundary
- Indicative direction of working
- Indicative location of office/ weighbridge
- Indicative gradients
- New hedgerows including hedgerow trees
- Mitigation woodland with bunding
- Restoration woodland planting
- Public footpath - possible diversion

Strategic Locations for Waste Disposal

Figure 8.2
Indicative Restoration Scheme for Lower Edgebold

March 2003
09581-S11.dwg drewc

Entec

9. Detailed Site Assessment - Land at Day House Farm, Shrewsbury

9.1 Baseline

9.1.1 Location

The site is located within an area bounded by the A5(T) to the northeast, the A488 to the north, a disused railway and the valley of the Rea Brook to the southwest and the Shrewsbury-Welshpool railway line to the south. It is centred on grid reference 460109 and covers an area of approximately 27 ha. The closest properties are located on the A488 (Edgebold Cottages and Two Mile Houses) and the site would be accessed from the A488. The village of Hanwood Bank which lies 550 m to the northwest of the site is the closest settlement. The closest areas of Shrewsbury (Nobold and western Meole Brace), lie within 1000 m to the east, whilst the large settlement of Bayston Hill and the small village of Hook-a-gate lie 1000 m and 500 m respectively to the southeast.

9.1.2 Topography

The topography of the site and the areas to the north and east is gently undulating with heights varying between 85 m and 100 m AOD. To the south and west the local topography is determined by the course of the Rea Brook, which has formed a distinctive valley with a notably steeper northern side. Beyond the Rea Brook valley, the topography is elevated to an average between 105 m and 115 m AOD and becomes more undulating. The Day House Farm site gently falls westwards and southwards towards the Rea Brook Valley with all the central and northern parts of the site within the 90 m contour line. The western edge of the site is topographically emphasised by the embankment of a dismantled railway which is a locally topographically important element in views from Hanwood and Hanwood Bank as evidenced in the southeastern view in Figure 9.1a. The southeastern corner slopes quite notably with the boundary of the site almost reaching an isolated 75 m contour adjacent to the A5(T) as is shown in Figure 9.1b. This low point has important consequences for views from this section of the A5(T), as all other adjoining sections of the A5(T) are situated in a shallow cutting. Nevertheless, from within and immediately around the remainder of the site, the minor topographic variations are not apparent and the steep falls on the northern side of the valley of the Rea Brook are emphasised by the changes in land-use from agriculture to woodland.

9.1.3 Geology

The geology for this site is the same as for Lower Edgebold.

9.1.4 Planning Designations

The only relevant designation in the Shrewsbury and Atcham Borough Local Plan is the widespread 'Countryside' designation. This relates to Policy LNC3 which states that

development will only be permitted if it does not have a "*significant adverse effect on the character or quality of the open countryside*".

9.1.5 Land-Use and Vegetation Resource

The Day House Farm site is entirely given over to agriculture. Currently the northern fields are under pasture with the two southern-most fields lying fallow after an arable crop as illustrated in the panorama of the site contained in Figure 9.1c. There is a small pond in the middle of the site. The principle vegetation resources are provided by the remnant hedgerows and the associated hedgerow trees. There are no remnant hedgerow trees surviving after the loss of the hedgerows. The hedgerows are almost exclusively hawthorn (*Crataegus monogyna*) and generally in good condition, with the exception of the northern-most hedge line which is now very gappy. This land-use is typical of the surrounding area. The low point previously referred to in the immediate southeast, has been colonised by wet woodland and carr, likewise the northern side of the valley of the Rea Brook and the Shrewsbury-Welshpool railway corridor are partly covered with dense woodland. This continues as a narrow, broken woodland belt alongside the dismantled railway line to the immediate west of the site as illustrated in the aerial photograph that forms the case for Figure 9.2.

9.1.6 Public Rights of Way (PRoWs)

There are no PRoWs within the site and its location, bounded by the A5(T) bypass, the Rea Brook, the Shrewsbury-Welshpool and dismantled railways, results in poor levels of on-site access. The only PRoW in the vicinity of the site is the public footpath which runs from Hanwood Bank to Hook-a-gate, along a section of the valley of the Rea Brook. Approximately 300 m of this PRoW runs along the western edge of the site, along an embanked section of the dismantled railway line as highlighted in Figure 9.1a. There is a limited PRoW network crossing the slightly elevated area on the other side of the Rea Brook to the southwest, from where some views are likely to be available.

9.1.7 Settlement pattern

In keeping with the settlement pattern noted in the Shropshire Landscape Character Assessment, the Day House Farm site is surrounded by a number of small and medium sized villages, interspersed by a low density mix of farms and isolated dwellings. As previously noted the western fringe of Shrewsbury lies within a kilometre to the east, separated by the A5(T). There are a small number of farms and converted former farms in the intervening countryside, the closest of which is Day House Farm. The occupiers of which own most of the allocated site. The key settlement to the southeast is Bayston Hill, which is a large dormitory village whose northwestern fringes are situated on the upper southern valley-side of the Rea Brook. The small village of Hook-a-gate is situated within 500 m of the site, but is on the lower slopes of the valley of the Rea Brook and an un-named subsidiary stream. The two other settlements in the vicinity are Hanwood Bank and Hanwood to the northwest.

9.2 Landscape and Visual Assessment

9.2.1 Landscape character

The close proximity between the Day House Farm and Lower Edgebold sites result in them sharing many landscape characteristics. Any differences are only apparent at a very detailed level of landscape character assessment, as evidenced by the 2002 CPRE report. The Day House Farm site has a stronger sense of openness, both internally and with regard to inward and outward views. This is mainly due to the reduced levels of nearby woodland blocks as the two largest areas of nearby planting (the wet woodland in the low point to the southeast and the more extensive woodland on the northern side of the valley of Rea Brook), are at lower elevations and therefore do not provide a comparable sense of enclosure. Hence, even though the Day House Farm site is at an maximum elevation of only 90 m compared with 103 m for the land to the north of the A488, its increased exposure gives an impression of being more elevated in comparison to neighbouring areas. The sense of isolation that results is emphasised by the lack of access. The field pattern is more regular at the Day House Farm site and the openness is increased by the comparatively limited number of mature trees within the site. Nevertheless with regard to more subjective landscape characteristics such as movement, tranquillity and condition, the site retains levels that are more redolent of rural areas than urban fringe areas. However the field survey concluded that the Day House Farm site's openness results in it possessing a lower capacity to absorb development without consequent potentially significant changes to the established local landscape character.

9.2.2 Key Landscape Issues

The broad key landscape issues relevant at the Day House Farm site include the sharp reduction in landscape characteristics, such as calmness, movement, colours, balance and unity during the operational period. The paucity of landscape resources within the Day House Farm site will result in few landscape resources being lost. The long-term landscape impacts and consequent effects of the post-restoration landform will be heavily dependent upon the nature of the final restoration, however, it is likely that local landscape character will be changed not only during the operational period, but for the subsequent post restoration period. This is based upon the predicted contrast that will occur due to the changes in gradient and elevation generated by the landraising, which are unlikely to reflect those found in the relevant landscape character area given the restricted area of the Day House Farm site with regard to the volume of waste material it will have to accommodate.

During the operational period, the site would cease to be considered as part of the rural hinterland surrounding Shrewsbury, due to the dominant landscape and visual contrasts with the rural areas beyond. Instead the operational site should be considered as part of the urban fringe. This interpretation would be reinforced by the manner in which the A5(T) and the dismantled and active railway lines provide a sense of separation from the wider tracts of rural landscape in an arc from the northwest to the south.

9.2.3 Key Visual Issues

The prime considerations with regard to the predicted visibility of any proposed landraising and subsequent post restoration landform are the following:

- The height of the final landform which has been assumed to be between 15 m and 20 m;
- The local topography and the south-facing aspect of the site;
- The distribution of effective screening elements, especially mature trees;
- The distribution of potential visual receptors, particularly residents, passengers on the Shrewsbury-Welshpool railway and users of PRoWs.

When the latter three of these considerations are assessed for the Day House Farm site, it is concluded that the landraising could generate adverse visual impacts of considerable magnitude. This broad assessment is especially applicable for the operational period and the associated ground level activities, plant, buildings and static equipment. It has been noted that one characteristic of the Day House Farm site is its relative openness and the lower elevation of the surrounding trees. Hence, it is predicted that there will be an increased availability of middle, and particularly long distance views of the landraising operations. Areas from which there are predicted to be partial or filtered views of the operations will include: the northwestern edge of Bayston Hill; locations within the Radbrook area of western Shrewsbury; the limited PRoW network; passengers on the section of the Shrewsbury-Welshpool railway between Nobold and the woodland on the northern side of Rea Brook; the isolated residences between Shrewsbury and the A5(T) and to the southwest of the site; and the small number of properties and businesses alongside the A488 between the A5(T) and Hanwood. In addition there are theoretical very long distance views from the northern fringes of the Shropshire Hills to the far south. Also, it is possible that the uppermost parts of the final operations and post restoration landform will be visible from parts of Hanwood, when the landraising intrudes above the section of the southeastern horizon highlighted in Figure 9.1a.

9.2.4 Potential Mitigation Strategies

Mitigation strategies should again be restricted to reducing potential landscape and visual impacts through a combination of on-site and off-site screen bunds and planting. As already noted, one of the main characteristics of the Day House Farm site is that the nearby mature tree and woodland planting are at lower elevations, thereby reducing screening effectiveness. Hence little visual screening benefit would accrue from woodland planting on the lower ground to the southeast of the site, in the triangle of agricultural land bounded by the site, the A5(T) and the railway. In contrast, the potential for introducing substantial screen bunding would need detailed consideration to foreshorten views across the operational site for users of the section of the A5(T) beside the 75 m AOD low point (see Figure 9.1b), especially from the northbound lay-by which in contrast to the rest of this section of the A5 (T) is not located in a cut.

Consideration should also be given to using a combination of bunding, with appropriate gradients and woodland planting between the northeastern corner of the site and the A5(T) and A488 junction. This would ensure that there would be minimal long distance views of the site operations, from the northwestern fringes of Shrewsbury. Such works could be extended to provide effective close up screening for the residents at Twomile Houses, although it is recognised that poorly designed and maintained bunds can be as equally visually intrusive as the development they are attempting to screen. A similar mitigation strategy could be applied to screen the open southern views from Edgebold Cottages. However, it is noted that the implementation of these proposals would require the loss additional farmland.

There is little need or scope for mitigation works on the western side of the site due to existing levels of screen planting and the low numbers of potential of visual receptors. It is likely that the final stages of the landraising would be visible above the existing mature woodland, hence there is little screening benefit to be gained by introducing new screen tree or woodland planting which, over the course of the operational period, would be unlikely to grow above approximately 10 m in height. However consideration needs to be given to the benefits of low bunding and screen planting alongside the 300 m section of the site which runs beside the PRoW. This would screen short distance views of many of the ground level operational activities for the recreational receptors and, to a lesser degree, help to reinforce the screening of views towards the site from the properties in Hanwood Bank, that are located to the south of the A488.

9.2.5 Potential Restoration Strategies

The restoration strategy would need to consider two principal factors:

- How to integrate the elevated landform into the immediate surrounding topographically in a naturalistic manner;
- How to use the opportunities offered by the restoration to enhance the local landscape resource in a manner that adheres to the principles set out in the Shropshire Landscape Character Assessment.

A broad concept is shown in Figure 9.2 which indicates how the mitigation screen planting can be utilised to reinforce the eventual landscape restoration framework. This will be provided by re-establishing a strong hedgerow pattern that is less angular than the present one and contains a higher number of hedgerow trees. Large scale blocks of woodland would be inappropriate in the local landscape character area and should be restricted to irregular shaped field corner copses and limited potential extensions of the existing woodland planting around the southeastern low point and the northern side of the Rea Valley, as well as the potential screen planting belts.

9.2.6 Landscape and Visual Summary

Day House Farm is sited in an area that retains a number of rural landscape characteristics despite its location between the A5(T) and the Shrewsbury - Welshpool railway line and general proximity to Shrewsbury. The retained characteristics include relative calm and lack of movement and a strong landscape framework formed by hedgerows which continue to retain an agricultural function. Topographically, the site is located on a slightly elevated plateau which falls away steeply beyond the site from the west to the southeast. This, plus the fact that the site continues to be intensively farmed with few vegetation resources, except the aforementioned hedgerows, leads to the sense of openness that is a key landscape characteristic and increases the visual sensitivity of the site. Hence the final design of the landraising will be visually very important in reducing potential adverse impacts and in generating a landform that at least partly reflects the topographical characteristics of the more undulating area on the western side of the Rea Valley.

Overall the key landscape and visual issues are set out below:

- The site is not subject to any local or national landscape designations;

- The landraising would necessitate the loss of 27 ha of mixed farmland, several mature hedgerows, a number of mature hedgerow trees and a small, tree fringed pond;
- Whilst the site is all under agricultural land-uses there are several nearby non-agricultural land-uses including a dismantled and an active railway line, the A5(T) and some industrial units off the A488;
- The local topography is generally gently undulating around 75-90 m AOD, although the valley of the Rea Brook means that there is lower land to the immediate southeast and southwest of the site. Therefore the post settlement landform would be a maximum height of 105-110 m AOD making it potentially visually prominent;
- The present site and its immediate environs have a relatively low capacity to absorb change due to the sparseness of the surviving landscape framework, particularly the small numbers of mature hedgerow and field corner trees and the resultant openness that is one of the site's dominant characteristics;
- The detail design of the post restoration landform will be important and every effort should be made to ensure that there is a degree of continuity with the steeper gradients that lie just outside the site boundary in order to provide a more natural appearance for the final landform;
- The site is not visually enclosed due to its openness and relative flatness, the slight elevation in comparison to surrounding areas and low levels of screening vegetation, especially in views from the northwest round to the east;
- There are predicted to be only a small number of sensitive residential receptors and there are no PRoWs within the site. The closest PRoW runs from Hanwood to Hook-a-Gate and only provides clear views for approximately 300 m of its length. These views have the potential to be partly screened by perimeter bunding;
- For some of these receptors e.g. residents in Edgebold Cottages and Twomile Houses a combination of off-site bunding and planting may be necessary to screen southern views;
- There will be good views for northbound users of the A5(T) for a section close to the southeastern corner of the site and the potential for off-site screen bunding in this location needs to be examined. Likewise there will be some relatively short-lived views for passengers on the Shrewsbury-Welshpool railway.

9.3 Hydrogeological Assessment

9.3.1 Hydrogeological Baseline

The groundwater vulnerability map (NRA, 1995) shows the Keele Beds to be a minor aquifer of low vulnerability over the Day House Farm site. Areas of higher vulnerability exist to the south and southwest, in the valley of the Rea Brook, where there are gravel deposits. These gravels do not underlie the site, but will be vulnerable to surface discharges to this area.

Based on the topography, groundwater flow beneath the site is likely to be towards the Rea Brook, the anticipated point of discharge.

The River Rea (Cruckton Brook to River Severn stretch) has been assigned Grade C (fair) under the Environment Agency's General Quality Assessment criteria.

9.3.2 Hydrogeological Assessment

The Keele Beds consist of mudstones and sandstones and are overlain by glacial till (boulder clay). A combination of a clay rich glacial till and a mudstone dominated Keele Beds would result in limited infiltration and low rates of lateral movement. In addition, the presence of substantial clay horizons means that attenuation of ammonia (a key landfill leachate contaminant) will be significant. However, it is also possible that the glacial till is relatively sandy and that there are substantial sandstone horizons. In this case there may be significant potential for infiltration of landfill leakage and more rapid lateral movement. Further investigation is clearly required.

It has not been determined, from the data sources consulted, whether the Keele Beds or underlying strata are used for private groundwater supplies in the area. The proximity to groundwater receptors has not therefore been assessed.

A groundwater supply and associated source protection zones occur at Lower Edgebold. The source protection zones form a southwest – northeast trending ellipse. The outer protection zone does not extend beneath the potential operational area. It is not known from which strata the source abstracts groundwater.

Mitigation in the form of a low permeability engineered lining system will be required to prevent excessive leachate leakage from the proposed landfill. In addition a groundwater, surface water and leachate monitoring system will be required. Background monitoring will have to commence prior to the development of any landfill.

9.4 Transport Assessment

9.4.1 Current Conditions

The site is currently accessed from the same section of the A488 as Lower Edgebold, via a gated farm track approximately 300 m from the A5(T) roundabout. Given its proximity to Lower Edgebold, conditions on the A488 at this point are the same as those previously described.

9.4.2 Estimated Traffic Generation

The Day House Farm site is estimated to have a capacity of approximately 1.6 million m^3 (see section 9.5), with a lifespan of approximately 10 years, equating to approximately 160 000 m^3 per year. There are predicted to be around 5 LGV movements into and out of the site per hour, on average, throughout the hours of operation. Subject to the findings of a more detailed transport assessment, this level of traffic generation should not have a significant impact on the operational capacity of the local highway network.

9.4.3 Access Issues

Modification of the existing field access from the A488 for this site appears to be more favourable than for Lower Edgebold. The access is an acceptable distance from the A5(T) roundabout and Twomile Houses. Furthermore, given that the site is located to the south side of the A488 (the outside of the bend), the horizontal alignment is such that the required 215 m visibility splays would appear to be feasible. The vertical alignment at this location does not appear to limit the forward visibility although detailed checking would be required.

Given the low level of development related traffic, the provision of a Simple Major/Minor Priority Junction should be acceptable based on the requirements of TD 42/95 'Geometric Design of Major/Minor Priority Junctions'. However, as the majority of development traffic would comprise LGVs it may be appropriate to provide a right-turning facility, either a Nearside Passing Bay or Ghost Island, in order to improve safety and through flow.

Any alternative access strategies for this site are unlikely given that the site is bound to the south by a railway cutting and by the A5(T) to the north and east. Any new access to the site from the Trunk Road would likely be discouraged by the Highways Agency as the formation of new accesses is considered to present an increased accident risk.

9.4.4 Off-site Impacts

Development at the Day House Farm site should not have a significant impact on the operational capacity or safety of any routes used.

9.4.5 Summary

Therefore, in principle:

- Modification of the existing field access would be appear to be possible, with the provision of a right-turn facility for reasons of safety and through flow;
- Alternative access arrangements are limited due to the A5(T) and the railway cutting.

The Highways Agency's consultants broadly concur with this assessment. They add that any queuing back onto the A488 should be avoided.

9.5 Assessment of Operational Issues

9.5.1 Landfill Engineering

Against the backdrop of the prevailing site geology, detailed site investigation would have to be carried out to determine the exact depth, type and geotechnical properties of the clay and mudstone and the extent and depth of the coal workings and location of any mine shafts. If coal workings are located under the site this may affect the construction of the basal lining system. The clay and mudstone underlying the site, depending on the outcome of the site investigation, may be suitable to form the basal lining, 1 m of re-compacted mineral liner with a permeability of $1x10^{-9}$m/s, to the landfill. The clay will have to be excavated and then re-compacted to achieve the required permeability.

9.5.2 Surface Water Management

The Rea Brook runs to the south of the railway line to the south of the boundary of the site. The surface water discharge could be directed to the Rea Brook, but either an existing culvert under the railway line will have to be located, or a new one constructed, to allow discharge to the Rea Brook. A more detailed approach to the surface water management system would be required at the design stage.

9.5.3 Leachate Management

It would have to be established if there were a foul sewer close to the site for the discharge of leachate. Dependant on the sewage treatment works that the sewer discharges to and, following negotiation with Severn Trent, it could be possible to discharge treated leachate to the foul sewer.

9.5.4 Indicative Landfill Void Volumes

The useable area for landraising may be reduced by approximately 3 ha, accounting for land being used for site compound area (including site offices, weighbridge etc), landscape screen planting and forming screening bunds. The void volumes have been based on an area for landfilling of 24 ha.

The void volumes for the site have been calculated on a restoration level of 20 m above existing ground level. The void volume for the land raise has been calculated on the basis of the restored landform being domed to a height of 20 m above existing ground level. This assumes that the resulting shape is approximately pyramidal in shape and is therefore one third of the base area times the height of the landfill. The approximate void volumes for the proposed landfill as a landraise are given in Table 9.1.

Table 9.1 Potential Void Volumes at Day House Farm

Depth of Landraise (m)	Gross Void (m^3)	Restoration Soils (m^3)	Net Void (m^3)
20	2 200 000	600 000	1 600 000

The restoration soils volume has been based on a 1 m thick impermeable mineral liner, a 500 mm thick drainage layer and 1 m thick restoration soil cover. The net void could be increased by approximately 120 000 m^3 by replacing the. drainage layer with a geocomposite layer.

9.6 Other Relevant Issues

9.6.1 Cultural Heritage

The Shropshire SMR record indicates that a Roman Road bisects the proposed access and that the interior of the site contains crop mark features. The County Council's archaeological unit

have indicated that prior to the potential development of this site, there would be a need for detailed evaluation (and possible recording) of these features.

9.6.2 Ecology

During consultation on the draft plan, the Shropshire Badger Group identified the existence of a known badger sett immediately adjacent to the site. As the sett is thought to be within 30 m of the draft allocation, a licence would need to be sought from English Nature prior to any development taking place.

Although the existence of a badger sett should not automatically preclude the development of a landraise facility at Day House Farm, further investigation would be needed to establish both the nature of the sett i.e. whether it is a main sett or an outlying hole, and the extent of the badgers' foraging ground. Following such investigation, the nature of any necessary mitigatory measures could be established.

9.6.3 Bird Strike

Proximity of the Royal Shrewsbury Hospital (1.5 km to the northeast), which operates an air ambulance service, would require the issue of bird strike to be considered in detail at the application stage. Mitigatory measures (appropriate netting, bird scare equipment etc) would need to be considered.

9.7 Overall Site Assessment

Using the discretionary site assessment objectives established via the methodology detailed in Section 4, an overall evaluation of the appropriateness of land at Day House Farm as a site for the disposal of non-hazardous waste has been carried out. The results of the detailed site investigation work have been fed into this overall evaluation. The completed matrix is attached at Appendix D and a summary of this assessment is as follows:

9.7.1 Land Use

From a land use perspective the site performs reasonably well. It is not covered by an existing land use allocation; no footpaths or rights of way run through the site; the site is not located in the Green Belt; and there is no Ancient Woodland in the immediate vicinity. On the negative side, however, the site is located in an area of open countryside, with no other industrial/waste management uses in the locality and it hosts good quality agricultural land.

9.7.2 Amenity

Given the close proximity of Edgebold Cottages, Twomile Houses, Hanwood Bank and Hook-a-Gate, the site does not perform well when assessed against amenity objectives. If the site were developed as a landraise facility, it would be necessary to ensure that appropriate screening and stand-off distances between any facility and the sensitive receptors were maintained.

9.7.3 Landscape and Visual

Although not within or in the vicinity of any formal landscape designation, any final landform at this site would probably be a conspicuous topographical features in the context of the prevailing landscape character. The restoration has the long-term potential to increase the number of landscape resources in a manner concordant with the present relevant landscape character area.

9.7.4 Traffic and Transportation

From a traffic assessment perspective, this site performs favourably. The adjacent railway line and former sidings present an opportunity for alternative means of transport to be used, (although in reality, the delivery of waste to any facility at this site is likely to originate from the Shrewsbury area and it would not be economic to bring waste into the site using rail). The site is also located on the primary road network (A488/A5) and the proposed access would not require vehicles to pass through residential areas. Modification of the existing field access would appear to be feasible.

9.7.5 Water Environment

The development of this site as a landraise facility is likely to have minimal impact on public water supplies. Similarly, it would not adversely affect the integrity of the Shrewsbury floodplain. The close proximity of the Rea Brook would, however, require the implementation of necessary safeguards at the design stage of any landraise facility.

9.7.6 Nature Conservation

The only known features of recognised ecological importance is a badger sett, which is located adjacent to the site. Further investigation would be required at any planning application stage to establish the nature and extent of any necessary mitigation measures.

9.7.7 Cultural Heritage

The Shropshire SMR indicates that the proposed access road appears to cross the line of a Roman Road from Wroxeter to Forden Gaer. Moreover, crop mark features are identified in the interior of the site. These features would clearly require further evaluation at planning application stage and prior to any development.

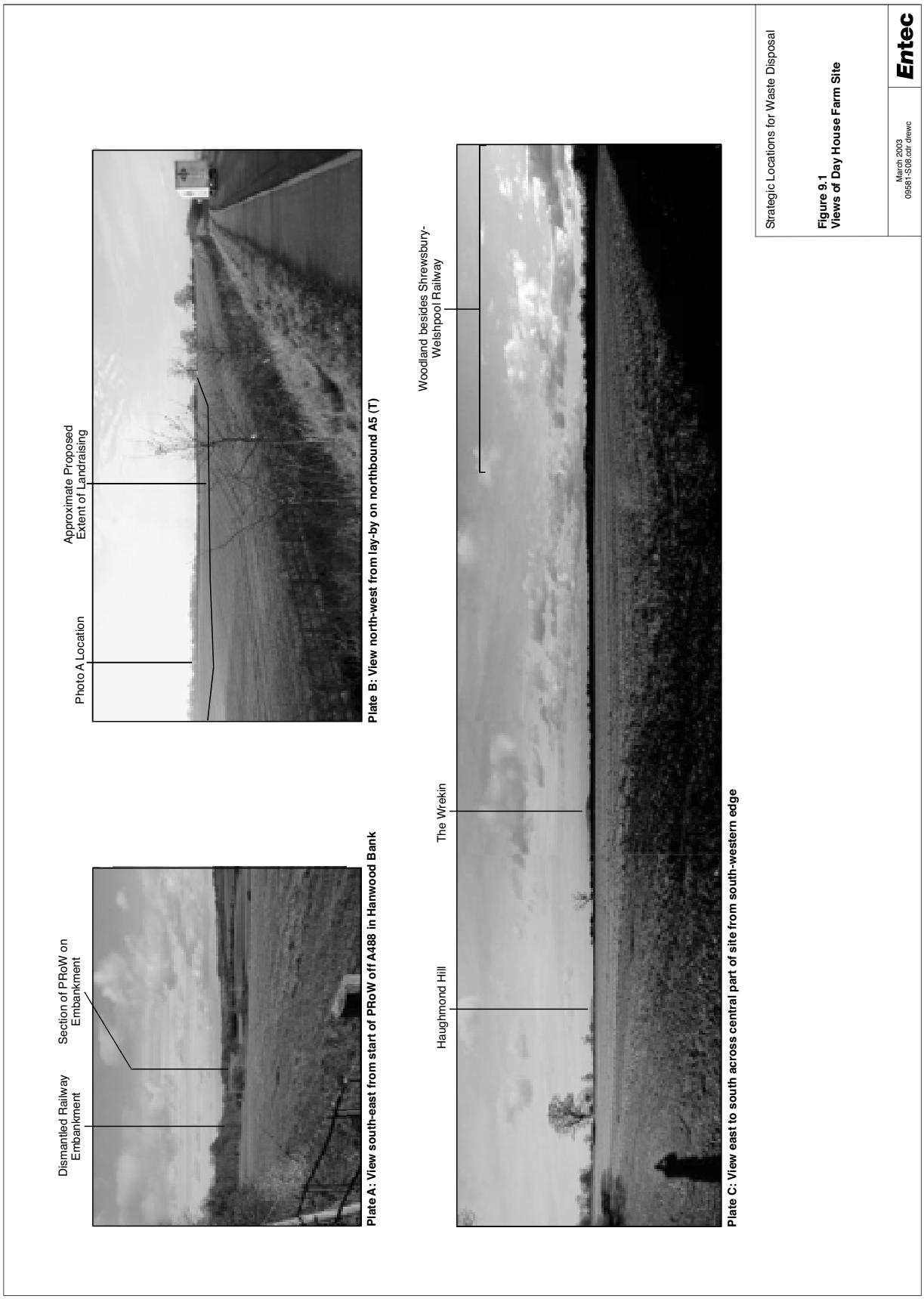
9.7.8 Economic

There are few significant economic factors that render this site unsuitable for development as a non-hazardous landraise facility - the only potential impact of note being the use of the A5 by tourists travelling from the Shrewsbury to the mid-Wales area and potential views from the Shrewsbury - Welshpool railway line.

9.7.9 Proximity

The site is considered very well located to serve the waste management needs of the Shrewsbury area.

Technical Appendix 2 - Annex H: Entec Report



- Site to be restored to agriculture complete with revised field pattern
- Mitigation bunding and planting beside: potential compound; public footpath to west; low point by A5 layby; and isolated properties alongside A488
- Proposed restoration includes new block of woodland to visually help break up new land form and extend existing woodland
- Upgrade existing field access and provision of right turn facility
- Compound located to take advantage of existing screening with regard to Hanwood and Hanwood Bank

0 m 500 m

Scale 1:10,000 @ A4

Key

- Site boundary*
- Indicative direction of working
- Indicative location of office/ weighbridge
- Indicative gradients
- New hedgerows including hedgerow trees
- Mitigation woodland with bunding
- Restoration woodland planting

Note:
* Shown in Shropshire Waste Local Plan 2002-2014 1st deposit draft June 2002

Strategic Locations for Waste Disposal

Figure 9.2
Indicative Restoration Scheme for Day House Farm

March 2003
09581-S12.dwg drewc

Entec

PART D: CONCLUSIONS

10. Conclusions

Entec was commissioned by Shropshire County Council to undertake an independent review of the methodology used to select potential waste disposal allocations included in the draft Waste Local Plan (1st Deposit). Entec was then required to re-apply the methodology through a desk-based assessment and to appraise, in detail, potential candidate sites.

It has been concluded that the methodology developed by Shropshire County Council was generally sound. However, Entec has recommended amendments as follows:

- Exclusionary criteria:
  - Reduce the private property buffer zone from 300 m to 250 m;
  - Remove regional and local nature conservation and landscape designations and include these as discretionary;
  - Similarly remove the 200 m buffer zone around designations and include as discretionary;
  - Include SPZs.
- Discretionary criteria:
  - Include criteria removed from the exclusionary listing;
  - Include public rights of way and footpaths;
  - Include criteria on tourism.

The amended criteria have been applied in this report to assess whether there were additional potential sites not previously considered. In addition, Entec undertook some sensitivity testing to determine whether there were relatively unconstrained sites outside the main study area of a 12 km radius from Shrewsbury (to 16 km). With regard to additional potential sites, the study found land with some potential at Uppington, Gonsal Quarry and Ebreywood. Further assessment discounted those sites.

The study then developed a more detailed site appraisal methodology and applied it to the remaining sites, i.e. those already allocated in the draft Waste Local Plan (1st Deposit). These are:

- Land at Woodhouse Farm, Redhill;
- Land at Lower Edgebold, Shrewsbury;
- Land at Day House Farm, Shrewsbury.

The results of these appraisals are summarised below.

Woodhouse Farm, Redhill

The main advantages of this site can be summarised as follows:

- The site is relatively free from land-use constraints. It is not the subject of any other Local Plan allocations, it has no PRoW running through it and it is not located in the Green Belt;
- There are few sensitive receptors in the vicinity;
- From a landscape/visual perspective, the site and its surroundings could absorb the development of a landraise facility. A carefully designed final landform and restoration scheme could fit in with and even positively enhance the existing landscape character framework;
- The site is well located to the primary road network and access into and out of the site would not require vehicles to pass through sensitive areas;
- Access to the site is feasible;
- It is predicted that the development of the site could have minimal impact on public water supplies and the wider water environment;
- The site is well located to serve the north and east Shropshire catchment;
- The site is located adjacent to an existing waste management facility.

The following factors, however, do not favour the development of land at Woodhouse Farm as a non-hazardous waste disposal facility:

- The close proximity of a Scheduled Ancient Monument;
- The close proximity of the Oaks Hotel and Telford Crematorium;
- The close proximity of an area of Ancient Woodland.

On balance, however, land at Woodhouse Farm is a potentially suitable location for the development of a landfill/landraise facility with suitably designed mitigation measures.

Land at Lower Edgebold, Shrewsbury

The main advantages of this site can be summarised as follows:

- It is not the subject of any other development plan allocations;
- The site is well located to the primary road network and access into and out of the site would not require vehicles to pass through sensitive areas;
- It is predicted that the development of the site would have minimal impact on public water supplies and the wider water environment;
- The site is well located to serve the Shrewsbury catchment.

The following factors, however, do not favour the development of land at Lower Edgebold as a non-hazardous waste disposal facility:

- From a land-use perspective, the site is, to a degree, constrained i.e. it contains a PRoW, is adjacent to an Ancient Woodland, and contains evidence of crop mark features. It is also in an area of open countryside with no other similar activities in the vicinity;
- The development of a landraise facility at this site would have an adverse impact on the residents of nearby Hanwood Bank;
- In visual/landscape terms, given the prevailing topography in the area, the development of this site would result in the loss of significant vegetation resource and the creation of a topographical feature that may not be consistent with the surrounding area;
- Achieving a satisfactory access would appear, at present, to be difficult and may prohibit development.

In view of these factors, there is significant uncertainty about the potential development of this site as a waste facility.

Land at Day House Farm, Shrewsbury

The main advantages of this site can be summarised as follows:

- From a land-use perspective, the site, is relatively unconstrained. - it contains no PRoW, is not the subject of any other development plan allocation and is not located in the Green Belt;
- The site is well located to the primary road network and access into and out of the site would not require vehicles to pass through areas of sensitive land use. The site also has the potential to be connected to the rail network;
- Access to the site appears to be feasible;
- It is predicted that the development of the site would have minimal impact on public water supplies and the wider water environment; and
- The site is well located to serve the Shrewsbury catchment.

The following factors, however, do not favour the development of land at Day House Farm as a non-hazardous waste disposal facility:

- The remains of a Roman Road and crop mark features are contained within the site;
- The development of a landraise facility could have an adverse impact on the residents of nearby Hanwood Bank, Hook-a-Gate and residents of a couple of nearby isolated dwellings;
- In visual/landscape terms, given the prevailing topography in the area, the development of this site could result in the creation of a topographical feature that was not consistent with the surrounding area;
- Due to the general openness of the site, views from the A5 and the Shrewsbury - Welshpool railway line would be adversely affected;

- Potential adverse impact on a known badger sett located adjacent to the proposed site.

The key constraint for the development of this site would relate to the landscape and visual impact of a landraising facility. There are opportunities to minimise impacts and (subject to the nature of any detailed proposal) the site could be acceptable.

Appendix A
Review of Landfill Regulations 2002

2 Pages

Review of the Landfill Regulations 2002

Background

In June 2002, the Landfill (England and Wales) Regulations came into force. These regulations are derived directly from the requirement placed upon government to transpose the provisions of the EU Landfill Directive (9/31/EC) into UK law. Generally, these regulations seek a diversion of waste from landfill and set out how the UK can meet its ambitious targets set for all Member States for the reduction of biodegradable municipal waste (BMW) disposed to land. The Landfill Regulations apply to both landfill and landraise operations.

This section of the report now considers the impact of the full implementation of the Regulations in Shropshire on the type of waste disposed to land; landfill design criteria and the potential for adverse environmental impacts.

Types of Waste that can be Landfilled

All land disposal operations must now be classed as either hazardous, non-hazardous or inert.

The Regulations set out in some detail those wastes that can no longer be accepted at land disposal facilities. These are:

- Waste in a liquid form, (excluding sludge);
- Explosive, corrosive, oxidising, flammable or highly flammable waste;
- Hospital or clinical wastes which are infectious, (from both hospitals and veterinary establishments); and
- Chemical substances arising from research and development, which are not identified or which are new and whose effects are unknown.

In addition to these wastes, as from 16 July 2003, whole used tyres, (except where used for engineering; bicycle tyres and tyres with an outside diameter >1 400 mm), will be prohibited from being disposed of to land. Moreover, as from 16 July 2006, shredded used tyres, (except bicycle tyres and tyres with an outside diameter >1 400 mm) will also be prohibited from being disposed of to land.

As well as setting out those wastes that are/will be prohibited from being disposed of to land, the Regulations also set out the types of waste that are permitted at specific types of landfills. Specifically relating to this work, landfills for non-hazardous waste shall only be used for landfilling:

- Municipal waste;
- Non-hazardous waste of any other origin, which is listed on the European Waste Catalogue and which does not:
  - Result in unacceptable emissions to groundwater, surface water or the surrounding environment;
  - Jeopardise environment protection systems (such as liners, leachate and gas collection and treatment systems) at the landfill;

- Put waste stabilisation processes at risk, (such as degradation or wash out) within the landfill; or
- Endanger human health.

- Stable non-reactive hazardous waste, (as listed on the Hazardous Waste List of the European Waste Catalogue) with leaching behaviour equivalent to that of non-hazardous waste.

No inert waste can be deposited at facilities categorised as non-hazardous waste facilities.

Location of Landfills

Paragraph 1 (1) of Schedule 2 sets out those issues that must be considered when assessing the location of new landfill facilities. The criteria is as follows:

- Distance from the boundary of the site to residential and recreational areas, waterways, water bodies and other agricultural or urban sites;
- The existence of groundwater, coastal water or nature protection zones, (SSSIs, Ramsar sites, SPAs and SACs) in the area;
- Geological or hydrogeological conditions in the area;
- The risk of flooding, subsidence, landslides or avalanches on the site; and
- Protection of the natural or cultural heritage of the area.

The Regulations go on to state that land disposal operations must be sited and designed so as to:

- Provide conditions for the prevention of pollution of soil, groundwater or surface water; and
- Ensure efficient collection of leachate.

Landfill Lining and Capping

As a result of the Landfill Regulation the lining of new landfill will have to have a 500 mm thick leachate drainage blanket compared to the previous minimum 300 mm thick blanket. The lining will be required to have a 1 m thick natural mineral layer as well as a artificial sealing liner. The restoration cap will now include a gas drainage layer of unspecified thickness, a 1 m thick mineral liner and a 500 mm thick drainage layer and 1 m of restoration soils.

Other Issues

Landfill gas must be collected from all landfills receiving biodegradable waste. The landfill gas must be treated and as a minimum it must be flared.

Implications for Detailed Site Assessment Work

When assessing the adequacy of the sites identified in the draft Shropshire Waste Local Plan (1st stage deposit) as having potential for the location of anon-hazardous landraise/landfill facility, it will be particularly important for the assessment methodology to reflect the provisions of paragraph 1 (1) of Schedule 2, as set out above.

Appendix B
Site Assessment Matrix - Woodhouse Farm

9 Pages

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Land Use					
1. To protect the best and most versatile agricultural land	Agricultural land quality	Avoidance of grades I, II and IIIa	Potential to restore land to a similar grade	Potentially BMV	D/E
2. To avoid prejudicing designated development plan land uses (e.g. housing, tourism, recreation etc.)	Land use allocations, zones and proposals in the Local Plan	Any indirect impact		No impact - no land use allocations on the site	A
3. To avoid loss of footpaths and public rights of way	Existence of footpaths and public rights of way	Any direct / indirect impact		No footpaths or public rights of way within the proposal site	A
4. To prevent inappropriate development in the greenbelt	Land located within the greenbelt	All development other than site restoration through landfilling		Site not located in the greenbelt	A
5. To consider any indirect effects on ancient woodland	Proximity to ancient woodland	Any indirect impacts		Coopers Coppice Ancient Woodland 250m to the east of the northern part of the site	D
6. To seek to better utilise existing waste management facilities	Existing waste management facilities		Potential to extend / maximise the use of existing facilities	Granville Landfill site immediately adjacent (to the west), although impact likely to be neutral given that the two sites would probably operate separately	C
7. To locate waste management facilities within or adjacent to industrial areas	Location of industrial areas		To locate facilities within or adjacent to industrial areas	In an area of open countryside, but on the urban fringe adjacent to an existing landfill operation	D

Comparative Site Assessments: Amenity

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Amenity					
1. To minimise potential detrimental impacts of odour	Location of sensitive land uses (e.g. residential, schools, hospitals)	Adjacent and surrounding land uses		Few sensitive receptors in the immediate area - only a hotel (within 0.25 km) and Telford Crematorium (within a 150m)	B
2. To minimise potential detrimental impacts of noise	Location of sensitive land uses (e.g. residential, schools, hospitals)	Adjacent and surrounding land uses		Few sensitive receptors in the immediate area - only a hotel (within 0.25 km) and Telford Crematorium (within a 150m)	B
3. To minimise potential detrimental impacts of nuisance (vermin, pests, litter, lighting pollution etc)	Location of sensitive land uses (e.g. residential, schools, hospitals)	Adjacent and surrounding land uses		Few sensitive receptors in the immediate area - only a hotel (within 0.25 km) and Telford Crematorium (within a 150m)	B

Comparative Site Assessments: Landscape and Visual

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Landscape and Visual					
1. To consider the potential effects of development on sites of landscape importance	Shropshire Hills AONB	Any indirect effects likely to detract from the designation		Site not located within or in the vicinity of a formal landscape designation	A
2. To prevent the creation of unacceptable visual impacts	Magnitude and sensitivity of potential receptors	Many viewers affected and moderate/ serious change in view from residential / public open space / right of way		Assessment has concluded that a carefully designed final landform and restoration scheme could fit in with the existing landscape character framework. There is even scope to positively enhance the environment.	B

Comparative Site Assessments: Traffic and Transportation

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Traffic and Transportation					
1. To promote accessibility by rail wherever possible	Existing in-use or redundant railways		Potential for site to utilise rail access	No opportunity	E
2. To promote water transport wherever possible			Potential for site to utilise water transport	No opportunity	E
3. To promote sites in locations that avoid access through residential areas and sensitive land uses	Residential areas and sensitive land uses	Any direct / indirect impacts		Access via the preferred western approaches (direct onto the B5060) would avoid the need for vehicle to pass sensitive land uses	A
4. To promote development sites with good access to primary route network	Location of primary route network	Distance from primary route network		Potential access via the B5060 - although not part of the primary route network, is of a good standard	B

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\assessment matrix for woodhouse.doc

Comparative Site Assessments: Water Environment

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Water Environment					
1. To avoid any potential impact on groundwater	Location of public water supply boreholes Location of aquifers	Zones 1,2 and 3 Major and minor aquifers		Site not located on a SPZ (I, II or III) or on a major / minor aquifer	A
2. To avoid any impact on the hydrological regime	Surface water	Any indirect impacts		Need further consideration of River Worfe	C/D
3. To prevent development that would reduce fluvial floodplain capacity	Location of floodplains	Any direct / indirect impacts		Site not located on or within the vicinity of the floodplain	A

Comparative Site Assessments: Nature Conservation

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Nature Conservation					
1. To avoid any development that would impact on sites of international importance	Ramsar; Special Protection Areas (SPA); Special Areas of Conservation (SAC)	Any indirect impacts		No impact	A
2. To avoid any development that would impact on sites of national importance	SSSIs	Any indirect impacts		No impact	A
3. To consider the effect of development on identified sites of County/Local Importance	Areas of high ecological value; SINC; RIGs; LNRs etc	Any effects likely to detract from the designation		No significant impact, but note proximity of Ancient Woodland (250m to the east)	C

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\assessment matrix for woodhouse.doc

Comparative Site Assessments: Cultural Heritage

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Cultural Heritage					
1. To prevent development on sites or structures of international importance	World Heritage Sites	Any indirect impacts		No impact	A
2. To prevent development on sites or structures of national importance	SAMs; Grade 1 & 2* Listed Buildings; Historic Parks and Gardens; Registered Battlefields etc.	Any indirect impacts		Proximity of Uxacona SAM (100m to the west)	D
3. To consider the potential impact on sites or structures of county/local importance or of national importance that have yet to be determined	Sites and monuments record; Areas of Special Archaeological Significance; Urban Conservation Areas; Grade 2 Listed Buildings / Historic Parks and Gardens	Any direct / indirect impacts		No impact	A

Comparative Site Assessments: Economic

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Economic					
1. To avoid detrimental impacts on B1 employment uses	Proximity of B1 employment uses	Any direct / indirect impacts		No impact	A
2. To avoid detrimentally affecting the tourist economy / recreational facilities	Proximity of existing tourist facilities / potential haul route used by tourists	Any direct / indirect impacts		Some limited impact - main A5 route	D

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\assessment matrix for woodhouse.doc

Comparative Site Assessments: Proximity Principle

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Proximity Principle					
1. To minimise the distance between waste generation locations and waste management facilities		Relative location of areas of need		Good proximity to the north and east Shropshire catchment, (within 8 km of Newport; 18 km of Bridgnorth; 4 km of Shifnal and 11 km of Albrighton)	B

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\assessment matrix for woodhouse.doc

Appendix C
Site Assessment Matrix - Lower Edgebold

9 Pages

Comparative Site Assessments: Land Use

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Land Use					
1. To protect the best and most versatile agricultural land	Agricultural land quality	Avoidance of grades I, II and IIIa	Potential to restore land to a similar grade	Potentially BMV agricultural land	D/E
2. To avoid prejudicing designated development plan land uses (e.g. housing, tourism, recreation etc.)	Land use allocations, zones and proposals in the Local Plan	Any indirect impact		No impact - no land use allocations on the site	A
3. To avoid loss of footpaths and public rights of way	Existence of footpaths and public rights of way	Any direct / indirect impact		Public rights of way runs through the proposed site, but potential for diversion	D/C
4. To prevent inappropriate development in the greenbelt	Land located within the greenbelt	All development other than site restoration through landfilling		Site not located in the greenbelt	A
5. To consider any indirect effects on ancient woodland	Proximity to ancient woodland	Any indirect impacts		Ancient Woodland adjacent to the northern part of the site	D
6. To seek to better utilise existing waste management facilities	Existing waste management facilities		Potential to extend / maximise the use of existing facilities	No potential	E
7. To locate waste management facilities within or adjacent to industrial areas	Location of industrial areas		To locate facilities within or adjacent to industrial areas	In an area of open countryside	E

Comparative Site Assessments: Amenity

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Amenity					
1. To minimise potential detrimental impacts of odour	Location of sensitive land uses (e.g. residential, schools, hospitals)	Adjacent and surrounding land uses		Proximity to Hanwood Bank (300m to the south-west). Also note proximity of Royal Shrewsbury Hospital 1.5 km to the north-east and Nuffield Hospital 2 km to the east	D
2. To minimise potential detrimental impacts of noise	Location of sensitive land uses (e.g. residential, schools, hospitals)	Adjacent and surrounding land uses		Proximity to Hanwood Bank (300m to the south-west). Also note proximity of Royal Shrewsbury Hospital 1.5 km to the north-east and Nuffield Hospital 2 km to the east	D
3. To minimise potential detrimental impacts of nuisance (vermin, pests, litter, lighting pollution etc)	Location of sensitive land uses (e.g. residential, schools, hospitals)	Adjacent and surrounding land uses		Proximity to Hanwood Bank (300m to the south west). Also note proximity of Royal Shrewsbury Hospital 1.5 km to the north-east and Nuffield Hospital 2 km to the east	D

Comparative Site Assessments: Landscape and Visual

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Landscape and Visual					
1. To consider the potential effects of development on sites of landscape importance	Shropshire Hills AONB	Any indirect effects likely to detract from the designation		Site not located within or in the vicinity of a formal landscape designation	A
2. To prevent the creation of unacceptable visual impacts	Magnitude and sensitivity of potential receptors	Many viewers affected and moderate/ serious change in view from residential / public open space / right of way		Assessment has concluded that landraise at this site would result in a loss of a number of landscape resources and any final landform would be conspicuous in the prevailing topography	E

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\assessment matrix for edgebold.doc

Comparative Site Assessments: Traffic and Transportation

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Traffic and Transportation					
1. To promote accessibility by rail wherever possible	Existing in-use or redundant railways		Potential for site to utilise rail access	No opportunity	E
2. To promote water transport wherever possible			Potential for site to utilise water transport	No opportunity	E
3. To promote sites in locations that avoid access through residential areas and sensitive land uses	Residential areas and sensitive land uses	Any direct / indirect impacts		Access via the A5 / A488 avoids the need for vehicle to pass sensitive land uses	A
4. To promote development sites with good access to primary route network	Location of primary route network	Distance from primary route network		Site is located on a primary route (A5)	A

Comparative Site Assessments: Water Environment

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Water Environment					
1. To avoid any potential impact on groundwater	Location of public water supply boreholes Location of aquifers	Zones 1,2 and 3 Major and minor aquifers		Site not located on a SPZ (I, II or III) or on a major / minor aquifer	A
2. To avoid any impact on the hydrological regime	Surface water	Any indirect impacts		No predicted significant impacts	A
3. To prevent development that would reduce fluvial floodplain capacity	Location of floodplains	Any direct / indirect impacts		Site not located on or within the vicinity of the floodplain	A

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\assessment matrix for edgebold.doc

Comparative Site Assessments: Nature Conservation

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Nature Conservation					
1. To avoid any development that would impact on sites of international importance	Ramsar; Special Protection Areas (SPA); Special Areas of Conservation (SAC)	Any indirect impacts		No impact	A
2. To avoid any development that would impact on sites of national importance	SSSIs	Any indirect impacts		No impact	A
3. To consider the effect of development on identified sites of County/Local Importance	Areas of high ecological value; SINC; RIGs; LNRs etc	Any effects likely to detract from the designation		No impact	A

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\assessment matrix for edgebold.doc

Comparative Site Assessments: Cultural Heritage

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Cultural Heritage					
1. To prevent development on sites or structures of international importance	World Heritage Sites	Any indirect impacts		No impact	A
2. To prevent development on sites or structures of national importance	SAMs; Grade 1 & 2* Listed Buildings; Historic Parks and Gardens; Registered Battlefields etc.	Any indirect impacts		No Impact	A
3. To consider the potential impact on sites or structures of county/local importance or of national importance that have yet to be determined	Sites and monuments record; Areas of Special Archaeological Significance; Urban Conservation Areas; Grade 2 Listed Buildings / Historic Parks and Gardens	Any direct / indirect impacts		Potential limited impact - SMR indicates crop mark feature in the middle of the site, which would require evaluation	D

Comparative Site Assessments: Economic

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Economic					
1. To avoid detrimental impacts on B1 employment uses	Proximity of B1 employment uses	Any direct / indirect impacts		No impact	A
2. To avoid detrimentally affecting the tourist economy/recreational facilities	Proximity of existing tourist facilities / potential haul route used by tourists	Any direct / indirect impacts		Insignificant impacts	B

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\assessment matrix for edgebold.doc

Comparative Site Assessments: Proximity Principle

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Proximity Principle					
1. To minimise the distance between waste generation locations and waste management facilities		Relative location of areas of need		Within 3 km of central Shrewsbury	A

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\assessment matrix for edgebold.doc

Appendix D
Site Assessment Matrix - Day House Farm

9 Pages

Comparative Site Assessments: Land Use

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Land Use					
1. To protect the best and most versatile agricultural land	Agricultural land quality	Avoidance of grades I, II and IIIa	Potential to restore land to a similar grade	Potentially BMV agricultural land	D/E
2. To avoid prejudicing designated development plan land uses (e.g. housing, tourism, recreation etc.)	Land use allocations, zones and proposals in the Local Plan	Any indirect impact		No impact - no land use allocations on the site	A
3. To avoid loss of footpaths and public rights of way	Existence of footpaths and public rights of way	Any direct / indirect impact		No footpaths or public rights of way within the proposal site	A
4. To prevent inappropriate development in the greenbelt	Land located within the greenbelt	All development other than site restoration through landfilling		Site not located in the greenbelt	A
5. To consider any indirect effects on ancient woodland	Proximity to ancient woodland	Any indirect impacts		No Ancient Woodland in the immediate vicinity	A
6. To seek to better utilise existing waste management facilities	Existing waste management facilities		Potential to extend / maximise the use of existing facilities	No potential	E
7. To locate waste management facilities within or adjacent to industrial areas	Location of industrial areas		To locate facilities within or adjacent to industrial areas	In an area of open countryside	E

Comparative Site Assessments: Amenity

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Amenity					
1. To minimise potential detrimental impacts of odour	Location of sensitive land uses (e.g. residential, schools, hospitals)	Adjacent and surrounding land uses		Edgebold Cottages and Twomile Houses 100m east of the likely access point. Also close proximity to Hanwood (550m to the north-west) and the Royal Shrewsbury Hospital 1.5 km to the north-east and Nuffield Hospital 2 km to the east	D
2. To minimise potential detrimental impacts of noise	Location of sensitive land uses (e.g. residential, schools, hospitals)	Adjacent and surrounding land uses		Edgebold Cottages and Twomile Houses 100m east of the likely access point. Also close proximity to Hanwood (550m to the north-west) and the Royal Shrewsbury Hospital 1.5 km to the north-east and Nuffield Hospital 2 km to the east	D
3. To minimise potential detrimental impacts of nuisance (vermin, pests, litter, lighting pollution etc)	Location of sensitive land uses (e.g. residential, schools, hospitals)	Adjacent and surrounding land uses		Edgebold Cottages and Twomile Houses 100m east of the likely access point. Also close proximity to Hanwood (550m to the north-west) and the Royal Shrewsbury Hospital 1.5 km to the north-east and Nuffield Hospital 2 km to the east	D

Comparative Site Assessments: Landscape and Visual

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Landscape and Visual					
1. To consider the potential effects of development on sites of landscape importance	Shropshire Hills AONB	Any indirect effects likely to detract from the designation		Site not located within or in the vicinity of a formal landscape designation	A
2. To prevent the creation of unacceptable visual impacts	Magnitude and sensitivity of potential receptors	Many viewers affected and moderate/ serious change in view from residential / public open space / right of way		Assessment has concluded that landraise at this site would result in a loss of a number of landscape resources and any final landform would be conspicuous in the prevailing topography	E

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\assessment matrix for day house.doc

Comparative Site Assessments: Traffic and Transportation

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Traffic and Transportation					
1. To promote accessibility by rail wherever possible	Existing in-use or redundant railways		Potential for site to utilise rail access	Railway line and former sidings to the south	A
2. To promote water transport wherever possible			Potential for site to utilise water transport	No opportunity	E
3. To promote sites in locations that avoid access through residential areas and sensitive land uses	Residential areas and sensitive land uses	Any direct / indirect impacts		Potential access direct off the A5/A488 would avoid the need for vehicle to pass sensitive land uses	A
4. To promote development sites with good access to primary route network	Location of primary route network	Distance from primary route network		Site located on the primary route	A

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\assessment matrix for day house.doc

Comparative Site Assessments: Water Environment

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Water Environment					
1. To avoid any potential impact on groundwater	Location of public water supply boreholes Location of aquifers	Zones 1,2 and 3 Major and minor aquifers		Site not located on a SPZ (I, II or III) or on a major / minor aquifer	A
2. To avoid any impact on the hydrological regime	Surface water	Any indirect impacts		Potential impact on Rea Brook, but appropriate safeguards could negate any impacts	C
3. To prevent development that would reduce fluvial floodplain capacity	Location of floodplains	Any direct / indirect impacts		Site not located on or within the vicinity of the floodplain	A

Comparative Site Assessments: Nature Conservation

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Nature Conservation					
1. To avoid any development that would impact on sites of international importance	Ramsar; Special Protection Areas (SPA); Special Areas of Conservation (SAC)	Any indirect impacts		No impact	A
2. To avoid any development that would impact on sites of national importance	SSSIs	Any indirect impacts		No impact on any SSSI, but note the existence of a badger sett immediately adjacent to the site (to the west)	C
3. To consider the effect of development on identified sites of County/Local Importance	Areas of high ecological value; SINC; RIGs; LNRs etc	Any effects likely to detract from the designation		No impact	A

Comparative Site Assessments: Cultural Heritage

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Cultural Heritage					
1. To prevent development on sites or structures of international importance	World Heritage Sites	Any indirect impacts		No impact	A
2. To prevent development on sites or structures of national importance	SAMs; Grade 1 & 2* Listed Buildings; Historic Parks and Gardens; Registered Battlefields etc.	Any indirect impacts		Roman road thought to bisect proposed access and crop mark features identified in the interior of the site	C
3. To consider the potential impact on sites or structures of county/local importance or of national importance that have yet to be determined	Sites and monuments record; Areas of Special Archaeological Significance; Urban Conservation Areas; Grade 2 Listed Buildings / Historic Parks and Gardens	Any direct / indirect impacts		No impact	A

Comparative Site Assessments: Economic

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Economic					
1. To avoid detrimental impacts on B1 employment uses	Proximity of B1 employment uses	Any direct / indirect impacts		No impact	A
2. To avoid detrimentally affecting the tourist economy / recreational facilities	Proximity of existing tourist facilities / potential haul route used by tourists	Any direct / indirect impacts		Insignificant impact	B

h:\projects\ea-210\09581 strategic locations for waste disposal\docs\assessment matrix for day house.doc

Comparative Site Assessments: Proximity Principle

Subject Area / Objectives	Indicators	Thresholds of Concern	Opportunities	Commentary	Grading
Proximity Principle					
1. To minimise the distance between waste generation locations and waste management facilities		Relative location of areas of need		Within 3 km of the centre of Shrewsbury	B