



**Development of Waste Treatment Facility,
comprising Reception and Recycling Hall;
Mechanical Biological Treatment (MBT) Facility;
Advanced Conversion Technology (ACT) Facility;
Power Generation and Export Facility; Education
and Office Accommodation; Landscaping and,
Access.**

Sinfin Lane, Derby

Resource Recovery Solutions (Derbyshire) Ltd

Environmental Statement

Chapter 1:

Introduction

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Introduction

1.1 Background

- 1.1.1 This document is the Environmental Statement (ES), which has been prepared to accompany the planning application for the construction and operation of Waste Treatment Facility comprising development of Waste Treatment Facility, Reception and Recycling Hall; Mechanical Biological Treatment (MBT) Facility; Advanced Conversion Technology (ACT) Facility; Power Generation and export facility; Education and Office Accommodation; Landscaping; and Access within the administrative boundary of Derby City Council.
- 1.1.2 This Statement and the Environmental Impact Assessment (EIA) upon which it is based have been carried out by RPS Consultants (RPS), on behalf of Resource Recovery Solutions (Derbyshire) Ltd.
- 1.1.3 The purpose of this ES is to describe and assess the potential likely significant environmental impacts and effects of the proposed development and to describe any mitigation schemes employed to avoid or ameliorate these impacts.
- 1.1.4 This Chapter outlines the context and structure of this Environmental Statement.

1.2 The Applicant

- 1.2.1 Resource Recovery Solutions (Derbyshire) Ltd, a partnership between United Utilities and Interserve was recently selected as the preferred bidder by Derby City Council and Derbyshire County Council to take the joint waste management contract forward. Part of the waste solution is to develop a new Waste treatment Facility and Visitor and education Centre at Sinfin Lane Derby.
- 1.2.2 Resource Recovery Solutions (Derbyshire) Ltd (RRS) offers a waste management solution for to Derby City Council and the constituent authorities falling within and including Derbyshire County Council as the local waste authorities. As increasing demands are placed on local authorities to increase recycling and meet landfill diversion targets, local authorities are looking to manage waste more sustainably and achieve value for money. Resource Recovery Solutions Ltd provides cost effective and environmentally sound solutions which are tailored to the needs of each local authority.

1.2.3 Further information on RRS can be found on their website at <http://www.resourcerecoveryolutions.co.uk/>.

1.3 The Assessment Team

1.3.1 RPS is an environmental consultancy which provides services to clients on planning and environmental matters throughout the UK and Ireland. The company is one of the largest multidisciplinary environmental consultancies in the country employing some 2100 staff in 60 offices. RPS has been trading for over twenty years, and are the only business in this sector quoted on the London Stock Exchange, having been listed since 1987.

1.3.2 RPS Consultants have considerable experience in waste planning and preparing Environmental Assessments and Statements. The professionals within the company who have assisted in preparing the Sinfin Waste Treatment Facility proposals have been drawn from the following disciplines:

- Town and Country Planning;
- Transport Planning;
- Air Quality Consultancy.
- Ecology and Nature Conservation;
- Hydrology and Hydrogeology;
- Engineering;
- Contaminated Land;
- Acoustics;
- Archaeology;
- Socio-economic assessment; and
- Waste Technology;

1.3.3 RPS has advised both private and public sector clients on a wide range of waste planning projects including landfill projects, waste treatment facilities, composting, civic amenity sites, and aggregate recycling plants. RPS has also acted as expert witness on a variety of waste related developments including planning, odour and noise issues. The company also has many years experience in preparing complete Environmental Statements, contributing to ES preparation by others as well as auditing Statements on behalf of local planning authorities.

1.3.4 The landscape element of the proposed Waste Treatment Facility has been prepared by Scott Wilson.

1.3.5 The architectural design of the facility has been developed by Scott Wilson.

1.4 The Scheme and Its Context

Introduction

- 1.4.1 The applicant, Resource Recovery Solutions (Derbyshire) Ltd (RRS), is looking to construct and operate a Waste Treatment Facility comprising Erection of Waste Treatment Facility, Reception and Recycling Hall; Mechanical Biological Treatment (MBT) Facility; Advanced Conversion Technology (ACT) Facility; Power Generation and export facility; Education and Office Accommodation; Landscaping; and Access.
- 1.4.2 In Derby City and Derbyshire, over 530,000 tonnes of municipal waste is collected each year. In 2007/08, more than 295,000 tonnes of municipal waste was sent to landfill. Reducing, reusing and recycling is an important part of managing Derby and Derbyshire's waste sustainably, but not all waste can be managed this way. Additional facilities are needed to reduce the amount of residual waste being sent to landfill. Against this background Derby City and Derbyshire (the Council's) tendered for bidders to take forward a joint waste management contract.
- 1.4.3 The amount of waste produced locally is increasing year on year, the majority of which is currently landfilled and attracts a landfill tax of £48 per tonne. The waste authority is therefore experiencing increased costs in the management of its waste. In addition to this European, National and Regional priorities require significant reductions in the amount of waste disposed to landfill, and significant increased performance for the recycling and composting of household waste.

Municipal Waste Management Strategy for Derbyshire

- 1.4.4 The move to find more sustainable ways of managing our waste, supported by the substantial UK and EU legislation, is driven by a fundamental desire to change waste into a useable resource, to minimise waste arisings and maximise recycling and composting. This approach facilitated the formulation of the Joint Municipal Waste Management Strategy (JMWMS), which is based on partnership working between Derby City Council, Derbyshire County Council and the constituent District/Borough Councils of Amber Valley, Erewash, Bolsover, Chesterfield, North East Derbyshire, High Peak, Derbyshire Dales, and South Derbyshire.
- 1.4.5 The JMWMS sets out the vision for the development and delivery of local authority waste management services within Derby City and Derbyshire. It has been designed to meet all known and anticipated duties of the District/Borough Councils and is an overall approach based on the aim of managing the Authorities waste in line with the waste hierarchy. The key objectives of the JMWMS are detailed below together with the major aspects and output requirements designed to meet these objectives.

Key objectives of the JMWMS

- To meet landfill allowance and bio-diversion targets as set out in the LATS and the requirements of the EU Landfill Directive;
- To meet a target for recycling and composting of household waste by 2005/06 of 26.5% and 50% by 2020;
- To reduce the growth in MSW arising to zero by 2016;
- To develop an approach that takes account of new and emerging technologies;
- To adopt partnership waste management working arrangements at a strategic and operational level between all of the Authorities and other partners;
- To develop an effective interface between waste collection systems, processing, and treatment and disposal systems to ensure best value is delivered by WCA and WDA services.

Derbyshire Waste Management Contract

- 1.4.6 Both Derby City and Derbyshire County Council tendered for bidders to take forward a joint waste management contract.
- 1.4.7 Resource Recovery Solutions (Derbyshire) Ltd was selected in December 2008 as the preferred bidder by Derby City Council and Derbyshire County Council to take their joint waste management contract forward. The 27 year contract will see an investment of £500 million in Derby and Derbyshire. This contract is funded through Private Public Partnership funding.

Waste Infrastructure

- 1.4.8 RRS will also manage Household Waste Recycling Centres across Derby and Derbyshire and future waste management facilities will be developed jointly by the Councils and RRS.

- 1.4.9 In summary, the development will comprise:

- Waste Reception and Recycling Hall
- Mechanical Biological Technology (MBT) Facility
- Advanced Conversion Technology (ACT) Facility
- Infrastructure for Combined Heat and Power
- Education and Office Accommodation
- Landscaping
- Access

- 1.4.10 The principal processes to be carried out at the Waste Treatment Facility include the receipt, storage and combustion of residual non-hazardous waste, with recycling and the generation of electricity and heat. In total it is estimated that the turbine will generate approximately 11 MW of electricity per hour (90,160MW per annum), of which 3MW per hour (23,400 MW per annum) would be used by the proposed development itself. The development would therefore be a net exporter of some 8 MW per hour (66,485per annum) of electricity to the national grid per annum, which is enough o power 14,000 homes.
- 1.4.11 The operation of the proposed Waste Treatment Facility would fully comply with Government and European Union (EU) legislation and policies.
- 1.4.12 All waste inputs into the Waste Treatment Facility will be non hazardous. The Waste Treatment Facility will only take material from Derby City and Derbyshire which will be delivered by road.
- 1.4.13 The proposed Waste Treatment Facility at Sinfin Lane will have a capacity to treat 190,000 tonnes of municipal solid waste per annum (with the capacity to receive 200,000 tonnes per annum).

1.5 Site Location

- 1.5.1 The proposed Waste Treatment Facility and associated infrastructure is located upon the site of a former old tannery (now demolished), situated approximately 3.3km south of Derby City Centre. The site lies within the ward of Sinfin between the residential areas of Sunny Hill (1km to the south west), Normanton (0.2km to the west), and Osmaston (0.5km to the north east). To the south west, south and south east the site is surrounded by a number of industrial estates.
- 1.5.2 The A5111 Osmaston Park Road runs to the north of the site and has junctions with the A514 and A5250 to the south west and north east respectively. Sinfin Lane has a junction with the A5111 (0.5km) to the north of the site and is a major access road to the industrial areas of south Derby.
- 1.5.3 The proposal site extends to some 3.4 hectares, the extent of which is shown edged in red on Figure 1.2. The site is neighboured to the north and east by railway lines. The railway to the north is a passenger and freight line from Derby Midland Station running southwest and the line to the east is a siding for freight trains delivering to or collecting from industrial units to the south. The topography of the site is shown on Figure 1.3.

1.5.4 Figure 1.2 shows the overall site area (edged red) assessed for the Environmental Impact Assessment.

1.6 The Role of the Environmental Statement

1.6.1 The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 (hereafter referred to as the 1999 Regulations) specify certain types of development for which EIA is mandatory (Schedule 1 Developments).

1.6.2 Waste Treatment facilities are deemed to fall under Category 10 of Schedule 1 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999. This identifies "Waste disposal installations for the incineration or chemical treatment (as defined in Annex IIA to Council Directive 75/442/EEC under heading D9) of non-hazardous waste with a capacity exceeding 100 tonnes per day" as Schedule 1 development. The Regulations require EIA in every case for Schedule 1 development.

1.6.3 The capacity of the proposed new Waste Treatment Facility exceeds 100 tonnes per day. This Environmental Statement is therefore an Environmental Statement for the purposes of the 1999 Regulations and the application is an 'Environmental Assessment Application', as defined by the Regulations whereas the other elements of the proposal might, individually not require EIA.

1.7 Content of the Environment Statement

1.7.1 This statement has been prepared with reference to the 1999 Regulations.

1.7.2 Although there is no statutory provision as to the form of an ES, Regulation 2(1) and the associated Schedule 4 of the 1999 Regulations set out the requirements regarding the content of an Environmental Statement. This specifies that the ES must contain the information specified in Part II, and such of the relevant information in Part I as reasonably required to assess the effects of the project and which the developer can reasonably be required to compile. For the avoidance of doubt, the specified information required within Schedule 4 Parts I and II is provided below:

PART I

1. Description of the development, including in particular –
 - (a) a description of the physical characteristics of the whole development and the land-use requirements during the construction and operational phases;
 - (b) a description of the main characteristics of the production processes, for instance, nature and quantity of materials used;
 - (c) an estimate, by type and quantity, of expected residues and emissions (water, air

and soil pollution, noise, vibration, light, heat radiation, etc.) resulting from the operation of the proposed development.

2. An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects.

3. A description of the aspects of the environment likely to be significantly affected by the proposed development, including, in particular, population, fauna, flora, soil water, air, climatic factors, material assets, including the architectural and archaeological heritage, landscape and the inter-relationship between the above factors.

4. A description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development, resulting from:

(a) the existence of the development;

(b) the use of natural resources;

(c) the emission of pollutants, the creation of nuisances and the elimination of waste, and the description of the measures by the applicant of the forecasting methods used to assess the effects on the environment.

5. A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment.

6. A non-technical summary of the information provided under paragraphs 1 to 5 of this Part.

7. An indication of any difficulties (technical deficiencies or lack of know-how) encountered by the applicant in compiling the required information.

PART II

1. A description of the development comprising information on the site, design and size of the development.

2. A description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects.

3. The data required to identify and assess the main effects which the development is likely to have on the environment.

4. An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects.

5. A non-technical summary of the information provided under paragraphs 1 to 4 of this Part.

1.7.3 This Environmental Statement includes all information required under Part II of the Regulations and, where appropriate, the information set out in Part I. The interaction between identified impacts and indirect effects of the proposals is discussed as part of each chapter within this Statement.

1.7.4 Together, the information supplied within the ES is considered to provide a clear understanding of the potential significant effects of the Scheme upon its environment and the mitigation measures proposed to avoid or ameliorate those effects.

1.7.5 General reference has been made to the following documents in preparation of the ES:

- The Department of Environment's "Preparation of Statements for Planning Projects that Require Environmental Assessment: A Good Practice Guide 1995".
- The Institute of Environmental Management and Assessment's "Guidelines for Environmental Impact Assessment", 2004.
- The Department of Transport Design Manual for Roads and bridges, Volume 11: Environmental Assessment.

1.7.6 The information and knowledge required to undertake the EIA has been acquired from a number of varied sources to ensure that all impacts, whether explicit from the outset or coming to light during the project's development, were assessed. These sources include:

- formal scoping opinion from the planning Department of Derby City Council set out within Appendix 1.2.
- discussions with statutory consultees;
- review of public files;
- historical and recent site investigations;
- specialist studies;
- expert knowledge from RPS's planning and environmental consultants.

1.7.7 The scope and organisation of the Environmental Statement are discussed below.

1.8 Scope of the Environmental Statement

Formal Scoping Exercise

1.8.1 The 1999 Regulations and associated guidance need to be capable of being applied to all forms of development, and not purely waste management facilities. Each development proposal, by virtue of its particular setting, design etc., is unique: the potential impacts associated with one waste management facility may not be the same as the next.

1.8.2 This is recognised in the 1999 Regulations by virtue of Regulation 10, under which the planning authority has a duty, if requested, to give their opinion in writing to the applicant on the information to be provided in the Environmental Statement in the form of a formal 'Scoping Opinion'. The purpose of a scoping exercise is:

- To focus the EIA on the potential environmental issues and impacts which need the most thorough attention;
- To identify those which are unlikely to need detailed study; and
- To provide a means to discuss methods of impact assessment and reach agreement on those most appropriate for a particular scheme.

1.8.3 Although not legally required by the 1999 Regulations, scoping is an important facet of EIA. This importance was highlighted in paragraph 2.2 of the Department of Environment's Good Practice Guide 24, which states:

"Defining its scope is one of the most critical parts of an EIA in that it sets the context for what follows. If the scope is defined too narrowly, some critical area of uncertainty or adverse impact may emerge late in the day. Decisions on the shape of the project may then be too far advanced to allow for any real change. On the other hand, if the scope of work is too loosely defined, then much time, effort and cost may be spent on pursuing unnecessary detail."

1.8.4 In order to produce an adequate and focused EIA, and in the interests of transparency, a formal Scoping request was submitted to Derby City Council in addition to topic specific consultations with the relevant bodies.

1.8.5 A copy of the scoping request and resulting 'Scoping Opinions' issued to Derby City Council with related consultee responses are included as Appendices 1.1 and 1.2 respectively.

1.8.6 The content of this Environmental Statement is drawn from Derby City Council's response to this scoping exercise, together with other informal consultations and RPS's and RRS Ltd's considerable experience in preparing planning applications and environmental statements for waste management facilities and related developments.

1.8.7 The key potential environmental issues which are considered in this Environmental Statement include:

- Traffic and Transportation Issues
- Air Quality (including Human Health Risk Assessment)
- Landscape and Visual Impact
- Ecology and Nature Conservation Issues
- Hydrology and Flood Risk

- Hydrogeology and Ground Conditions
- Noise and Vibration
- Archaeology and Cultural Heritage

1.8.8 Other issues addressed within the Statement include:

- Site History
- Need & Alternatives
- Planning Policy and Context
- Other Amenity Issues
- Socio-Economic Issues

1.8.9 RPS have advised both private and public sector clients on a wide range of waste planning projects including landfill projects, energy from waste plants, composting, civic amenity sites, and aggregate recycling plants. RPS has also acted as an expert witness on a variety of waste related developments including planning, odour and noise issues. The company also have many years experience in preparing complete Environmental Statements (ES), contributing to ES preparation by others as well as auditing Statements on behalf of local planning authorities.

1.8.10 The architectural design of the facility has been developed by Scott Wilson.

Additional Consultations and Publicity

1.8.11 In addition to the formal scoping request to the planning authority and other topic specific consultations noted above and within specific chapters, RRS have undertaken an extensive programme of stakeholder engagement to ensure that stakeholders were fully informed of the proposals and were given the opportunity to input into the identification of key issues to be addressed through the Environmental Impact Assessment process.

1.8.12 In summary these have included:

- **A Dedicated Website.** Detailing the proposed development and ways to contact the project team.
- **A 12 page Newsletter.** Newsletter sent to over 34,000 local residents, businesses and stakeholders
- **Public Information Days.** RRS held public information days on the 9th, 11th, 16th and 17th March 2009. The exhibitions allowed local stakeholders the chance to learn more about the proposals and planning process and to discuss the forthcoming application with members of the project team.

- **Press Relations.** RRS has issued press releases to the local media, including the Derby Evening Telegraph. Adverts have also been placed in local papers to advertise the public information days, website and contact details.
- **Meeting with Stakeholders.** RRS has met with a number of stakeholders and presented to the elected members of Derby City Council.
- **Feedback mechanisms.** RRS provided a FREEPHONE, community information line which is open during office hours (9am – 5.30pm, Monday- Friday), a freepost address and dedicated e mail address info@resourcerecoveryolutions.co.uk RRS has provided a free community information line, which is open during office hours (9am-5.30pm, Monday-Friday).
- **Community Liaison Group.** RRS established a Community Liaison Group made up of elected members and community representatives to enable a two way dialogue between the local community and RRS. Subject to successful determination of the application the group will continue to meet during the construction and operation of the facility.

1.8.13 Issues raised through the public consultation process can be summarised as:

- Air quality
- Contaminated land on-site
- Efficiency of the plant
- Potential health impacts
- Potential impact on property values
- Potential noise
- Potential odour
- Proximity to local residents
- Site selection
- Transport and access

1.8.14 Following the submission of the application to Derby City Council, RRS will continue to maintain dialogue with local stakeholders and interested parties. A follow up newsletter will be distributed and the Community Liaison Group will continue to meet. the website and feedback mechanisms will remain operational and RRS will continue to brief the local media.

1.9 Assessment Procedures

Timeframes

1.9.1 The Environmental Impact Assessment has identified a range of potential environmental issues, many of which vary in terms of the length of the time they are significant. The key time frames examined within the assessment can be identified as being:

- **Short term:** It is anticipated that the Construction period will be;
 - Construction to commence April 2010
 - By August 2011 the waste MBT operation will commence
 - By July 2012 the WTF will be fully operational
- **Long Term:** Comprising the **operational phase** for the lifetime of the development.

1.9.2 Potential effects can be temporary; direct or indirect; and positive or negative as follows:

- **Temporary/Permanent effects:** In relation to the different time frames, some of the potential effects would be temporary, for example site clearance and construction, construction noise and traffic, whilst others would be permanent, such as the impact on landscape.
- **Direct/Indirect effects:** Without appropriate mitigation the proposed development may have direct effects upon nearby properties and settlements, together with the environment as a whole in relation to emissions of noise and emissions to air, as well as the changing appearance of the site. Indirect impacts can also occur, largely in relation to the transportation of waste.
- **Positive/Negative effects:** The proposed development would generate both negative effects and benefits, either by virtue of the proposals themselves or as a result of the mitigation measures proposed.

Combined Effects

1.9.3 Whilst individual environmental impacts, such as noise or air quality have been considered in individual sections of this environmental statement, there is the potential for one environmental subject area to impact upon another; for instance, increasing the volume of traffic along a stretch of road may have implications on the noise climate. Such **combined effects** have been addressed in each of the respective sections within this Environmental Statement.

1.9.4 There is also the potential for unrelated impacts, which themselves are not significant, to collectively generate an overall impact that is unacceptable. For example the sum of minor impacts of noise, odour and traffic could collectively produce a significant overall impact.

Cumulative Impact

1.9.5 **Cumulative impacts** are those effects of development that may interact in an additive or subtractive manner with the impacts of other developments that are not currently in existence, but may be by the time the development is implemented. Known proposed developments in the locality that could result in cumulative impacts have been identified in consultation with Derby City Council and has taken into account for the individual assessments are highlighted within individual assessment chapters as set out below.

1.9.6 Proposed or possible future third party projects identified with planning application reference numbers include:

- Timber Resource Recovery Unit at Victory Road - 02/08/00261
- 500 homes Stenson Road – 9/2007/0020
- 1200 homes Highfields Farm - 9/2006/0775
- 1058 homes Boulton Moor – 9/2005/0611

1.9.7 Table 1.1 summarises the identified developments and the topic areas where cumulative impacts have the potential to arise and have been assessed within the Chapters of this Environmental Statement.

Table 1.1: Potential Cumulative impacts considered in association with the Waste Treatment Facility construction and operation

Scheme	Air Quality	Ecology	Noise	Traffic	Hydrology	Hydrogeology	Archaeology	Landscap e	Land Use
Employment Development Operation	O	X	O (traffic noise)	X	X	X	X	X	X
Residential Development	X	X	X	O	X	X	X	X	X

Notes

- X = cumulative impact not anticipated
- O = cumulative impact to be considered

1.9.14 Finally, if significant environmental impacts are predicted in the EIA process, then the ES provides mitigation measures over and above those already incorporated into the development proposals that can be employed to eliminate or ameliorate the impact to acceptable levels. Mitigation measures can be in the form of changes to operational practice, or changes/additions to the design of the facility. Accordingly, the EIA process forms part of an iterative design process.

1.10 Technical Issues

1.10.1 Technical difficulties encountered and limitations of assessments and how we have dealt with these limitations are detailed within individual chapters and summarised below.

1.10.2 **Traffic:** Although detailed traffic surveys provide a robust measure of existing traffic flows along Sinfin Lane and the adjacent highway network, the local authorities have been unable to provide estimated traffic flows from other committed developments, particularly the three residential sites in south Derby. Future year traffic flows have therefore been estimated (as agreed with Derby City Council) using growth rates which include for a general growth in background traffic flows and for additional traffic resulting from development growth. The calculation of future year traffic flows are not therefore based upon detailed estimations of likely traffic generation from these sites but are based upon generic traffic growth factors.

1.10.3 **Air Quality:** For the assessment, data have been obtained from a comprehensive range of local and national sources. Where possible, data have been obtained from monitoring sites which are classified as 'urban background'. Pollutant levels at urban background monitoring sites are considered to be broadly representative of ambient background conditions and are therefore suitable for the purposes of deriving ambient air quality concentrations. The approach adopted in defining background pollutant concentrations is considered robust and conservative, and complies with the approach recommended by government guidance.

1.10.4 **Ecology:** The conservation status of the site and surrounding area was determined by conducting a desk study and data trawl. The Phase 1 Habitat Survey was undertaken at an appropriate time of the year (May 2007) to identify the majority of plants within the study area. Two further walkover surveys were conducted in April 2008 & January 2009 and the results of the Phase 1 Habitat Survey were updated accordingly. The limitations of the desk study and Phase 1 walkovers are summarised as:

- Although the biological data obtained during the desk study contains record of organised wildlife surveys as well as records of incidental sightings of species, it is not a definitive record of species distribution, and the absence of data records of a particular species does not necessarily confirm its absence, as a number of species are under-recorded.

- The second walkover survey used to ground truth the original Phase 1 Habitats Survey was conducted outside the optimal botanical survey season.
- Faunal species are generally very mobile and presence/likely absence status can change over time and, therefore, an assessment of the use of the site by a species needs to take this into account.

1.10.5 **Ground Conditions:** The desk study is limited to an interpretation of the available information, which is subject to uncertainty in terms of the dates of acquisition and the suitability of the intrusive investigation. The field work undertaken, including the site walkover, was limited by the ground conditions on site. Intrusive works were not undertaken beyond the site boundary.

1.10.6 **Noise Assessment:** It is considered that the data presented are representative of the typical noise climate of both the area and the given locations.

1.10.7 **Archaeological Assessment:** A degree of uncertainty is attached to the baseline data sources used in any desk based assessed. These include:

- The SMR can be limited because it depends on random opportunities for research, fieldwork and discovery. This is particularly true in this case, where there have been no pieces of documented archaeological fieldwork having been done within 1km of the centre of the application area.
- Documentary sources are rare before the medieval period, and many historic documents are inherently biased. Older primary sources often fail to accurately locate sites and interpretation can be subjective.
- Geotechnical logs that describe made ground do not necessarily preclude the existence of archaeological deposits. Made ground could either be imported/disturbed material of no archaeological value or may actually be archaeological deposits.

1.10.8 **Socio-economic Assessment:** The main limitations of the baseline surveys are that they are based upon the 2001 Census Data and are therefore 8 years old. Information on many of the topics which the census covers is not updated between the Censuses. It is not clear therefore whether the social and economic conditions revealed by the analysis above have changed significantly. However, insofar as the availability of more recent data (for example on unemployment) would enable firm conclusions to be drawn, it is concluded that the baseline conditions will not have fundamentally changed in the intervening period

1.10.9 **Receptors and Monitoring:** In considering the potential impacts of the proposals on nearby properties, it should be noted that observations and measurements were generally made from public areas (such as rights of way and highways). It is considered that this has not prevented

the accurate assessment of potential environmental impacts or the identification of appropriate mitigation measures.

1.10.10 Despite the technical difficulties and limitations outlined above, it is considered that the information contained within this environmental statement is sufficient for the environmental impacts associated with the proposed development to be adequately assessed.

1.11 Organisation of the Environmental Statement

1.11.1 The ES has been prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 and comprises 3 volumes:

- Volume 1 Part A – Non Technical Summary;
- Volume 1 Part B – The main ES text (subdivided into Chapters);
- Volume 2 Supporting Technical Appendices (1 to 4);
- Volume 3 Supporting Technical Appendices (5 to 8);
- Volume 4 Supporting Technical Appendices (9 to 16);

1.11.2 Volume 1 is structured as follows:

Volume 1 – Part A, the Non Technical Summary has been prepared as a free-standing document. It has been written to enable members of the public, without specialist knowledge, to understand the proposals and their likely effects on the environment. A non-technical summary is specifically required under the EA Regulations.

Volume 1 – Part B, the ES considers the impacts of the development on its environment on a subject-by-subject basis. Each subject area is discussed under a separate chapter within which the following matters are addressed where relevant:

- Introduction
- Legislation and Planning Context
- Assessment Methodology
- Baseline Conditions
- Incorporated Enhancement and Mitigation
- Identification and Evaluation of Key Effects
- Mitigation
- Residual Impacts
- Conclusions
- References

1.11.3 The individual chapters are summarised below.

Chapter 1: Introduction; comprises an introduction setting out the key issues considered and the context of the development proposals, and the general assessment procedures.

Chapter 2: The Site and Its Setting; describes the physical and environmental characteristics of the application site and its surrounding environs.

Chapter 3: Planning History and Policy Context; describes the planning history of the site and the national, regional and local planning policy context of the proposal;

Chapter 4: Description of Development; describes the development proposals for which planning permission is sought and for which the assessments have been carried out. It also provides a summary of estimates, by type and quantity, of expected residues and emissions associated with the development proposals and how these will be managed.

Chapter 5: Needs and Alternatives; assesses the need for the facility, the alternatives considered and the proposed developments.

Chapter 6: Traffic and Transportation Issues; assesses the transport and traffic issues associated with the proposed development.

Chapter 7: Air Quality; assesses the air quality impacts of construction and operation of the facility including consideration of associated human health issues.

Chapter 8: Landscape and Visual Impact; assesses the potential landscape and visual impact issues associated with the proposed development;

Chapter 9: Ecology and Nature Conservation; assesses potential ecology and nature conservation issues associated with the proposed site;

Chapter 10: Hydrology and Flood Risk; considers the hydrology and risk issues;

Chapter 11: Hydrogeology and Ground Conditions; considers the potential hydrogeology, contamination and geotechnical issues including human health impacts in relation to contamination;

Chapter 12: Noise and Vibration; assesses noise climate and likely noise impacts of construction and operation of the facility including road traffic noise associated with the development;

Chapter 13: Socio Economic Impacts; assesses the potential socio-economic issues;

Chapter 14: Archaeology and Cultural Heritage; assesses the potential archaeological and cultural heritage issues associated with the proposed development;

Chapter 15: Amenity; assesses impact of the development on the amenity of the area;

Chapter 16: Summary; Summarises the above sections and draws conclusions regarding the overall effects of the proposed development.

1.12 Definition of Key Terms

1.12.1 The terms impacts and effects are used throughout this statement. They are defined as follows:

- **Impacts:** These are any changes to the environment that are attributable to the development proposal.
- **Effects:** These are the results of the changes on specific receptors or resources.

1.12.2 On occasions impacts and effects will be one and the same e.g. land take from an ecologically sensitive area is both an impact and effect. At other times they can be clearly distinguished e.g. an increase in noise levels may be an impact that effects nearby residents and wildlife.

1.12.3 Receptors and resources are defined as:

- **Receptors:** These are the people and the flora and fauna, directly affected by impacts or may be indirectly affected through impacts on their surroundings.
- **Resources:** These are the 'capital assets' of the environment such as habitats, cultural heritage and landscape, which constitute the environment that people and the flora and fauna inhabit.

1.12.4 Key Stakeholders are considered to be:

- Derby City Council, Derbyshire County Council, Environment Agency, Natural England, Government Office of East Midlands (GOEM), Derbyshire Wildlife Trust, Forestry Commission, RSPB, Network Rail, East Midlands Development Agency (EMDA), Health Protection Agency, Primary Care Trust (PCT), Derbyshire Police and Emergency Services, local residents, businesses, landowners and opposition groups.

1.12.5 RRS has undertaken extensive pre-application engagement to inform and involve local stakeholders.