South Derbyshire District Council

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DEVELOPMENT CONTROL
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THE MALTSTERS
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P/12/00662

Our ref: EIA/scop/01/12
Your ref: 28305/05/02ESR

Date: 23 May 2012

Dear Sir/Madam

THE TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2011 (SI2011/1824) REGULATION 13 REQUEST FOR SCOPING OPINION: PROPOSED EXTENSION TO COFFEE MANUFACTURING FACILITY HATTON, SOUTH DERBYSHIRE

Please find enclosed a copy of the Scoping Report (on disk) for the site outlined above, South Derbyshire District Council considers it appropriate to notify you of the scope of the Environmental Impact Assessment proposed and give opportunity to comment if you so wish.

The District Council will need to issue a scoping opinion by **Monday 25 June 2012** and as such would request, that if possible any comments are submitted, in writing, to the District Council no later than **Monday 18 June 2012**. If however, you intend to respond to this consultation and have any concerns about meeting the deadline for responses set out above I would request you contact me immediately on the number set out below.

If you require any further assistance or information regarding the content of this letter please do not hesitate to contact me directly on 01283 228717.

Yours sincerely

Kevin Exley
Planning Policy Officer (Sustainability)

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CORPORATE SERVICES
28 MAY 2012

UNITED BY OUR DIFFERENCE

WSP

PROJECT DOVE

Environmental Scoping Report

Nestlé UK

May 2012

Quality Management

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PROJECT DOVE

Environmental Scoping Report

May 2012

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The Institute of Environmental Management & Assessment (IEMA) has awarded WSP the EIA Quality Mark for our holistic activity around EIA. We were one of eight pilot organisations in the UK that trialled the process in 2011 and developed the scheme from the former Corporate Registered Assessor process.

Table of Contents

1 Introduction

1.1 Overview and structure of the Environmental Scoping Report

WSP Environment and Energy (WSPE&E) have been instructed by Nestle UK to provide technical reports and EIA services in support of a full planning application for the extension to their coffee manufacturing facility at their existing Site in Hatton, south-east Derbyshire.

WSP E&E are part of a wider team which includes Cass Associates (planning consultants); Darnton EGS (architects), Faithful and Gould (overall project management and cost consultants) and SKM (transport planning).

This chapter outlined the structure and objectives of the Environmental Scoping Report and a broad overview of the existing site (further information relevant to the technical area is provided within the technical chapters).

Chapter 2 outlines the description of the Proposed Development (upon which the Environmental Scoping Report is based), whilst **Chapter 3** outlines the approach to the Environmental Impact Assessment (EIA), the consultees which are involved with the scoping process and EIA process; consideration of alternatives and the approach to the assessment of cumulative effects.

Chapter 4 outlines the insignificant topic areas and the associated evidence base. These topics will not form part of the ES.

Chapters 5 to 13 outline the technical scope of the ES. For each of the topic areas, the following has been provided:

- Overview of baseline conditions (specific to the technical area);
- Consultation undertaken to date;
- Insignificant effects;
- Sensitive receptors;
- Potentially significant effects (both for the site preparation, earthworks and construction and operational phases);
- Proposed methodology for assessment; and
- Limitation for assessment.

The technical topic areas that will be fully assessed within the ES are:

- Traffic and transportation (**Chapter 5**);
- Noise and vibration (**Chapter 6**);
- Air quality, dust and odour (**Chapter 7**);
- Ground conditions, hydrogeology and contamination (**Chapter 8**);
- Flooding, hydrology and water resources (**Chapter 9**);
- Ecology (**Chapter 10**);
- Landscape and visual (**Chapter 11**);
- Archaeology and cultural heritage (**Chapter 12**); and
- Socio-economics (**Chapter 13**).

Chapter 14 provides a summary of the Environmental Scoping Report, and in particular **Table 14.1** identifies all the potentially significant effects to be included within the ES.

1.2 Objectives of the Environmental Scoping Report

The Environmental Scoping Report (and its associated appendices) has taken into account the *EIA Regulations 2011* and associated guidance[1] and provides information on the following:

- Description of the existing Site and the surrounding area;
- Outline description of the nature of the Proposed Development;
- Establishment of the format of the ES and the effect significance criteria to be used within the EIA;
- Identification of statutory and non-statutory organisations to be consulted as part of the forthcoming EIA process;
- Determination of the 'insignificant' environmental effects which can be formally 'scoped out', supported by a suitable technical evidence base; and
- Determination of the key potentially significant environmental effects to be addressed within the EIA (topic by topic) and outline of the assessment methodology to be employed.

The approach ensures that the subsequent ES is concise and focussed on the key environmental effects with the aim of minimising the need to supply further information post planning submission.

1.3 The existing site

The Site and surrounding area is generally flat with the existing factory to the west being slightly elevated. As a result, there are a range of long distance views into the Site (with the exception from the residential area to the west which is screened by the existing factory). The Site is bound by the existing Crewe – Derby railway line to the south.

The Site is dominated by pasture and managed grassland and is currently surrounded by a 2m high palisade fence. A bridleway (also National cycle network 549) runs from within the Site to Church Avenue. This wide corridor is dominated by a mixture of dense scrub, trees (generally immature) and non-continuous hedgerows and grassland. There are a few scattered isolated mature trees and one hedgerow (with trees). Salt Brook runs along the western side of the Site and is currently considerably wider than regular flows to accommodate attenuation for flooding events. The Site lies within Flood Zone 3.

The access from the east is a single lane track and a cattle grid. Immediately to the north of the Site is a Sewage Treatment Works, which we understand takes foul drainage/process output from the Site/existing factory. There is currently an 11KV supply of electricity to the Site (with associated supporting infrastructure).

The west of the Site (i.e. the existing factory) is dominated by the storage, cleaning, drying, roasting, filling and packaging processes and buildings associated with the existing Nestle factory. The factory provides significant employment for the local area, with 60% of factory staff living within a 5 mile radius. An additional block within the existing factory is under construction, nearing completion. There is also an established Sustainable Urban Drainage scheme and associated planting which was completed in relation to earlier expansion activities at the factory.

[1] *Environmental Impact Assessment: A guide to good practice and procedures (Consultation Paper). (2006). Department for Communities and Local Government: London*

The residential area of Hatton lies adjacent to the existing factory to the west. The only other key property is Holly Cottage (farm) to the east. The village of Tutbury is to the south of Site and there are direct views from the village and Tutbury Castle (Scheduled Ancient Monument).

The location of the Site, the Site boundary and aerial photography of the Site and its surrounds are illustrated on **Figures 1 to 3**.

The Dolce Gusto and soluble coffee facility operates 24 hours a day, 7 days a week, whereas the soluble filling facility operates for 16 hours a day for 5 days a week.

2 Outline description of the Proposed Development

2.1 Introduction

Nestle UK propose to construct a new 38,121 m³ (Gross Internal Floor Area) Freeze Dried Coffee manufacturing facility adjacent to Nestle UK's existing coffee manufacturing facility. This equates to a Proposed Development footprint of 19,500m². The Proposed Development will employ approximately 125 additional employees when operational.

2.2 Scale of development

The Proposed Development blocks will vary from single storey to approximately 39.5m in height. The principal stack within the Site will be to the south which will include two sources within the one chimney. This will be the tallest feature within the Site, up to 50m in height.

The volume and scale of the buildings will be carefully considered against the flat landscape and key vistas. The overall approach is to introduce horizontal emphasis against differing colours to break up the overall mass of the buildings. This will be achieved utilising rain screen type system with proprietary coloured metal cladding panels, flat roofs and carefully selected perimeter planting.

2.3 Initial landscape strategy and environmental initiatives

The landscape proposals for the Site will play an important role in the Proposed Development. The proposals will be designed to incorporate locally distinct landscape features to create an environment that fits within the local vernacular whilst providing screening to the new buildings from near and distant viewpoints.

Overall the landscape proposals will consist of the following key elements:

- Native hedgerows with occasional deciduous trees;
- Riparian corridors of alder, poplar and pollarded willows; and
- Locally important grassland and wetland species (identified in the Lowland Derbyshire Biodiversity Action Plan 2011-2020).

A screen and buffer zone of tree and hedgerow planting will be designed to the south boundary along the rail line. The boundary planting will enhance biodiversity of the area whilst screening views from the adjacent housing and riverside.

Amenity landscape proposals around the Site will aim to '*ground*' the buildings within the surrounding landscape providing a human scale to key elements of the Proposed Development.

2.4 Building materials and ground works

The facility will comprise a mixture of steel and concrete framed buildings. The main process buildings will have concrete frames while the ancillary and single storey buildings will be steel framed. It is envisaged that buildings and process plant will be founded on spread foundations bearing on the gravel stratum that underlies the Site at a depth of between 1m and 2.5m. Ground floor slabs will be ground bearing; improvement of the clays and materials that overlie the river gravels will be carried out where necessary. It is envisaged that site won materials will be used to carry out this ground improvement while excavation arising will be re-used on site

either incorporated in the construction or included in landscaping around the site. This will minimise material movements to and from the site.

2.5 Phasing

The site preparation activities associated with this planning application will commence in Q1 2013 and will take approximately 12 months, with completion of the buildings by Q2, 2014. Process installation is likely to commence in Q4 2013 with the new facility operational by the end of 2014.

2.6 Access

Throughout the site preparation, earthworks and construction phase, it is proposed that access for construction traffic will be split. Heavy goods vehicles will use the improved Station Road/Marston Lane entrance whilst, light contractor vehicles will approach from the east of the Site along Marston Lane. All operational traffic (including staff) will continue to use the improved Station Road/Marston Lane junction to access the factory.

During the peak of construction activities, there is likely to be a significant volume of equipment, cranes and up to 400 contractors.

3 Approach to EIA, consultation, alternatives and cumulative effects

3.1 Approach to EIA

The Requirement for EIA

The Proposed Development is likely to fall under Schedule 2, Part 7 (Food Industry) of the EIA Regulations 2011. The Proposed Development meets the applicable threshold and criteria within Column 2 of Schedule 2 (i.e. the proposed floor area of new floorspace exceeds 1000m³). By the nature and type of the development, a range of potentially significant effects have been identified. It is for these reasons that the project team have assumed the Proposed Development to the '*EIA development*' and an Environmental Statement (ES) will support the forthcoming planning application.

Baseline conditions

The baseline conditions for the purpose of the ES will be as February/March 2012. There may be a slight variance across the ES components depending on the use of existing data obtained through other sources which represents a baseline scenario early than February/March 2012. This has been clearly outlined within the technical chapters of the ES.

The ES will need to take account of the projected baseline under a '*do nothing*'/'*do minimum*' scenario. This refers to the situation where a local authority or other public body (e.g. the Environment Agency) is intending to implement some measures in the foreseeable future which does not form part of the proposals but which could nevertheless be seen to be contributing towards achieving environmental benefits.

The assessments within the ES will be based on the existing baseline conditions (as of February/March 2012) and not the projected future baseline conditions as the limitations, necessary assumptions and lack of baseline evidence would not result in a robust assessment. Where this approach is not followed, it will be clearly outlined within chapters of the ES alongside the reasons why an alternative approach has been adopted. This may be required if integral changes to the Site will be implemented as part of other consented planning applications which have also been environmentally assessed. This will also avoid duplication of assessment.

Consideration of current or pending developments

The approach to EIA and the content of the associated assessments will reflect the planning application for which planning consent is sought. There are a number of other proposed developments both on-site and in the surrounding area which are at varying stages within the planning process and construction. For the purpose of clarity, **Table 3.1** provides a summary of the key proposed developments and their current status as of May 2012.

Table 3.1: Other schemes both on-site and in the surrounding area and their current status

Proposed development (with planning application reference if registered)	Brief overview of proposed development	Current status (as of March 2012)
Salt Brook diversion (and associated new bridleway and landscaping scheme) and infill of existing section of Salt Brook (9/2012/0089).	The diversion of the Salt Brook along the eastern boundary of the Nestle factory further east and crossing beneath Old Marston Lane. This will constitute part of the Lower Dove Flood Relief Management Scheme (FRMS). The existing ditch to the north side of the existing Nestle site, adjacent to the bridleway will be infilled, commencing a minimum of 1000mm to the	Planning consented, works about to commence on-site.

	east of the existing sewage treatment overflow pipe and water from the ditch and the sewerage overflow will be diverted to the new Salt Brook diversion by means of a surface water piped drainage system. The diversion of the Salt Brook will incorporate a new route for the future diversion of the existing bridleway. New hedgerow planting with occasional trees will be provided by the new fence line on the northern side of the brook diversion.	
Amenity building, covered link and entrance improvements (9/2011/1026).	The construction of a 2 storey amenity building, gatehouse covered link walkway and green wall to entrance together with associated entrance sign.	Planning application consented.
Marston Lane junction improvements and demolition of buildings (9/2011/0925).	Engineering works to improve accessibility and safety of the Station Road/Marston Lane junction, to improve access to the factory (works include the demolition of 6 and 8 station road).	Planning consented but yet to commence on-site.
West side warehouse extension (9/2011/0911, replacing 9/2011/0503).	The erection of an extension to the existing west side warehouse to provide a new production facility.	Nearing completion of construction.
Land at Tutbury residential development (P/2011/00546 and P/2011/00547)	The construction of 212 dwellings, business units, recreational facilities and community buildings and 12 self-build plots off Burton Road, Tutbury.	Planning consented

Further to the above, the Proposed Development does not include any rail siding to serve the Proposed Development; Demolition of any existing buildings within the existing factory; the closure of the existing bridleway; upgrades to the existing Sewage Treatment Works; implementation of new power supply; underground re-routing of overhead power lines or utilities or future residential development to the north.

Therefore the EIA will be based on the proposed description outlined in **Chapter 2 - Outline description of the Proposed Development** and will not include the assessment of the Proposed Developments outlined above or within **Table 3.1**. However, the proposed developments in **Table 3.1** will be considered cumulatively and the approach and methodology for this is outlined below.

Submission of supporting information during the determination period

As outlined in **Chapter 10 – Ecology**, further protected species survey are required. These are limited to Great Crested Newts (for which all surveys have been completed and no species identified) and Bats. Due to seasonal timing constraints associated with bat surveys, these will need to be undertaken, reported and submitted after the planning application is submitted.

We therefore propose to submit some of the results of the bat surveys following planning submission and will ensure that a sufficient period is allocated between delivery of reports to SDDC and any committee date. As part of your Scoping Opinion, we wish to formally confirm that this is acceptable and will not cause delays to the consent process.

Format of the ES

The ES will comprise of three main volumes. They are as follows:

- **Volume 1: Main Text and Figures;**
- **Volume 2: Technical Appendices; and**

- **Volume 3: Non-Technical Summary.**

The proposed format and structure of the ES is provided in **Appendix A**.

The ES will be produced in accordance with the Schedule 4 of the *EIA Regulations 2011* and the following guidance documents:

- Environmental Impact Assessment, Department of the Environment, Transportation and the Regions (DETR) Circular 02/99, (March 1999);
- Environmental Impact Assessment: A guide to the procedures, DETR (2000); and
- Environmental Impact Assessment: A guide to good practice and procedures, Department of Communities and Local Government, (2006), (Consultation document).

It is currently understood that it is the intention of DCLG to issue new procedural guidance following the adoption of the *EIA Regulations 2011*. This procedural guidance has at present not been published and is expected in summer 2012. Once published the new procedural guidance will be used to inform the EIA and subsequent preparation of the ES.

The assessment of potential effects for each of the topics will take into account the environmental effects during the site preparation, earthworks and construction, and operational Phases of the Proposed Development. A number of criteria will be used to determine whether or not the potential effects are '*significant*'. Wherever possible and appropriate, the effects will be assessed quantitatively. The following criteria will be taken into account when determining the significance of the potential effects:

- Relevant legislation and planning policy;
- International, regional and local standards;
- Probability of occurrence of effect;
- Geographical extent of potential effect;
- Magnitude and complexity of the effect;
- Sensitivity and/or value of the receiving environment or receptor;
- Whether the effect is temporary or permanent;
- Duration (short, medium or long-term), frequency and reversibility of effect;
- Whether the effect is reversible or irreversible;
- Inter-relationship between the effects (both cumulatively and in terms of potential effect interactions); and
- The results of consultations.

The effects that are considered to be significant, prior to the implementation of appropriate mitigation measures, will be identified within the ES. The significance of effects reflects judgements as to the importance or sensitivity of the affected receptor(s) and the nature and magnitude of the predicted changes. For example, a large negative effect on a feature or site of low importance will be of lesser significance than the same effect on a feature or site of high importance.

The following terms will be used in the ES, unless otherwise stated, to determine the significance of effects, where they are predicted to occur:

- **Major positive or negative effect**: where the Proposed Development would cause a significant deterioration (or improvement) to the existing environment;
- **Moderate positive or negative effect**: where the Proposed Development would cause a noticeable deterioration (or improvement) to the existing environment;

- **Minor positive or negative effect**: where the Proposed Development would cause a small deterioration (or improvement) to the existing environment; and
- **Negligible**: no discernible deterioration or improvement to the existing environment.

Summary effect tables that summarise the effects associated with the environmental topics will be prepared which will also outline mitigation measures and residual effects. A distinction will be made between direct and indirect; short and long-term; permanent and temporary; cumulative; and positive and negative effects. As outlined above, the potentially significant effects and their associated methodology are outlined in **Appendix A**. Where necessary, technically specific significance criteria will be applied within the ES, however where it is used this will be clearly explained throughout.

Limitations

A number of limitations with the approach have been identified and these are outlined below:

- Current on-site construction activities have been considered as part of the baseline scenario;
- Changes to the baseline between April 2012 and the submission of the planning application will not be considered;
- Whilst the ES will outline the changes to the site implemented under existing or pending consents, they will only be assessed qualitatively and cumulatively.

3.2 Consultation

As part of the EIA process, consultation will be undertaken with a range of statutory and non-statutory consultees. These have been identified in **Table 3.2**.

Table 3.2: Statutory and non-statutory consultees involved in the EIA process

Consultee	Departments
South Derbyshire District Council (SDDC)	▪ Planning Policy; ▪ Flood Risk; ▪ Environmental Health; ▪ Development Control; ▪ Landscape; and ▪ Conservation.
Severn Trent Water	▪ Networks Commercial; and ▪ Strategic Site Network Modelling.
English Heritage	▪ Inspector of Ancient Monuments (West Midlands) - advising on behalf of East Midlands.
Environment Agency	▪ Development Control; and ▪ Asset System Management.
Natural England	▪ Planning and Conservation.
Derbyshire Wildlife Trust	▪ N/A.
Derbyshire County Council	▪ Highways.
Staffordshire Council	▪ Highways.

Data has also been collected from Derbyshire Bat Group; the County Amphibian Recorder; the County Reptile Recorder and the County Bird Recorder.

Scoping workshops

To assist with the understanding of the project and to enable consultation throughout the scoping process, two scoping workshops were undertaken:

- Scoping workshop 1: SDDC, Derbyshire County Council (DCC) and the Environment Agency, 14th March 2012; and
- Scoping workshop 2: SDDC and English Heritage, 3rd April 2012.

The potentially insignificant topics and some potentially insignificant effects were agreed during these workshops and comment was sought on the scope of potentially significant effects. All comments received have been incorporated and effects to be assessed and associated methodologies for assessment have been modified.

3.3 Consideration of alternatives

If, at an early stage in the project, consideration is given to possible alternatives to the Proposed Development , some environmental effects can be avoided. The EIA Regulations 2011 require that the ES contains '*…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*.' The ES will therefore consider the main alternatives studied by the applicant, in terms of the location, nature, scale and design principles/parameters.

3.4 Cumulative effects

The ES will include a qualitative assessment of cumulative effects comprising the consideration of two types of cumulative effects:

- Effects interactions (the interaction and combination of effects of the Proposed Development affecting the same receptor; and
- In-combination interactions (the interaction and combination of environmental effects of the Proposed Development with appropriate projects and activities affecting the same receptor).

Through analysis of SDDC's online planning portal, WSP E&E have identified the following committed developments (and other proposed developments for which planning applications have been submitted and which are integral to the Site and immediate surrounds). Further information in terms of the overview of the other projects for consideration is provided in **Table 3.1**.

- Salt Brook diversion (and associated new bridleway and landscaping scheme) and infill of existing section of Salt Brook (9/2012/0089);
- Amenity building, covered link and entrance improvements (9/2011/1026);
- Marston Lane junction improvements and demolition of buildings (9/2011/0925);
- West side warehouse extension (9/2011/0911, replacing 9/2011/0503): and,
- Land at Tutbury, residential-led mixed use development (P/2011/000546 and P/2011/00547).

The above approach was agreed with SDDC as part of the Scoping workshop held on 14th March 2012. The scope of committed developments has also been agreed with DCC. The committed developments outlined above will mimic those considered in the future baseline conditions. The assessment of in-combination interactions will be limited to the five projects outlined above and this assessment of cumulative effects will be in line with the requirements of the *EIA Regulations 2011*. A number of limitations associated with projects to be considered which are currently under construction have also been outlined above.

4 Insignificant effects

4.1 Introduction

WSP E&E have reviewed a range of existing reports and data sets in relation to the existing environment. We have also completed a gap analysis which identified the further desk based studies and site surveys required, many of which have been completed.

As part of the EIA process and based on the information available to date, there are a number of topics which WSP E&E do not consider the need for assessment within the EIA and therefore these topics have been 'scoped out' and will not form part of the forthcoming ES.

Those topic areas which are not considered significant or which will be partially assessed as part of other technical topic areas within the ES, are outlined below alongside an appropriate evidence base.

- Waste;
- Agriculture;
- Lighting;
- Microclimate; and
- Television, radio and telecommunication reception.

As part of the Scoping Opinion, WSP E&E seek confirmation from SDDC that the evidence base in sufficient and such topics will not need to be included within the ES.

Waste

In terms of waste, discussions have been held with SDDC to agree an appropriate scope of works. A high level document covering the following will support the planning application:

- Brief overview of Nestle UK waste policy and applicability to the Site;
- Overview of site initiatives (existing and proposed);
- Comments regarding likely construction working practices that contractors will need to adopt; and
- Site Waste Management Plan (SWMP) would be legal requirement and the responsibility of the contractor.

As part of the SWMP, calculations of volumes of solid waste associated with demolition and construction activities will be calculated alongside how they will be managed to minimise environmental effects in accordance with guidance, legislation and targets.

Future operational waste targets set by Nestle UK (for existing and proposed operations) will be met, which again ensure volumes are managed to minimise environmental effects in accordance with guidance, legislation and targets.

Furthermore, the assessment of waste outside of the EIA is considered appropriate as it is not possible to assess on a receptor basis (i.e. provide a robust assessment of the effects of landfill etc.). Furthermore, waste in terms of dust, noise and visual intrusion will be covered elsewhere within the appropriate sections of the ES.

It is for these combined reasons that this topic will not be considered as a standalone topic within the ES.

Agriculture

The '*best and most versatile agricultural land*' is defined as Grades 1, 2 and 3a by policy guidance set out in the now obsolete Planning Policy Statement 7 (PPS7) *Sustainable Development in Rural Areas*[2], although it is considered that this guidance remains relevant as no new definition has been provided within the National Planning Policy Framework. This is the land which is determined to be most flexible, productive and efficient in response to inputs and which can best deliver future crops for food and non-food uses such as biomass, fibres and pharmaceuticals. Grades 3b, 4, and 5 are used to classify land that is determined to be of moderate quality to very poor quality.

The Agricultural Land Classification (ALC) is based on the long term physical limitations of land for agricultural use. There are a number of factors that affect the grade and the main ones are climate, site and soil characteristics, and the interactions between them. The ALC is fundamentally concerned with the inherent potential of land under a range of farming systems. The ALC of a site can be important in ensuring the right decision is made regarding appropriate development in an area and *Planning Policy 7: Sustainable Development in Rural Areas* (PPS7) states:

> *'Where significant development of agricultural land is unavoidable, local planning authorities should seek to use areas of poorer quality land (grades 3b, 4 & 5) in preference to that of higher quality,'*

Following a review of the available ALC mapping (1:250,000) scale produced by the Ministry of Agriculture, Fisheries and Food (MAFF) and post 1988 ALC surveys that have been undertaken on the MAGIC website, the Site is identified as being located within ALC unclassified grade 3 land. At this stage, there is insufficient information to determine whether the site is grade 3a or 3b.

Despite the ALC mapping, the historic spraying of coffee effluent is likely to have reduced the quality of the Site and the interactions between the key factors outlined above. It is on the basis, that it is considered likely that the Site would be classified as grade 3b or below and therefore not considered to be best and most versatile agricultural land. WSPE&E intend to undertake an agricultural land classification validation survey to confirm the above assumption.

The Proposed Development will not result in the loss of or fragmentation of existing agricultural land holdings. It has been assumed that the tenants and/or land owners will have been involved in private negotiations with Nestle UK and any issues concerning the viability of agricultural businesses will have been resolved.

If the survey results confirm that the Site is grade 3b or below, agricultural land will not be assessed within the ES.

Lighting

The Site is unlit, however, the existing factory to the west of the Site is lit by a range of lighting installations typical of those required to light a 24 hour working factory. Sources of light include that from: floodlighting and bulk heads mounted on existing buildings and warehouses, highways lighting adjacent to and within the Site, floodlighting mounted high level columns and architectural lighting. These installations provide the necessary lighting for access and internal roads, storage and service areas and car parks. These sources of lighting contribute to a brightly lit environment.

In terms of the surrounding area, the Site lies on the opposite side of the existing factory from the south and eastern boundaries of the village of Hatton, which is lit by a combination of typical highway and residential lighting. This is likely to be the same for Tutbury to the south and Hilton to the east. It is likely that the

[2] Office of the Deputy Prime Minister (ODPM) (now Communities and Local Government [DCLG]), Planning Policy Statement 7, Sustainable Development in Rural Area, 2004

surrounding area would be considered as a low or medium district brightness area, with the existing factory and Marston Lane as a medium district brightness area.

Potential sensitive receptors to light spill and glare include residential receptors within Hatton to the west and Holly Cottage (farm) to the east and bats (subject to confirmation of their presence). However, the existing residential receptors within Hatton are already subjected to a low to medium district brightness area associated with the existing factory, which also screens the Proposed Development from these residents. The distance between any proposed lighting within the eastern part of the site and Holly Cottage is greater than 25m and there is a variety of intermittent vegetation which provides screening.

It is expected that these residential receptors are unlikely to experience a significant deviation from the existing baseline conditions associated with the artificial lighting proposed. Therefore, nuisance from lighting will not be considered within the ES.

As a precautionary measure and assuming bats are recorded foraging at the Site, the changes in lighting within the eastern part of the Site on this light sensitive species will be assessed within **Chapter 10 – Ecology**.

Sensitive receptors to a change in the night-time scene include a range of properties within the surrounding villages and area and Tutbury Castle (Scheduled Ancient Monument [SAM]). However, this will be assessed along with changes to day-time views within **Chapter 11 – Landscape and visual**.

In summary, potentially significant effects of the proposed lighting to bats and night time views will be considered within the ES but lighting will not be considered as a standalone topic.

Microclimate (Wind, Daylight, Sunlight and Overshadowing)

The Proposed Development is a significant mass of new buildings but features of the Proposed Development are not significantly taller than the existing buildings which make up the current factory. The distance between the new buildings and existing properties and the existing screening that the current factory provides to Hatton, is unlikely to result in a significant change in daylight or sunlight in windows of residential properties.

There are no public open spaces proposed as part of the Proposed Development and therefore overshadowing has been considered irrelevant. Finally, the wind environment is unlikely to significantly change and the proposed use (industrial) is considered one of least sensitive uses to a change.

Based on these assumptions, these topics will not be assessed within the ES.

Television, Radio and Telecommunications Reception

Arquiva, who is the operator of all terrestrial TV and most radio broadcast radio in the UK, only requires potentially significant effects relating to television, radio and telecommunication to be considered on projects which include structures of greater than 15 metres in height. The Proposed Development does include structures of up to 39.5m in height. It is for this reason, that Arquiva will be consulted as part of the EIA.

However, the existing factory already has a range of structures at this approximate height and which are closer to residential properties. It is for this reason, that the Proposed Development will not significantly decrease current television, radio or telecommunication reception and this topic will not be assessed within the ES. The aim is to have this confirmed with Arquiva and reported within the forthcoming ES.

5 Traffic and transportation

5.1 Overview of baseline conditions

The study area has been defined by the extent of the highway, pedestrian and cycle network assessed within the Transport Assessment (TA) and agreed with the local highway authority, DCC, and the adjacent authority SCC.

The agreed highway network of interest comprises the A511 Uttoxeter Road/Derby Road signalised junction, the A511 Station Road, Marston Lane (east and west of the Site) and the A511 Bridge Street to the Rolleston Lane roundabout. The following junctions are considered to be key:

- Marston Lane Station Road priority junction;
- Uttoxeter Road (A511)/Station Road/Derby Road Signals;
- Bridge Street/A511 Burton Road roundabout;
- Burton Road/A511/Rolleston Lane roundabout; and
- Derby Road/Marston Lane (east) priority junction.

5.2 Consultation undertaken to date

Table 5.1: Consultation undertaken to date in relation to traffic and transportation

Body/organisation (personnel at body/organisation)	Date of consultation	Key outcomes of discussions
Derbyshire County Council	2012	Scope of TA agreed verbally.
Staffordshire County Council	2012	Preliminary feasibility discussions. Network of interest agreed. Committed development agreed.

5.3 Sensitive receptors

The following are the sensitive receptors which will be assessed within the ES:

- Marston Lane/Station Road priority junction;
- Uttoxeter Road (A511)/Station Road / Derby Road Signals;
- Bridge Street/A511 Burton Road roundabout;
- Burton Road/A511/Rolleston Lane roundabout; and
- Derby Road / Marston Lane (east) priority junction.

5.4 Potentially significant effects

Site preparation, earthworks and construction phase

- Traffic generation on junctions and links (including abnormal loads);
- Increase in severance for pedestrians associated with increased traffic levels;

- Increase in queuing associated with increased traffic generation;
- Increase in delays to pedestrian movement associated with increased traffic levels;
- Increase in pedestrian fear and intimidation associated with increased traffic levels; and
- Deterioration in road safety from increased traffic levels and types of vehicles.

Operational phase

- Development traffic generation on junctions and links;
- Increase in severance for pedestrians associated with increased traffic levels;
- Increase in queuing associated with development traffic generation;
- Increase in delays to pedestrian movement associated with increased traffic levels;
- Increase in pedestrian fear and intimidation associated with increased traffic levels; and
- Deterioration in road safety from increased traffic levels and types of vehicles.

5.5 Proposed methodology for assessment

Desk-based studies

Baseline information related to background traffic flows, road safety, public transport and cycle facilities will be reviewed as appropriate. The following table outlines the associated data holding authorities:

Table 5.2: Key organisations holding background data

Organisation	Data
Derbyshire County Council	Traffic count data, pedestrian, cycle and public transport data.
Staffordshire County Council	Traffic count data, pedestrian, cycle and public transport data. Accident data.
Police Authority	Accident data.
Bus Operators	Public transport information.
SUSTRANS	National Cycle Route information.

Assessment

The principle elements of the assessment will be to:

- Liaise with DCC and SCC to confirm the scope of works and the proposed methodology where necessary;
- Quantify the construction Heavy Goods Vehicles (HGV) and staff traffic and quantify the operational traffic increases related to staff and HGVs;
- Outline the access routes for construction vehicles, operational HGV and staff vehicles and likely times of travel;
- Assess the significance of the effects with reference to the '*Guidelines for the Environmental Assessment of Road Traffic*' published by the Institute of Environmental Assessment (IEA in terms of recognised thresholds of significance);
- Identify any mitigation measures which may be required and any alternatives that should be considered; and

- Set out the residual effects following the implementation of mitigation measures.

Consideration will be given to construction traffic and the operational traffic generated by the Proposed Development. An assessment of the scale of effect on the agreed highway network of interest, including the operational capacity of the identified junctions will be undertaken, as appropriate. The assessment of junctions will be undertaken using industry standard operational assessment programs such as Arcady, Picady and Linsig, as appropriate.

The prediction and evaluation of effect will consider the scale of the effect, based upon the thresholds suggested within the IEA guidelines, any likely change as a result of the effect (e.g. an increase in driver delay resulting from increased traffic levels) and the sensitivity of the receptor to the effect. Where an effect is identified as significant, potential mitigation measures will be outlined to lessen the scale of the effect.

5.6 Limitations

The assessment of likely traffic effect is based on the collection of background traffic flow data, including the classified turning count data, collected during March 2012 which is considered to be a neutral month. The data collection was reported to have been undertaken with no notable road closures, road works or traffic accidents and is therefore considered to be representative of a typical background scenario.

6 Noise and vibration

6.1 Overview of baseline conditions

The baseline noise and vibration climate at and around the Site has been determined through a review of historical noise reports and other documents made available from Nestle UK and from a site visita and survey of noise levels at the closest residential areas to the Site.

The reviewed information includes the following three key noise reports:

- Interim noise control report Nitrogen Generator, July 2007;
- Noise Control Study, URS, August 2007; and
- Noise Control Study, URS, October 2009.

The above reports contain noise measurement data for specific plant items associated with operations at the existing factory to the West of the Site, as well as noise data measured at nearby residential locations.

Further historic measurement data contained within the IPPC application submission by Nestle UK in December 2000 has also been reviewed.

This data has been supplemented and verified by the results of a baseline noise survey undertaken by WSP in March 2012, which included measurements undertaken at the closest noise sensitive receptors to the Site.

The data reveals that the local noise climate comprises of a mix of road traffic noise, industrial noise (including from the existing factory) and occasional rail noise; the precise mix being dependent on the location of individual sensitive receptors to local roads, the nearby rail line and the existing factory.

At the time of undertaking the March 2012 noise survey, no perceptible levels of vibration were experienced. This was the case even at locations close to the railway.

6.2 Consultation undertaken to date

Table 6.1: Consultation undertaken to date in relation to noise and vibration

Body/organisation (personnel at body/organisation)	Date of consultation	Key outcomes of discussions
SDDC, John Mills, Environmental Health Officer.	2012.	■ Agreement of scope of works (which is on-going).

6.3 Insignificant effects

The following effects have been considered insignificant and will not be assessed within the ES:

- Based on a review of the available information relating to the processes that will be undertaken within the Proposed Development and the baseline data detailed above, it is assumed that there will be no significant increase in vibration from operational processes at sensitive receptors and therefore vibration will not be assessed during the operational phase; and
- During the construction of the Proposed Development , significant levels of vibration are only likely to occur during the foundation works for the new buildings and will only affect those locations that are very close of the works (within approximately 50m). As no sensitive receptors have been identified at such close

proximity, vibration at sensitive receptors during the site preparation, earthworks and construction phase has been determined to be insignificant.

6.4 Sensitive receptors

The following are the sensitive receptors which will be assessed within the ES:

- Residential properties at Mercia Close and at the eastern end of Hoon Road and Church Avenue. These receptors lie to the north of the existing factory and to the west of the Proposed Development;
- Residential properties at Marston Old Lane and Dove Side, to the south of the existing factory and to the south west of the Proposed Development;
- Holly Cottage, Hoonhay, a residential property/farm to the east of the Site; and
- Properties on Station Road, to the west of the existing factory. These properties are primarily commercial use (shops and a public house). Should there be any living accommodation above the shops or public house, then they will be considered as sensitive residential receptors.

The sensitive receptors detailed above are all residential dwellings. The nearest school will be more than 600m from the Proposed Development, and the nearest place of worship will be more than 900m distant. No other noise sensitive buildings have been identified, although there is an existing bridleway to the east of the existing factory.

6.5 Potentially significant effects

Site Preparation, earthworks and construction phase

- Disturbance to local residents from noise generated by construction activities; and
- Disturbance to residents (including those adjacent to haul routes) from construction traffic noise. This may include heavy goods vehicles for plant and materials deliveries.

Operational phase

- Disturbance to local residents from industrial type noise emanating from the various plant and buildings associated with the Proposed Development. The cumulative effect of noise from the Proposed Development together with noise from the existing factory will be considered;
- Disturbance to residents (including those adjacent to delivery routes) from increased development generated traffic noise. This includes the delivery of materials to the Proposed Development and the shipping of manufactured products from the Proposed Development, as well as traffic associated with staff and visitors to the Site; and
- Disturbance to local residents from noise associated with the unloading of vehicles and from staff and visitor parking areas. The cumulative effects of noise from the existing facility and the Proposed Development will be considered.

6.6 Proposed methodology for assessment

Site preparation, earthworks and construction phase

The levels of construction noise that are likely to be experienced at each of the identified sensitive receptors and for each phase of the construction works will be predicted using the methodology set out in *BS 5228-1: 2009: Noise and Vibration Control on Construction and Open Sites – Part 1: Vibration*. These calculations will include for on-site construction traffic. Suitable assessment criteria will be derived, based on the guidance contained within *BS5228-1* and the results of the baseline noise survey undertaken by WSP in March 2012.

The magnitude of effect will be determined through a comparison of the predicted levels of construction noise with the adopted criteria.

Any change in traffic noise levels as a result of noise generated by off-site construction traffic (i.e. construction / delivery vehicles using the existing road network) will be calculated using the methodology set out in The Calculation of Road Traffic Noise and will be assessed with reference to the guidance contained within the draft IOA / IEMA guidelines on noise impact assessment.

Operational Phase

The levels of noise generated by the operational plant and processes associated with the Proposed Development will be predicted using a specialist noise modelling and mapping software package, such as CADNA-A. This software implements the prediction algorithms contained within *ISO 9613: Acoustics: Attenuation of Sound during Propagation Outdoors – Part 2: General Method of Calculation*. The calculations will take into account the significant noise emitting plant items and processes, including those that will be located within buildings as well as external sources such as flues. In order to undertake these calculations, the sound power levels of individual items will be determined from supplied data. For those noise sources that will be located within buildings, the sound power level of radiating building facades will be determined taking into account the dimensions, layout and fabric of the buildings.

The assessment of noise from the operational plant and processes will take into account the guidance contained within *BS4142: 1997: Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas*, with mention to the noise limits as set out in the EPR (Environmental Permitting Regulations) approval for the existing factory. The BS4142 methodology requires a comparison of the noise levels with and without the source in question being in operation. In order to do this, it may prove necessary to undertaken additional background noise measurements at equivalent locations to those sensitive receptors detailed above, in order to determine what the background noise levels would be in the absence of the existing facility.

Any change in traffic noise levels as a result of development generated traffic will be calculated using the methodology set out in The Calculation of Road Traffic Noise and will be assessed with reference to the guidance contained within the draft IOA / IEMA guidelines on noise impact assessment. The same documents will be referenced in the assessment of noise effects from car parking. The assessment of potential noise effects from this source will be informed by the results of measured noise levels obtained from car parking activities at other sites.

The magnitude and significance of each noise effect will be summarised using the following semantic scales:

- Negligible;
- Minor;
- Moderate: and
- Major.

6.7 Limitations

- Any future residential development to the north is not currently committed and therefore has not been considered as a receptor for use in the assessment.

7 Air quality, dust and odour

7.1 Overview of baseline conditions

The following technical reports have been provided by Nestle UK and have been reviewed by WSP E&E as part of the scoping exercise:

- Monitoring of Particulate Emissions Buhler Stack, Dec 2011;
- Monitoring of Particulate Emissions CTI Fines Stack, Dec 2011;
- Monitoring of Particulate Emissions CTI Stack, Dec 2011;
- Monitoring of Particulate Emissions Egrons Stack, Dec 2011;
- Monitoring of Particulate and Gaseous Emissions, Stack A2, Nov 2011; and
- Monitoring of Gaseous Emissions and Volume Flow Roaster 3 Exhaust, March 2011.

The area surrounding the Site is an area of reasonably good air quality. SDDC have not declared any Air Quality Management Areas (AQMA's) within their administrative area. With the exception of the existing factory, there are no industrial processes in the immediate vicinity of the Site that will influence the air quality at the Site.

7.2 Consultation undertaken to date

Table 7.1: Consultation undertaken to date in relation to air quality, dust and odour

Body/organisation (personnel at body/organisation)	Date of consultation	Key outcomes of discussions
SDDC, John Mills, Environmental Health Officer.	2012.	■ Availability of appropriate air quality monitoring data; ■ Background concentrations discussed and agreed; ■ Agreement that consideration of emissions from diesel trains does not need to be included within the assessment (see below); ■ WSP to advise on emission factors; ■ Discussion over potential odour issues; ■ Knowledge that odour mitigation has already been incorporated at the existing factory but evaluation incomplete; and ■ Discussion over scope of EIA and permitting.

7.3 Insignificant effects

The following effects have been considered insignificant and will not be assessed within the ES:

- With the exception of the existing factory, there are no significant industrial pollution sources within the vicinity of the Site that will change the air quality at the Site. The nearest Part A1 industrial process is an animal, vegetable and food process operated by Cranberry Foods Ltd which is located approximately 1km to the west of the Site. Between 2005 and 2010, there have been no notifiable releases (i.e. above the permitted level) to air from this plant. Accordingly, the contribution of emissions from nearby industrial sources to existing and future local air quality will not be considered; and

- It is understood that the railway line to the south is currently a passenger line and is not in heavy use. It is not used for the transport of raw material or product to and from the existing factory. The Proposed Development will not change the frequency of trains using this line. Emissions arising from this source are unlikely to significantly influence the air quality at the Site and will already be included within the baseline for the area. Accordingly, the contribution of emissions from the adjacent railway line to the existing and future local air quality will not be considered.

7.4 Sensitive receptors

The following are the sensitive receptors which will be assessed within the ES:

- Residential properties within Hatton and to the east of the Site (Holly Cottage); and
- Residential properties along the key routes to be used by traffic accessing the Site.

7.5 Potentially significant effects

Site preparation, earthworks and construction phase

- Increase in dust generated by on-site activities on nearby properties;
- Increase in particulate matter (PM_{10}) generated by on-site activities on local air quality and residents; and
- Increase in gaseous emissions (nitrogen dioxide [NO_2] and PM_{10}) arising from vehicle exhausts from construction vehicles on local air quality and residents.

Operational phase

- Increase in gaseous emissions (NO_2 and PM_{10}) arising from vehicle exhausts generated by delivery and operational movements on local air quality and residents;
- Increase in gaseous emissions arising from additional process plant on local air quality and residents; and
- Increase in odour from processing activities.

The effects of acid and nitrogen deposition on ecological receptors will be investigated as part of environmental permitting licensing procedure. The relationship between permitting and EIA will be explored and clearly outlined within the ES.

7.6 Proposed methodology for assessment

Desk-based studies

WSP will collate existing air quality data through a review of the air quality '*review and assessment*' reports produced by SDDC and information held by SDDC and the Environment Agency on authorised processes in the area. Data will be collected from DEFRA's online Local Air Quality Management Support pages to provide information on background air quality in the vicinity of the Site and to validate the modelled predictions. The desk-based studies will confirm the location and number of receptors (in line with those identified above) that may be sensitive to changes in air quality as a result of the Proposed Development.

Assessment

As there are no formal assessment criteria for the generation and dispersion of dust and PM_{10} during the site preparation, earthworks and construction phase, the significance of each effect will be assessed taking into account the anticipated magnitude of change resulting from the Proposed Development and the sensitivity of the receptor/receiving environment to change. In addition to professional judgement, the assessment will also take into consideration the following key factors:

- the size of the Site, and the area in which construction activities are likely to take place;

- the construction activities associated with the Proposed Development that could generate dust and PM10 and their likely duration;
- the proximity and type of sensitive receptors (e.g. schools, residential properties) to the site boundary;
- the local meteorological conditions (wind speed, direction and rainfall) in the area in which the site is located;
- the current PM10 concentration in the area
- the presence of vegetation surrounding the Site, which might act as a buffer; and
- the potential distance which the construction traffic will travel across unpaved roads on the construction site, prior to accessing the local road network (referred to as '*trackout*').

A qualitative assessment of the potential changes to air quality (nitrogen dioxide [NO_2] and PM_{10}) from on-site construction activities and construction vehicles will be carried out using recent publications and guidance provided in the DEFRA guidance document LAQM.TG(09).

A quantitative assessment of the potential changes to air quality arising from traffic associated with the Proposed Development, once operational, will be undertaken using the detailed dispersion model ADMS-Roads. The dispersion modelling will establish the deviation from the baseline on local air quality by predicting concentrations of relevant pollutants (NO_2 and PM_{10}) both '*without*' and '*with*' the Proposed Development at a number of receptor locations, if insufficient data is available.

A quantitative assessment of the potential changes to air quality arising from the process plant using the air dispersion model ADMS 4.2 will be undertaken. ADMS 4.2 is a modelling package recognised by the UK's environmental regulatory bodies as being suitable for such studies.

Pollutant concentrations would be compared with the relevant long term and short term air quality objectives for human health or ecosystems and vegetation and Environmental Assessment Levels (EAL's) in order to demonstrate the effect at sensitive receptors.

The effects of the Proposed Development on local air quality once operational will be evaluated against the significance criteria published by Environmental Protection UK.

Mitigation measures will be recommended that should be applied during the construction and operational phases of the proposed development to reduce any negative effects.

7.7 Limitations

- Any future residential development to the north is not currently committed and therefore has not been considered as a receptor for use in the assessment;
- Construction traffic data is unlikely to be available for use in the assessment and therefore the assessment will be limited to a qualitative assessment based on estimated construction vehicles, activities and routes.

8 Ground conditions, hydrogeology and contamination

8.1 Overview of baseline conditions

The baseline conditions have been informed by the following:

- Factual information provided by GIP Ltd's, *Site Investigation of Land Adjacent to Nestle, Marston Lane, Tutbury, Staffordshire*, January 2012; and
- Groundsure Enviroinsight's 'Land Adjacent to Nestle UK, Tutbury Factory, Marston Lane, Tutbury, Staffordshire, November 2011.

In addition, information available on the Environment Agency and British Geological Survey websites pertaining to geology, surface water features and groundwater has been reviewed.

The Site and surrounding area is underlain by superficial deposits comprising clay and sand & gravel over solid geology comprising weathered clay and mudstone of the Mercia Mudstone Group. Previous ground investigations on the Site have recorded shallow Made Ground (<1m bgl) overlying clay to between 1.45m and 2.45m bgl, in turn overlying sand and gravel to between 4.0m and 5.45m bgl. Made Ground was limited to the area of the existing factory. Weathered bedrock (clay) was encountered to between 8.0m and 13.0m bgl overlying weak mudstone. Groundwater was encountered in all eight boreholes within the sand and gravel strata at between 2.2m to 3.2m bgl.

The Environment Agency classifies the superficial deposits as a Secondary A Aquifer and the Mercia Mudstone bedrock and a Secondary B Aquifer. The Site supports three surface water features including two ponds and Salt Brook. One pond is associated with the north-western SUDs; the second pond is associated with the Salt Brook and is very small. Salt Brook runs along the western side of the Site and outfalls into the River Dove approximately 150m to the south. The Site lies within a groundwater Source Protection Zone relating to abstraction boreholes within the existing factory.

The Site has not been developed historically, based on available historical mapping dating from 1885 to present. The location of the existing factory previously supported 'Brickyard Cottages', which suggests potential previous mineral extraction may have taken place in the surrounding area. In addition, a Condensed Milk Factory was located to the south-west.

The interpretation of the results of on-going contamination assessments, ground gas monitoring and interpretation of ground investigation data, is not yet available. However, preliminary chemical testing data suggests that significant contamination is not present in soils within the Site.

8.2 Insignificant effects

The following effects have been considered insignificant and will not be assessed within the ES:

- The Proposed Development involves no demolition of existing buildings/structures. Therefore, the risk of any asbestos-containing material (ACM) requiring management and disposal is not required. Accordingly, the effect on the sensitive receptors (e.g. human health) is not significant.

8.3 Sensitive Receptors

The following are the sensitive receptors which will be assessed within the ES:

- Human Health (during construction; maintenance following construction; and site users during operation);

- Underlying Secondary A and Secondary B aquifers;
- Building and structures; and
- Third party land (adjacent residential development of Hatton and surrounding farmland).

8.4 Potentially significant effects

Site preparation, earthworks and construction phase

- Potential exposure to contamination in soil, groundwater and surface water (associated with historical and current land use) and effects on human health (e.g. contractors/maintenance staff, future site users and users of adjacent sites);
- Potential release/migration of contamination to controlled waters (on-site surface water and underlying Secondary A and Secondary B aquifers);
- Presence of unstable and compressible ground (floodplain) and impact on new buildings; and
- Potential for the accumulation of hazardous ground gases and volatile vapours within new structures and the risk to human health and building structure.

Operational phase

- Release of contamination or uncontrolled discharges/accidental spillages to controlled waters.

8.5 Proposed methodology for assessment

Phase 1 desk based assessment

In addition to the activities already undertaken and detailed above, The Phase 1 desk based assessment will include:

- Assessment of current site status following site appraisal undertaken;
- Assessment of the historical land uses on and surrounding the Site;
- Assessment of the 'sensitivity' of the site location as determined by factors such as hydrogeology, proximity of watercourses, neighbouring land use, etc.;
- Review of available and pending site investigation data (WSP and third party) and other specific geotechnical information;
- Informal enquiries with relevant environmental regulatory bodies including DEFRA;
- Identification and analysis of the significance of potential geo-environmental risks identified in the context of the proposed site use; and
- Development of a conceptual ground model for the Site.

Supplementary ground investigations

Following on from the ground investigations completed by GIP Ltd, WSP have undertaken supplementary ground investigations. An additional five cable percussive boreholes have been drilled, three with rotary core. The purpose of the boreholes has been to provide more geotechnical data with the rotary core follow on undertaken beneath the more heavily loaded structures in the event that a piling solution is determined the most appropriate option. In addition, focused trial pitting has been undertaken (to provide greater coverage of exploratory hole locations and allow better assessment as to the distribution, thickness and variability of the shallow stiff clay) and a day of dynamic cone penetrometer work (to allow assessment of in situ CBR for the design of road pavements).

Supplementary ground gas monitoring within the new wells has been undertaken on three occasions. Samples of soil and groundwater have been subject to chemical analysis to supplement the limited testing undertaken by GIP and to establish the '*baseline*' contamination status of the Site. A programme of geotechnical laboratory testing has been undertaken on samples of soil and rock.

Assessment

The potential for effects relating to ground conditions, hydrogeology and contamination will be examined as part of the assessment using a source-pathway-receptor based Conceptual Site Model (CSM). This will identify if there is the potential for any link between a source of contamination and a sensitive receptor(s), resulting in a significant negative environmental effect. The CSM will be produced using information from recent ground investigations and desk study research, and will be completed in line with current best practice including CLR11. .

The magnitude of change and sensitivity of the affected receptor/receiving environment are both assessed on a scale of high, medium, low and negligible. Determination of magnitude will reflect judgements to the scale of the predicted change and deviation from the established baseline conditions. The significance of effects reflects judgements as to the magnitude of effect against the sensitivity of the affected receptor(s). If necessary, mitigation measures or enhancement measures (to maximise the benefits) would be included.

9 Flooding, hydrology and water resources

9.1 Overview of baseline conditions

A significant number of Flood Risk Assessments (FRA) have been reviewed by WSP. These are associated with a history of previous planning applications relating to the existing factory. The output of this review process combined with a desk-based assessment, site appraisal and meetings with the Environment Agency has already been completed.

The Site is located within Flood Zone 3 (high risk) on the Environment Agency Flood Zone Map.

The River Dove is located approximately 400 m to the south of the Site. The main flood risk to the Site is due to overland flow from the River Dove to the west at Scropton, where it is north of the railway line. This water then flows along the railway embankment to Hatton. The Environment Agency is currently designing flood defences to reduce flood risk to Scropton and Hatton.

As part of previously submitted planning application 9/2012/0089, the Salt Brook is being diverted to the Site's eastern boundary which will have a manually operated penstock for when levels rise within the River Dove. The Salt Brook has been sized to accommodate the 1 in 100 year plus climate change flows for the critical duration storm for when the penstock is closed.

The Site is currently 100% permeable and it is assumed that rainfall infiltrates into the ground and flows overland following natural topography. The Site is underlain by Secondary A and Secondary B aquifers.

9.2 Consultation undertaken to date

Table 8.1: Consultation undertaken to date in relation to flooding, hydrology and water resources

Body/organisation (personnel at body/organisation)	Date of consultation	Key outcomes of discussions
Environment Agency, Andrew Pitt, Planning Liasion; Sarah Mallett, Flood Risk and Development and Mark Swain, Flood Risk and Development	2012	■ Update on Dove defences; ■ Update on embankments in Scropton; ■ Confirmation that defence works are designed to 100 year plus climate change; ■ Breach analysis of the Scropton defence is pending; ■ Availability of Environment Agency model for WSP; ■ Non requirement of blockage modelling for Salt Brook; and ■ Availability of model levels of Salt Brook (under various flood event conditions) to feed into surface water attentation design.
Severn Trent Water Dave Barrett, Commercial Network Managers; Fay Tivey, Strategic Sites Network Modelling Manager	2012	■ Consents and current discharge process ■ Water Supply

Derbyshire County Council Christine Massey, Flood Risk Officer	2012	■ Overview of approach and issues to be addressed.
SDDC Chris Payne, Drainage Enginner and Ian Bowen, Planning Policy Manager	2012	■ Overview of approach and issues to be addressed.

9.3 Sensitive receptors

The following are the sensitive receptors which will be assessed within the ES:

- River Dove, Salt Brook and tributary;
- Drainage system and sewerage infrastructure;
- Construction contractors;
- Operational employees; and
- Buildings within the Proposed Development.

9.4 Potentially significant effects

Site preparation, earthworks and construction phase

- Contaminants and suspended sediments in surface water runoff entering the surrounding watercourses and drainage infrastructure; and
- Increase in risk of flooding (surface, drainage and groundwater) to contractors and employees and activities.

Operational phase

- Increase in physical contaminants and suspended soils;
- Increase in risk of flooding (surface, drainage and groundwater) to employees and activities;
- On-going effectiveness of SUDS;
- Reduction in permeability and changes to groundwater flow;
- Increase in foul flows and associated capacity requirements in sewage treatment works; and
- Increase in water resources associated with manufacturing processes.

9.5 Proposed methodology for assessment

Flood Risk Assessment

A standalone Flood Risk Assessment (FRA) will be prepared in accordance with the National Planning Policy Framework and associated Technical Guidance.

The FRA will consider the risk of flooding to the Site from all sources and the impact of the Proposed Development on third party land. This includes:

- Further consultation with statutory consultees to establish the amount of information which is available regarding flooding at the Site, such as data on flood levels, data on historic flooding and flood defence details;
- Review of the topographical survey to identify any overland flow routes;
- Collect and review existing and publicly available data relevant to flood risk;
- Assess the risk of flooding due to fluvial, tidal, groundwater, surface water, flows from surcharged sewers, or risks due to other possible sources; and
- Develop mitigation measures for flood risk, if required, and obtain agreement in principle to the Proposed Development from the relevant consultees.

The FRA will be informed by the previous assessment and modelling undertaken on behalf of the Environment Agency in relation to the Dove defences, the embankment in Scropton and model levels of Salt Brook (under various flood event conditions).

The FRA will be appended as a supporting technical appendix to the ES.

Surface and foul water drainage strategy

The strategy will consider the existing drainage of the Site and how foul and surface water will be managed post-development. A strategy would identify the drainage constraints, agree design parameters with the regulators and identify points of connection / discharge for foul and surface water drainage. The strategy would incorporate the provision of sustainable drainage to control surface water run-off, which would '*dovetail*' with the FRA and proposed flood risk mitigation measures. The model levels of Salt Brook (under various flood event conditions) would feed into any surface water attenuation design. This would add to the sustainability provision of the Proposed Development.

Assessment

The surface and foul water drainage strategies designed by WSP and as outlined within the ES would be used to inform the baseline data and the Proposed Development which is to be assessed.

A water demand study would be undertaken as part of the assessment which would allow a quantitative assessment to be completed.

The sensitivity of the receptors outlined above would be evaluated alongside the magnitude of change to enable a significance level to be attributed to each effect. The magnitude of change and sensitivity of the affected receptor/receiving environment are both assessed on a scale of high, medium, low and negligible.

Determination of magnitude will reflect judgements to the scale of the predicted change and deviation from the established baseline conditions. The significance of effects reflects judgements as to the magnitude of effect against the sensitivity of the affected receptor(s). If necessary, mitigation measures or enhancement measures (to maximise the benefits) would be included.

These assessments would support the objectives of the following documents: National Planning Policy Framework and associated Technical Guidance Document (March 2012); *Part 2A of the 1990 Environmental Protection Act (1990)*; *The Water Framework Directive (2000/60/EC) (WFD*); *The Water Resources Act 2003*; *Land Drainage Act 1994*; Environment Agency Pollution Prevention Guidance (various); *Building Regulations (Part G)*, draft amendments May 2009; and CIRIA 697: *The SuDS Manual*, 2007.

9.6 Limitations

- The assessment will be based on the interpretation and assessment of data provided by third parties. WSP cannot be held responsible for the accuracy of the third party data and the conclusions and findings of the assessment may change if the data is amended or updated after the date of consultation.

10 Ecology

10.1 Overview of baseline conditions

An extended Phase 1 habitat survey was completed by Halcrow in November 2011 and has been reviewed by WSP. This report is based on a much wider area including land to the east of the Site. WSP completed a validation survey in February 2012, which included the field survey element of an extended Phase 1 habitat survey, encompassing all areas with the Site as well as immediately adjacent habitats.

The Site is dominated by pasture and improved grassland and is currently surrounded by a 2m high palisade fence. The wide corridor associated with the bridleway is dominated by a mixture of dense scrub, trees (generally immature) and non-continuous hedgerows and tall ruderal plant species. There are a few scattered isolated mature trees and one hedgerow including trees. Salt Brook runs between the Site and the existing factory and is currently considerably wider than regular flows to accommodate attenuation for flooding events. During the validation survey the brook had approximately 250mm of standing water.

Two specific trees show potential to support roosting bats and the hedgerows and linear features have potential to support foraging or commuting bats.

10.2 Consultation undertaken to date

Table 10.1: Consultation undertaken to date in relation to ecology

Body/organisation (personnel at body/organisation)	Date of consultation	Key outcomes of discussions
Natural England, Rachel Hoskin.	2012.	■ Agreement to submission of further bat surveys following submission of the planning application; and ■ Requirement for further evidence base relating to hedgerows and their value.
Derbyshire Wildlife Trust	2012	■ Data collected from these bodies to inform scope.
Derbyshire Bat Group		
County Amphibian Recorder		
County Reptile Recorder		
County Bird Recorder		

10.3 Insignificant effects

The following effects have been considered insignificant and will not be assessed within the ES:

- The IEEM assessment criteria do not require the assessment of effects to ecological receptors considered to be below the threshold value. Consequently the loss of improved grassland, scrub and species poor hedgerows will be excluded;

- No significant habitat for badgers exists within the Site or immediate adjacent areas. Therefore, no further species surveys for badgers are required and this species will not be assessed within the ES. However, as a precautionary measure, an ecological clerk of works will be employed to re-appraise the Site prior to site preparation activities commencing;
- The surveys completed to date have identified the potential for the Site to support widespread and commonly occurring breeding birds, as well as characteristic assemblages of invertebrates, both of which will also be excluded from the assessment in recognition of their low biodiversity value. As breeding birds are protected under the Wildlife and Countryside Act (1981) as amended and as a precautionary measure, clearance works will be undertaken outside of the bird breeding season (i.e. clearance activities are best carried out between September and February). If clearance works are planned between March and August all vegetation will be checked immediately prior to removal by a suitably qualified ecologist;
- A Habitat Survey Index (HSI) of Salt Brook identified potential for the brook to support Great Crested Newts. Therefore, this water body was surveyed four times (morning and evening) between March and May 2012 using the standard survey methodology (English Nature, 2001). No Great Crested Newts were identified and therefore will not be considered within the ES. The above will be reported and appended as a supporting technical appendix to the ES;
- The Old River Dove, Marston SSSI is located approximately 2km south east of the Site. It is a meander cut off from the present course of the river designated for its flora and fauna. Due to the isolation between the SSSI and the site and no likely increases in surface water runoff from the site, no significant effects to the SSSI are anticipated;

WSP have completed a statutory site search within a 10km and 2km radius of the Site. The results have confirmed that there are no Natura 2000 or Ramsar sites within 10km and only one SSSI within 2km (as outlined above). This has concluded that it will not be necessary to screen for Appropriate Assessment under the Habitat Regulations, which can often be costly and incur delays to a project.

10.4 Sensitive Receptors

The following are the sensitive receptors which will be assessed within the ES:

- Roosting and foraging habitat for bats.

10.5 Potentially significant effects

Site preparation, earthworks and construction phase

- Loss of roosting and forging habitat for bats; and
- Disturbance to roosting, foraging and commuting bats through an increase in artificial lighting and noise.

Operational Phase

- Disturbance to foraging and commuting bats through an increase in artificial lighting and noise.

The effects of acid and nitrogen deposition on ecological receptors will be investigated as part of environmental permitting licensing procedure. The relationship between permitting and EIA will be explored and clearly outlined within the ES.

10.6 Proposed methodology for assessment

Extended Phase 1 habitat survey

The associated desk study has included a review of publicly available and privately held information on protected habitats and species within a 2km radius of the Site as recommended by the Institute of Environmental Management and Assessment's (IEMA's) *Guidelines for Baseline Ecological Assessment*,

1997. This radius was extended for bats (5km), as recommended by Natural England's *Bat Mitigation Guidelines*, 2004.

The field visit has already been completed and comprised an extended Phase 1 habitat survey of the Site, during which the habitats were categorised and their extent mapped according to Joint Nature Conservancy Council guidelines, (JNCC, 2010). This survey was extended to include the assessment of these habitats for their potential to support protected species, and evidence of protected species was recorded.

A review of relevant legislation (i.e. statutory obligations) and policy relating to the identified ecological receptors on the Site was undertaken, with any habitats or species of interest for which there are Local or National Biodiversity Action Plans evaluated.

The extended Phase 1 habitat survey will be appended as a supporting technical appendix to the ES.

Bat activity surveys

Emergence and re-entry surveys of the two suitable trees will be undertaken prior to the activity surveys to establish whether bats are currently using them. Following on from this, bat activity surveys will be undertaken along the hedgerows, field boundaries and Salt Brook. The aim of the surveys will be to determine the number of bat species that are using the Site and to identify any important foraging habitat and/or commuting routes across the site. Pre-determined transect routes would be walked by bat surveyors and all bat passes encountered would be logged and recorded onto field maps, including information on behaviour, direction, and likely species.

The surveys will follow best practice guidance (BCT, 2007) and will comprise a minimum of two dusk or dawn surveys per transect. Each transect will be walked by two surveyors and survey visits will be completed between May and early July.

Dusk activity surveys will commence at sunset and continue for 2 hours after sunset, whilst dawn activity surveys will commence 3 hours before sunrise and continue until sunrise.

Should roosts/potential roosts be identified, further surveys and work would be required in order to determine if they would be impacted by proposals and, if necessary, to obtain a European Protected Species (EPS) development licence which may involve mitigation proposals and liaison with Natural England.

The above will be reported and appended as a supporting technical appendix to the ES. At this stage the report is likely to follow post planning submission (see **Chapter 3 – Approach to EIA, consultation, alternatives and cumulative effects**).

Assessment

It is proposed that the ecological assessment of the Site would be undertaken in accordance with the methodology recommended in the Institute of Environmental Assessment's (IEA) *Guidelines for Baseline Ecological Assessment* (1997) and the Institute of Ecology and Environmental Managers (IEEM) *Guidelines for Ecological Impact Assessment in the UK* (2006).

11 Landscape & visual

11.1 Overview of baseline conditions

There is limited technical information available for the site or immediate surroundings in relation to landscape and visual baseline conditions. Information has therefore been identified through a review of publically available information on websites, maps and photographs and through a site appraisal by WSP completed in February 2012. The site appraisal reviewed local character and visual amenity.

The existing Site is relatively flat but topography rises to the south-west around Tutbury allowing some longer distance views, particularly towards Tutbury Castle Scheduled Ancient Monument (SAM). Much of the surrounding hillside is well vegetated, limiting views out of Tutbury towards the Site. The Site is clearly visible on approach roads from the south and from adjacent residential streets due to the height of the existing factory.

Due to the flat nature of the surrounding landscape, views to the north and west particularly are limited. Longer views to the east are obtained along Marston Lane due to the open nature of the landscape and limited number of trees.

The Site is bounded by palisade security fencing. Clear views of Tutbury Castle are visible form the existing bridleway to the east of the existing factory.

There are 34 Listed Buildings and one SAM (Tutbury Castle) located within a 1km radius of the approximate Site centre. There is also one conservation area, Tutbury, located approximately 340m south-west of the Site at its nearest point.

11.2 Consultation undertaken to date

Table 11.1: Consultation undertaken to date in relation to landscape character and visual amenity

Body/organisation (personnel at body/organisation)	Date of consultation	Key outcomes of discussions
SDDC, Zoe Seweter, Landscape Officer	2012	■ Viewpoint plan to be drawn up.
SDDC, Philip Health, Conservation and Heritage Officer.	2012	■ Assessment of effects on visual setting of heritage assets (Tutbury Castle).
English Heritage, Ian George (Inspector of Ancient Monuments)	2012	■ Assessment of effects on visual setting of heritage assets (Tutbury Castle).

11.3 Insignificant effects

The following effects have been considered insignificant and will not be assessed within the ES:

- The station and estate is separated from the Site by the existing factory, built form and vegetation. No significant effect to users of Tutbury railway station and adjacent industrial estate are considered likely and will not be included as a receptor within the assessment;
- Given the topography of the area and nature of the built form, the key visual receptors identified below are located within 1km of the centre of the Site. Longer distance views beyond this will not be considered within the assessment as changes to these views would not be noticeable; and

- Given the relatively small scale footprint of the Proposed Development, and generally large-scale agricultural landscape surrounding much of the Site, local landscape character will only be considered for the landscape located within 1km of the centre of the Site. The settings of character areas beyond this distance are not considered within the assessment as no identifiable change is anticipated.

11.4 Sensitive Receptors

The following are considered to be the sensitive receptors which will be assessed within the ES:

- Existing landscape character of the Site particularly in terms of existing scale, height and mass of built form and existing vegetation;
- Existing character of the immediate surroundings particularly in terms of existing scale, height and mass of built form;
- Adjacent residents, particularly along Dove Side; Mercia Close, Church Avenue and Hoon Road;
- Nearby residents, particularly along Station Road; Church Mews; Hassall Road and Cornmill Lane;
- Workers and visitors to Tutbury Castle SAM;
- Users of the A511 Bridge Street;
- Visitors to Thistley Place Meadow Nature Reserve;
- Users of the Public Right of Way (PROW) to the south of the Site;
- Users of the bridleway (PROW) which crosses the Site and adjoining Marston Lane (Sustrans National Route 54, the White Peak Loop); and
- Workers at Hoon Hay Farm (Hoon Hay Manor).

Sensitive heritage receptors will be considered within **Chapter 12 - Archaeology and Cultural Heritage**.

11.5 Potentially significant effects

Site Preparation, Earthworks and Construction Phase

- Loss of hedgerows and trees within the Site;
- Loss of agricultural '*greenfield*' character of the Site;
- Change to existing adjacent character areas;
- Change to skyline views and views from sensitive visual receptors including residential areas and Tutbury Castle; and
- Changes in recreational views for users of bridleway and PROW.

Operational Phase

- Loss of hedgerows and trees within the Site;
- Loss of agricultural '*greenfield*' character of the Site;
- Changes to existing adjacent character areas;
- Changes to skyline views and views from sensitive visual receptors including residential areas and Tutbury Castle; and
- Changes to recreational views for users of bridleway and PROW.

11.6 Proposed methodology for assessment

Extended desk-based review

An extended desk-based review will be undertaken in order to determine street patterns, urban grain, existing landscape features and landscape character. This review will include an appraisal of existing information such as planning documents, landscape character assessments, aerial photographs and Ordnance Survey maps to identify local character areas and viewpoints for assessments.

Zone of Visual Influence

A digital Zone of Visual Influence (ZVI) will be completed using a digital terrain model and spot heights of the proposed development to determine potential medium and long distance views and to provide an evidence base for certain views to be '*scoped out*'.

Photo viewpoints

A further site appraisal will follow the extended desk-based review and will focus on photographs from viewpoint locations agreed with SDDC and in consultation with WSP's archaeological and cultural heritage specialist.

Computer Generated Images

A number of computer generated images (CGIs) will be undertaken and this will aid in visualising and supporting the assessment of effects from the agreed viewpoints.

Assessment

The assessment of landscape and visual effects will be undertaken broadly in accordance with the following good practice guidelines:

- '*Guidelines for Landscape and Visual Impact Assessment*', The Landscape Institute with the Institute of Environmental Management and Assessment, 2002;
- '*Guidelines for Landscape and Visual Impact Assessment - 3rd Edition Draft for Consultation*', The Landscape Institute with the Institute of Environmental Management and Assessment, 2012; and
- '*Landscape Character Assessment Guidance for England and Scotland*', the Countryside Agency & Scottish Natural Heritage, 2002.

Built-in mitigation measures included within the final design will be assessed as the pre-mitigation scenario. Magnitude, sensitivity and significance will be considered on a 5-point scale of very high, high, medium, low and negligible.

Significance will be considered on a 5-point scale of:

- Negligible;
- Minor ;
- Moderate;
- Major; and
- Substantial.

12 Archaeology and Cultural Heritage

12.1 Overview of baseline conditions

The archaeological and cultural heritage baseline has been subject to previous desk based analysis. The key report for archaeological purposes (mainly buried archaeology) is:

- Trent and Peak Archaeology (TPA), *An Archaeological Desk-Based Assessment for a Proposed Diversion of the Salt Brook at Hoon Hay, Near Hatton, Derbyshire*, October, 2011. This was most recently submitted to SDDC as part of planning application *9/2012/0089*, (please refer to **Table 3.1**).

The above assessment established the following potential:

- Cropmarks (potentially of prehistoric date [prior to 43AD]) are known within the area of the site and wider study area;
- Dated material (such as a potential linear enclosure) is noted from the Romano-British period (AD43 – *c*. AD410); and
- Material from the Medieval/Post Medieval period (1066 – 1899) is known within the study area (including standing structures).

In terms of built heritage assets (both designated and non-designated), within a 1km radius of the approximate Site centre, there are 34 Listed Buildings and one SAM (Tutbury Castle) have been identified. There is also one conservation area, Tutbury, located approximately 340m south-west of the Site at its nearest point.

12.2 Consultation undertaken to date

Table 12.1: Consultation undertaken to date in relation to archaeology and cultural heritage

Body/organisation (personnel at body/organisation)	Date of consultation	Key outcomes of discussions
SDDC, Steve Baker (Development Control Archaeologist).	2012	■ Agreement of approach to geophysical survey; and ■ Discussion of TPA Archaeological Desk Based Assessment (ADBA) and conformation that this represents sufficient desk-based baseline data.
SDDC, Philip Health, Conservation and Heritage Officer.	2012	■ Appropriate sources of baseline data; ■ Scope of sensitive receptors; and ■ Assessment methodology.
English Heritage, Ian George (Inspector of Ancient Monuments) West Midlands	2012	■ Appropriate sources of baseline data; ■ Scope of sensitive receptors; ■ Assessment methodology; and ■ Discussion of key heritage assets and associated viewpoints and methodology for the assessment of effects.

12.3 Insignificant effects

The following effects have been considered insignificant and will not be assessed within the ES:

- Any significant effects to below ground archaeology will have been entirely mitigated during the site preparation, earthworks and construction phase. Therefore effects to below ground archaeology are considered insignificant during the operational phase.

12.4 Sensitive receptors

The following are the sensitive receptors which will be assessed within the ES:

- Buried/surface archaeological remains (including potential Prehistoric crop marks; Romano-British linear cropmark and material from the Medieval/Post Medieval period); and
- Tutbury Castle SAM and listed buildings.

12.5 Potentially significant effects

Site preparation, earthworks and construction phase

- Truncation or loss of buried/surface archaeological remains; and
- Change in the setting of built heritage remains.

Operational Phase

- Change in the setting of built heritage remains.

12.6 Proposed methodology for assessment

In line with current national and local planning policy (particularly the National Planning Policy Framework), it is a requirement for planning applications to be submitted with an appropriate level of archaeological assessment to understand both the significance of the assets which might be impacted by an approved development and the nature of the impact.

Desk Based Assessment

The assessment will be supported by the TPA ADBA and will also provide further evaluation of relevant planning policy and review of other sources of mapping held by the other members of the project team (e.g. the historic maps obtained by WSP as part of the Envirocheck).

In terms of the built heritage assets, these will be subject to appropriate review to determine their sensitivity to change, in line with PPS5 guidance and will be informed by both the ZVI completed as part of the methodology for assessment for landscape and visual and associated evaluation of setting issues.

The above is in line with the guidance produced by the Institute for Archaeologists (IfA), *Standard and Guidance for Historic Environment Desk-based Assessment*, 2011.

Geophysical Survey

A geophysical survey (GPS) was been undertaken in March 2012. This took the form of a magnetometry which would be completed in line with English Heritage guidelines, *Geophysical Survey In Archaeological Evaluation*, 2008. A summary report will be produced for inclusion and evaluation within the assessment and the report will be appended to the ES.

Trial Trenching

The requirement of a trial trenching/field strip survey was determined following the completion of the geophysical survey. The scope is currently being finalised as part of a Written Scheme of Investigation, with works due to be completed in May 2012. The scope is in accordance with the guidance produced by the IFA, *Standard and Guidance for Archaeological Excavation* 2008.

Assessment Criteria

No standard criteria exist to identify the importance of buried/surface archaeological (or the potential for their survival) or built heritage remains. The identification of the importance of such features to be used in the assessment is outlined in **Table 12.2**. This has been established through professional judgement.

The scale used to determine the potential for such features is included in **Table 12.3**, which is again based on professional judgement.

Table 12.2: Criteria used to determine importance

Importance	Criteria
High (National or International)	■ Scheduled Ancient Monuments and their setting; ■ World Heritage Sites; ■ Grade I and Grade II* Listed Buildings and their setting; or ■ Non-designated sites of high significance (national/international).
Moderate (Regional)	■ Grade II Listed Buildings and their setting; ■ English Heritage Registered Parks and Gardens of Historic Interest and Battlefields; ■ Conservation Areas; or ■ Non-designated archaeological sites of moderate significance (regional).
Low (Local)	■ Locally Listed structures; ■ Non-designated archaeological sites of low significance (local); or ■ Archaeological sites and features that have been disturbed by previous site activities, development etc.
Negligible	■ Sites or features with no significant value, designation or interest; or ■ Sites or features that are known to have been present, but have since been completely removed through on-site activities, development etc.

Table 12.3: Criteria used to determine potential

Potential	Criteria
High	■ Existing sites that are readily visible as standing structures or earthworks that survive in a good state of preservation; ■ Known sites comprising buried archaeological remains; ■ Areas where numerous sites of certain dates or periods are known within the vicinity, indicating similar sites are likely to be present within a site area; or ■ Areas where an archaeological feature or findspot is known, which is likely to be associated with further buried archaeological remains.
Moderate	■ Areas where a few sites of certain dates or periods are known within the vicinity, indicating similar sites may be present within a site area; or ■ Areas where numerous sites of certain dates or periods are known within the vicinity, but where the site area has been subject to some previous development or disturbance.
Low	■ Areas where very few sites of certain dates or periods are known within the vicinity, indicating similar sites may possibly be present; ■ Areas where numerous sites of certain dates or periods are known within the vicinity, but where the site area has been subject to extensive previous disturbance through modern development or industrial processes;

Negligible	■ Areas where no known archaeological remains have been identified through previous archaeological investigations; or ■ Areas where previous disturbance through modern development or industrial activity has completely removed archaeological remains that were known or may have been present.
Unknown	■ Where there is no available archaeological information that can be used to indicate the presence or absence of archaeological remains.

The criteria used to determine importance provides the basis for the evaluation of the sensitivity of the receptor. The factors for determining the potential for buried/surface archaeological or built heritage remains relate to the degree of improvement possible from the current position. This contributes toward the evaluation of the magnitude of change. The magnitude of change and sensitivity of the affected receptor/receiving environment are both assessed on a scale of high, medium, low and negligible. In the absence of direct evidence, it may be either impossible or involve a significant margin of error to determine the magnitude of change or level of sensitivity of archaeological assets. The significance of effects reflects judgements as to the magnitude of effect against the sensitivity of the affected receptor(s).

The assessment would also be undertaken in coordination with the author of the landscape and visual assessment to ensure consistency across the approach to setting issues.

13 Socio-economics

13.1 Overview of baseline conditions

The number of employees at the existing factory has grown from 160 to 500 since 2006. The factory provides significant employment for the local area, with 60% of factory staff living within a 5 mile radius.

South Derbyshire has a total resident population 81,562. Economic activity rates for both men and women are high (91.9% and 76.6% respectively), which compares to 76.6% and 69.9% for Great Britain as a whole (NOMIS3 June 2010 – July 2011). Unemployment averaged 5% in the area compared to 7.7% for Great Britain in the same period.

There is a strong representation of associate professional and technical and skilled trade occupations, process plant and machine operatives in South Derbyshire relative to England.

13.2 Insignificant effects

The following effects have been considered insignificant and will not be assessed within the ES:

- Given the non-residential nature of the Proposed Development most employees of the factory are likely to be registered with providers nearer to their home rather than their place of work, the anticipated demand for health facilities, (e.g. General Practitioners and dentists) is not considered significant.

13.3 Sensitive Receptors

Economic activity rates in the local area are relatively high but sensitive receptors will include:

- Unemployed people, including young people who are not currently in education, employment or training; and
- Other economically inactive people or those wishing to work in the local area.

13.4 Potentially significant effects

Site Preparation, Earthworks and Construction Phase

- Employment opportunities for local population (including unemployed or economically inactive); and
- Indirect and induced employment associated with spend in the local economy by contractors.

Operational Phase

- Employment opportunities for local population (including unemployed or economically inactive);
- Indirect and induced employment associated with spend in the local economy by employees;
- Indirect and induced employment associated with contracts placed with suppliers and contractors; and
- Increase in skills and qualification of local population and workforce associated with access to the Nestle Academy which aims to increase the number of graduates, apprentices and interns in the company.

[3] Office of National Statistics

13.5 Proposed methodology for assessment

Given the nature of the Proposed Development, the assessment will focus on the employment benefits associated with both the construction and operational phases of the Proposed Development.

Anticipated employment on-site during the site preparation, earthworks and construction and operational phases will be assessed using information to be provided by Nestle UK. For the operational phase, it is anticipated that this will include information on the scale and nature of employment to be provided.

Local and regional multiplier effects associated with direct and indirect employment and contracts associated with supplies and maintenance etc. will be assessed using the assumptions set out in '*A Standard Approach to Assessing the Additionality Impacts of Projects*', English Partnerships (now Homes and Communities Agency), 2004.

The magnitude of change and sensitivity of the affected receptor/receiving environment are both assessed on a scale of high, medium, low and negligible. Determination of magnitude will reflect judgements to the scale of the predicted change and deviation from the established baseline conditions. The significance of effects reflects judgements as to the magnitude of effect against the sensitivity of the affected receptor(s). If necessary, mitigation measures or enhancement measures (to maximise the benefits) would be included.

14 Summary

Table 14.1 below provides a summary of all of the potentially significant effects identified in the Environmental Scoping Report and can be used as a checklist.

Table 14.1: Summary of scope of potentially significant effects

Technical topic area within ES	Potentially significant effects within topic area	
	Site preparation, earthworks and construction	Operational
Traffic and transportation	■ Increase in queuing associated with increased traffic generation; ■ Increase in delays to pedestrian movement associated with increased traffic levels; ■ Increase in pedestrian fear and intimidation associated with increased traffic levels; and ■ Deterioration in road safety from increased traffic levels and types of vehicles.	■ Development traffic generation on junctions and links; ■ Increase in severance for pedestrians associated with increased traffic levels; ■ Increase in queuing associated with development traffic generation; ■ Increase in delays to pedestrian movement associated with increased traffic levels; ■ Increase in pedestrian fear and intimidation associated with increased traffic levels; and ■ Deterioration in road safety from increased traffic levels and types of vehicles.
Noise and vibration	■ Disturbance to local residents from noise generated by construction activities; and ■ Disturbance to residents (including those adjacent to haul routes) from construction traffic noise. This may include heavy goods vehicles for plant and materials deliveries.	■ Disturbance to local residents from industrial type noise emanating from the various plant and buildings associated with the Proposed Development. The cumulative effect of noise from the Proposed Development together with noise from the existing factory will be considered; ■ Disturbance to residents (including those adjacent to delivery routes) from increased development generated traffic noise. This includes the delivery of materials to the Proposed Development and the shipping of manufactured products from the Proposed Development, as well as traffic associated with staff and

		visitors to the Site; and ■ Disturbance to local residents from noise associated with the unloading of vehicles and from staff and visitor parking areas. The cumulative effects of noise from the existing facility and the Proposed Development will be considered.
Air quality, dust and odour	■ Increase in dust generated by on-site activities on nearby properties; ■ Increase in particulate matter (PM10) generated by on-site activities on local air quality and residents; and ■ Increase in gaseous emissions (nitrogen dioxide [NO2] and PM10) arising from vehicle exhausts from construction vehicles on local air quality and residents.	■ Increase in gaseous emissions (NO2 and PM10) arising from vehicle exhausts generated by delivery and operational movements on local air quality and residents; ■ Increase in gaseous emissions and dust arising from additional process plant on local air quality and residents; and ■ Increase in odour from processing activities.
Ground conditions, hydrogeology and contamination	■ Potential exposure to contamination in soil, groundwater and surface water (associated with historical and current land use) and effects on human health (e.g. contractors/maintenance staff, future site users and users of adjacent sites); ■ Potential release/migration of contamination to controlled waters (on-site surface water and underlying Secondary A and Secondary B aquifers); ■ Presence of unstable and compressible ground (floodplain) and impact on new buildings; and ■ Potential for the accumulation of hazardous ground gases and volatile vapours within new structures and the risk to human health and building structure.	■ Release of contamination or uncontrolled discharges/accidental spillages to controlled waters.
Flooding, hydrology and water resources	■ Contaminants and suspended sediments in surface water runoff entering the surrounding watercourses and drainage infrastructure; and ■ Increase in risk of flooding (surface, drainage and groundwater) to contractors and employees and activities.	■ Increase in physical contaminants and suspended soils; ■ Increase in risk of flooding (surface, drainage and groundwater) to employees and activities; ■ On-going effectiveness of SUDS; ■ Reduction in permeability and changes to groundwater flow; ■ Increase in foul flows and associated capacity requirements in sewage treatment works; and

		■ Increase in water resources associated with manufacturing processes.
Ecology	■ Loss of roosting and forging habitat for bats; and ■ Disturbance to roosting, foraging and commuting bats through an increase in artificial lighting and noise.	■ Disturbance to foraging and commuting bats through an increase in artificial lighting and noise.
Landscape and visual	■ Loss of hedgerows and trees within the Site; ■ Loss of agricultural 'greenfield' character of the Site; ■ Change to existing adjacent character areas; ■ Change to skyline views and views from sensitive visual receptors including residential areas and Tutbury Castle; and ■ Changes in recreational views for users of bridleway and PROW.	■ Loss of hedgerows and trees within the Site; ■ Loss of agricultural 'greenfield' character of the Site; ■ Changes to existing adjacent character areas; ■ Changes to skyline views and views from sensitive visual receptors including residential areas and Tutbury Castle; and ■ Changes to recreational views for users of bridleway and PROW.
Archaeology and Cultural Heritage	■ Truncation or loss of buried/surface archaeological remains; and ■ Change in the setting of built heritage remains.	■ Change in the setting of built heritage remains.
Socio-economics	■ Employment opportunities for local population (including unemployed or economically inactive); and ■ Indirect and induced employment associated with spend in the local economy by contractors.	■ Employment opportunities for local population (including unemployed or economically inactive); ■ Indirect and induced employment associated with spend in the local economy by employees; ■ Indirect and induced employment associated with contracts placed with suppliers and contractors; and ■ Increase in skills and qualification of local population and workforce associated with access to the Nestle Academy which aims to increase the number of graduates, apprentices and interns in the company.

Figures and Appendices

Figure 1 Site Location Plan

Figure 2 Site Boundary Plan

Figure 3 Aerial Photograph of the Site

Appendix A Proposed Format and Structure of the Environmental Statement

Volume 1: Main Text and Figures

Chapter 1	Introduction
Chapter 2	Description of the Site and surrounding area
Chapter 3	Approach to the EIA
Chapter 4	Consideration of alternatives
Chapter 5	Description of the Proposed Development
Chapter 6	Planning policy and environmental context
Chapter 7	Traffic and transportation
Chapter 8	Noise and vibration
Chapter 9	Air quality, dust and odour
Chapter 10	Ground conditions, hydrogeology and contamination
Chapter 11	Flooding, hydrology and water resources
Chapter 12	Ecology
Chapter 13	Landscape and visual
Chapter 14	Archaeology and cultural heritage
Chapter 15	Socio-economics
Chapter 16	Cumulative effects

N.B Each of the above technical chapters (Chapters 7 – 15) will be structured as follows:

X.1	Introduction
X.2	Legislation, policy and guidance
X.3	Assessment methodology and significance criteria
X.4	Sensitive receptors
X.5	Baseline conditions
X.6	Assessment of effects, mitigation and residual effects
X.7	References

Volume 2: Technical Appendices

Volume 3: Non-Technical Summary

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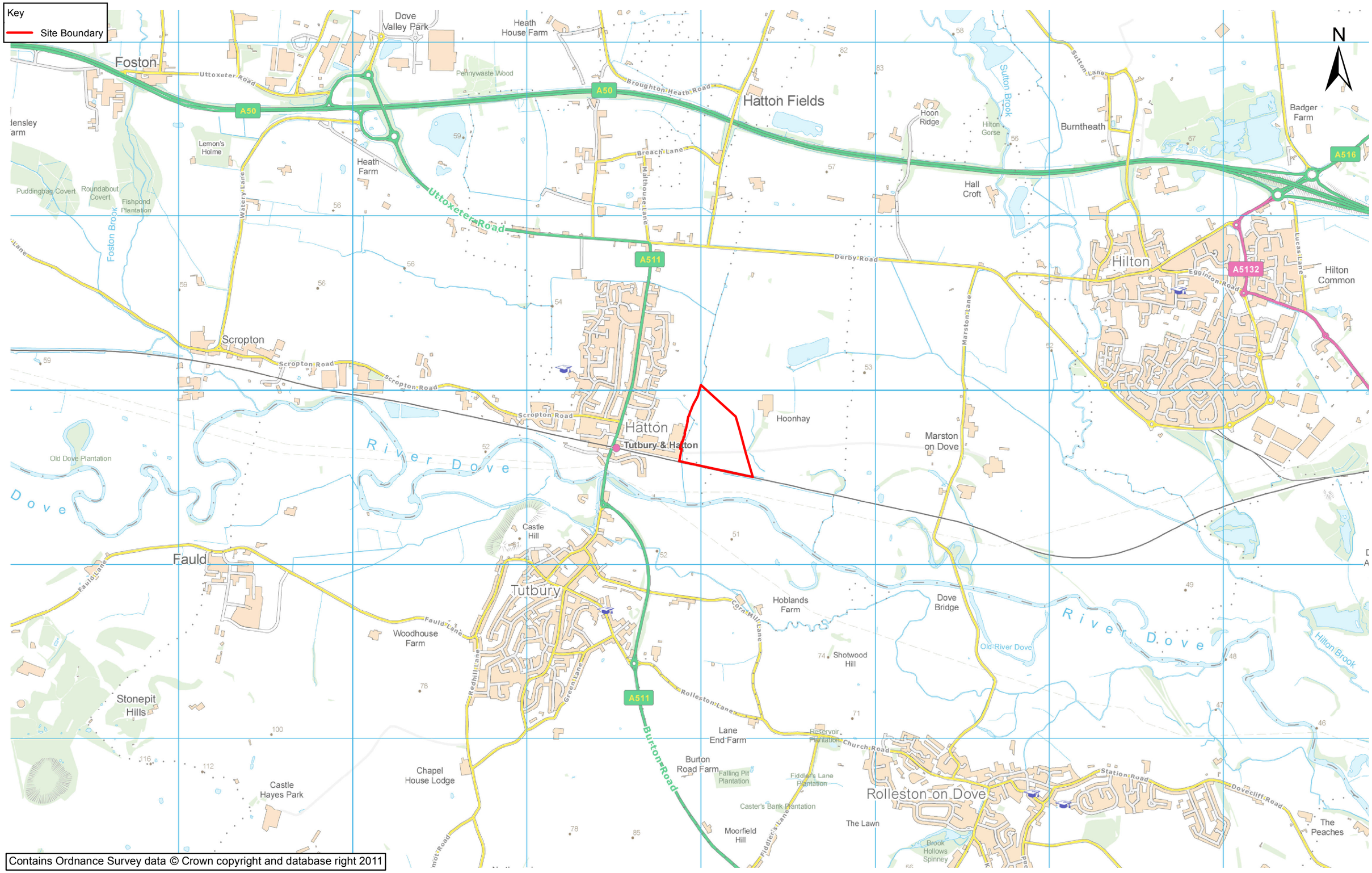
UNITED
BY OUR
DIFFERENCE

Site Location Plan

Scale @ A3 :1:20,000

Figure 1



PROJECT: Project Dove

PROJECT No: 28305

Client: Nestlé UK

Drawn: GH
Checked: AR
Approved: AR
Revision: A
Date: May 2012

WSP

Site Boundary Plan

Scale @ A3 : 1:5,000

Figure 2

PROJECT: Project Dove
PROJECT No: 28305
Client: Nestlé UK

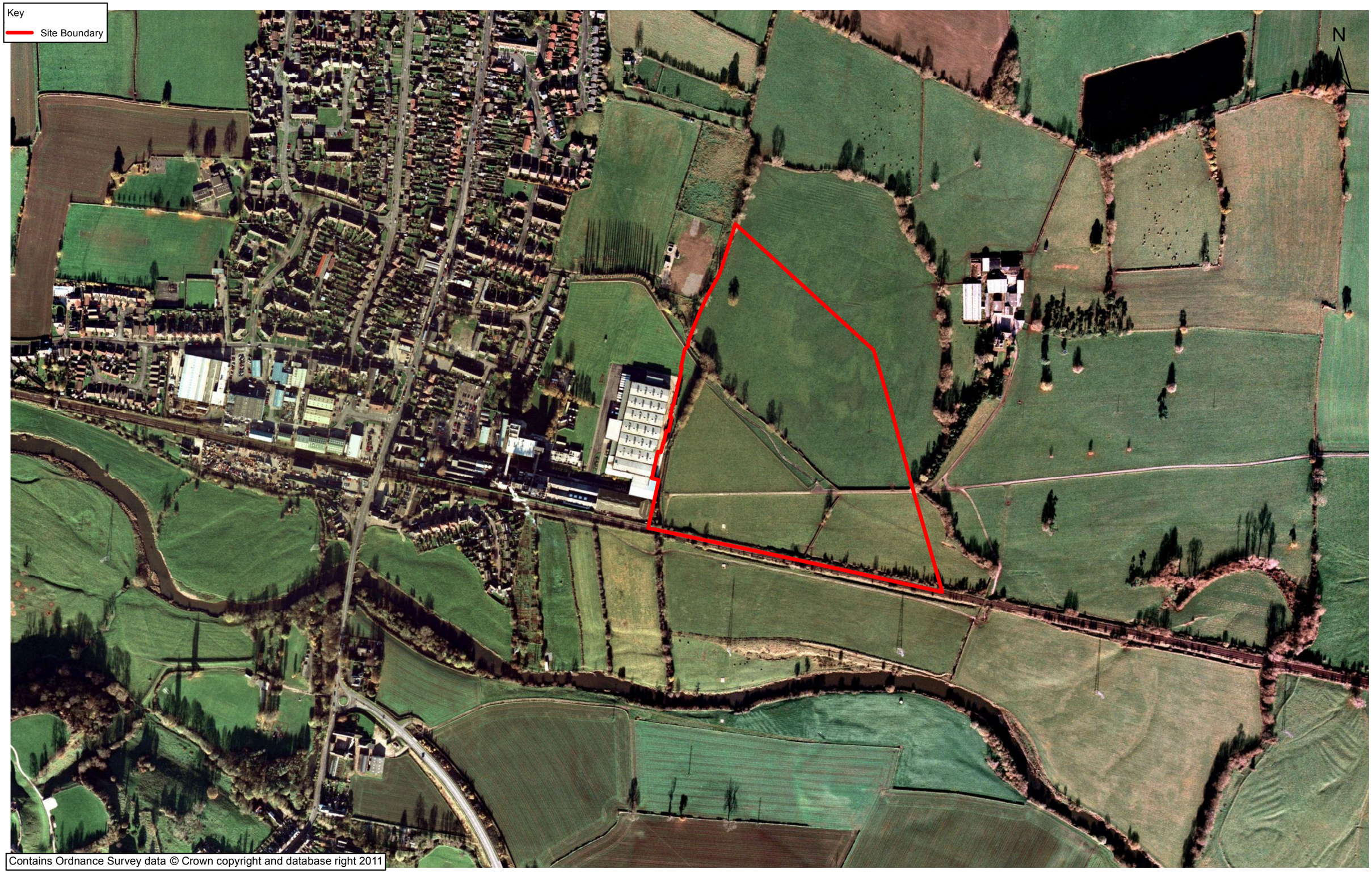
Drawn: GH
Checked: AR
Approved: AR
Revision: A
Date: May 2012

WSP

Aerial Photograph of the Site

Scale @ A3 : 1:5,000

Figure 3



PROJECT: Project Dove
PROJECT No: 28305
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Drawn: GH
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WSP