Environmental Statement

Planning application for a proposed extension to a poultry growing and rearing unit and a rural workers dwelling at Land at Dunnimere Farm, Portway Lane, Harlaston, Nr Tamworth, Staffs, B79 9LA

Prepared for Dunnimere Poultry Ltd

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June 2022

For Dunnimere Poultry Ltd.

Roger Parry & Partners LLP

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Environmental Statement

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Planning Authority

Lichfield District Council
20 Frog Lane
Lichfield
WS13 6HS

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CHAPTER 1 - INTRODUCTION

Foreword

This Environmental Statement (ES) has been prepared for Dunnimere Poultry Ltd by Roger Parry & Partners LLP. It accompanies a planning application for an extension to a poultry growing and rearing unit and a rural workers dwelling at land at Dunnimere Farm, Portway Lane, Harlaston.

The proposal amounts to erecting three poultry buildings to the East of the existing poultry building and a rural workers dwelling to the West of the existing poultry building. The site is located at Grid Reference SK214097. A site layout plan for the proposal is attached to this Environmental Statement at Appendix 2.

The proposal is a sustainable economic development as supported by national, regional and local planning policy. On a global scale the development amounts to an expansion of the UK poultry meat production capacity and a step closer to meeting the rising demand for poultry meat in the UK and becoming self-sufficient in poultry meat therefore reducing the need to import foreign produced poultry meat and thus reducing greenhouse gas emissions from fossil fuel consumption in transportation of meat across the globe – so called "food miles".

The ES is the principal written output of the EIA process, and provides the required information on the predicted environmental impacts of the proposal. It has been prepared in accordance with the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2017. The ES is intended to enable the recipients (such as the Local Planning Authority) to understand the nature of the proposed development and to evaluate the likely environmental impacts in the light of proposed mitigation measures. The ES therefore represents an essential component of the decision making process and presents information in a readily accessible form.

A Non-Technical Summary (NTS) and Technical Appendices form part of the Environmental Statement. Other documents making up the planning submissions include:

- Local Planning Authority Application Forms;
- Design and Access Statement
- Ownership Certificates and Notices;

Drawings as follows:

Dwg No: 70985/RJC/003	Block plan
Dwg No: 70985/RJC/001	Location plan
Dwg No: RJC-AZ164-12	Poultry elevations
Dwg No: 70985/RJC/101	Dwelling elevations
Dwg No: 70985/RJC/100	Dwelling floorplan

1. Introduction

This chapter summarises the nature of the proposed development and its location, introduces the basis for the planning application, explains the general basis and methods used for the Environmental Impact Assessment (EIA), sets out the structures of the Environmental Statement (ES) and introduces the authors of the ES.

1.1 Introduction to the Environmental Statement

As part of the process of making an application for the new poultry units at Dunnimere Farm, Dunnimere Poultry Ltd have employed Roger Parry & Partners to co-ordinate with the compilation of the associated planning application, including provision of an Environmental Impact Assessment (EIA) to be reported in an Environmental Statement (ES).

This chapter summarises the nature of the proposed development and sets out the purpose of the ES.

1.2 Summary of the Proposals

The proposal is to build three sheds to the east of the existing poultry units which are located immediately to the east of Portway Lane and a rural workers dwelling to the west of the existing poultry unit. The new poultry sheds will have associated feed bins, control and store rooms, ancillary plant and service yard area.

1.3 Site Location

The Ordnance Survey Grid reference of the site is: SK214097. The site is located approximately 1.1miles to the south of Harlaston. The site is part of an undulating lowland landscape.

The site for the poultry buildings and rural workers dwelling is situated to the east of Portway Lane and adjacent to the existing poultry unit. The site is well screened by the existing trees and hedges.

The surrounding area is predominately agricultural with a mixture of livestock and arable cropping.

There are seven properties that have residential curtilages within 400m of the proposed development: 1 Dunnimere Farm Cottages, 2 Dunnimere Farm Cottages, The Annexe, 6 Council Houses, 5 Council Houses, 4 Council Houses and 3 Council Houses. A distance of 400 metres is established in planning as the distance beyond which effects of livestock developments have a limited affect; e.g. it is the threshold which if exceeded triggers a livestock building to require full planning permission rather than determination under General Permitted Development.

1.4 Requirement for an EIA: Legislative Background

The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2017 require that for certain types of development an EIA must be undertaken. The Regulations prescribe the type of development for which EIA is mandatory (Schedule 1 Development) and others which may require an assessment if they have the potential to give rise to significant environmental impacts (Schedule 2 Development). The proposed poultry development is consistent with Schedule 1 of the Regulations (as it will accommodate in excess of 85,000 broiler chickens) and EIA is therefore mandatory. On this basis, no formal Screening Opinion was sought from the Planning Authority.

1.5 Objectives and Purpose of EIA

The objectives of EIA are as follows:

- To identify the potential environmental impacts of a proposed development, taking into account the characteristics of the development and the local environment, and the views of local authorities and statutory consultees with responsibilities for the environment;

- To interpret the nature of potential impacts;

- To identify measures to mitigate adverse impacts; and

- To report the results of the assessment in an ES for submission to the planning authority.

The purpose of an ES is to present the findings of the assessment into the likely significant environmental impacts of the proposed development. This document describes the assessment process, the results of the assessment of the impacts of the proposed development, assesses the significance of the impacts and describes mitigation measures proposed to reduce impacts to acceptable levels.

The ES is intended to enable stakeholders to understand the nature of the proposed development and to evaluate the likely significant environmental impacts. In the case of the local planning authority it will be used in the decision making process as the relevant planning policy supports large scale agricultural development only where there are no unacceptable environmental impacts. The ES therefore serves to aid the decision-making process and to present relevant information in a readily accessible form.

1.6 Method Statement and Assessment Criteria

The Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2017, require (as set out in Part II of Schedule 4) that an ES should include, as a minimum, the following information:

- *"A description of the development comprising information on the site, design and size of the development;*
- *A description of the measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects;*
- *The data required to identify and assess the main effects which the development is likely to have on the environment;*
- *An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for its choice, taking into account the environmental effects;*
- *A non-technical summary of the information provided under paragraphs 1 to 4".*

Part I of Schedule 4 expands in detail on the contents of an ES that would comply fully with the spirit of the Regulations.

Good practice advises that EIA should be treated as an iterative process rather than as a one-off, post-design environmental appraisal, and that interested parties be consulted at an early stage to identify key impacts and design appropriate mitigation. In this way, the findings from the EIA have been fed into the design process, leading to a project which achieves a 'best fit' within the environment. This approach has been used throughout the EIA of the proposed poultry development in particular the design was not fixed until specialist assessors had reported their recommendations following carrying out baseline assessments of the surrounding environment. Where likely significant adverse impacts have been predicted, or sensitive environments were identified, the results of the EIA have been used to influence the construction, location and design of the poultry development. In this way it has been possible to reduce or eliminate likely significant impacts through sensitive design and construction methods alone.

The EIA has been carried out taking due consideration of guidance such as that contained within the Institute of Environmental Management and Assessment's (IEMA) 'Guidelines for Environmental Impact Assessment' (2004), where appropriate, along with various guidance documents relation to the assessment of individual issues (see individual assessment chapters).

In order to evaluate environmental impacts, it is important that assessment criteria are identified. Any impact is assessed by a combination of the degree of alteration from the baseline state (both positive and negative) which can be predicted (i.e. the magnitude of the effect) and the sensitivity of the receptor(s) (e.g. the rarity of a species/habitat, the quality of a view, the type of land use, the presence of people etc.).

Within this ES, thresholds of magnitude and sensitivity are used to make explicit the conclusion of the assessment process in terms of the significance of the impact. Significance is generally based on the structured evaluation of a number of primary criteria:

- the value of the resource (international, national, regional and local level importance);
- the magnitude of the impact;
- the duration of the impact (whether long-term or short-term, temporary or permanent);
- the reversibility of the impact;
- the number and sensitivity of receptors;
- the nature of the impact; and
- Whether the impact is direct or indirect.

For the purposes of undertaking an EIA, the significance of any impact (positive or negative) is generally considered in terms of:

- *No Significance / Negligible* - beneath the levels of perception, within normal bounds of variation or within the margin of forecasting error: a non-detectable change to a location, environment or species;
- *Minor Significance*: a detectable but non-material and non-noteworthy change to a location, environment or species at a local level, relevant quality standards not approached;
- *Moderate Significance*: a material and noteworthy but non-fundamental change to a location, environment or species of local or district importance, relevant quality standards may be approached;
- *Major Significance*: a fundamental change to a location, environment or species of district to regional importance, relevant quality standards exceeded;
- *Extreme Significance*: a fundamental change (e.g. loss) to a location, environment or species of national / international importance, relevant quality standards exceeded by a substantial margin on a regular basis.

This ES generally follows this theoretical approach. Full magnitude and significance criteria are provided in the individual topic assessment chapters as appropriate.

The assessment process considers residual impacts following the introduction of measures to reduce, remedy or avoid any significant adverse environmental impacts. Mitigation can be applied through the consideration of alternatives, physical design, provision of specific control equipment, project management or operation and other means. Mitigation generally incorporated into the design as standard and additional mitigation identified by the assessment process is set out within each technical impact assessment chapter of this ES.

1.7 Structure of the Environmental Statement

The key issues together with a clear description of the project and relevant planning policy form the main content of this ES.

This document is supplemented by a non-technical summary (NTS) of the findings of the EIA. The objective of the NTS is to provide an accurate and balanced statement of the key information presented in the ES.

The main body of the ES is set out as follows:

Introduction (Chapter 1) – setting out the background to, and location of, the development and the EIA process;

Scoping and Key Issues (Chapter 2) – summarising how the topics to be assessed and methods to be used were chosen via the initial application process; and

Development Description (Chapter 3) – describing the construction, use and physical nature of the proposed plant and its use, including delivery and access issues; and

Policy and Legislative Context (Chapter 4) – summarising the planning and legislative context of the proposals.

The Environmental Assessment Chapters – covering impacts associated with:

- Transport (Chapter 5)
- Landscape and Visual Impact Assessment (Chapter 6);
- Air Quality, Health and Climate (Chapter 7);
- Ecology (Chapter 8);
- Amenity (Chapter 9);
- Noise and Vibration (Chapter 10).
- Archaeology (Chapter 11).

Each chapter sets out the types of impacts possible, summarises relevant legislation and policy (where appropriate), describes the existing background/baseline environment, the methodologies used to predict impacts and associated guidance (along with any limitations of the methodology or available data), magnitude and significance criteria, incorporated mitigation and the provision of additional mitigation, and the residual impact assessment. Where appropriate the assessment of individual sub-topics / sensitive receptors are assessed in discrete sections within each technical chapter. Also, combined impacts (e.g. one effect resulting in another effect, such as atmospheric emissions affecting habitats, is assessed in one chapter whilst cross referencing other relevant chapters as appropriate); and

Finally, **Summary and Conclusions** (Chapter 12) – provides an overview of the assessment.

Note that drawings are included within the technical appendices and additional planning drawings should be read in conjunction with the ES as referenced.

A Design and Access Statement and other forms and certificates have been submitted separately.

1.8 Authors of the Environmental Statement

A number of organisations and specialist consultants have assisted with the preparation of this ES and provided input into the content of a number of individual technical chapters to a standard format (where possible) provided by Roger Parry & Partners LLP (who also collated the ES). The specific contributions with respect to the key chapters are listed in Table 1 below.

Table 1 - Contribution to the ES

Topic Area	Author
Introduction	Roger Parry & Partners
Scoping and Key Issues	Roger Parry & Partners
Development Description	Roger Parry & Partners
Planning Policy Context	Roger Parry & Partners
Transport	Roger Parry & Partners
Landscape and Visual Impact Assessment	Viento Environmental Ltd
Air Quality, Health and Climate	Redmore Environmental
Ecology	Abor Vitae Environment Ltd
Amenity	Roger Parry & Partners

Topic Area	Author
Noise and Vibration	Roger Parry & Partners
Archaeology	Trysor
Summary & Conclusions	Roger Parry & Partners

Richard Corbett is a Professional and Partner with Roger Parry and Partners LLP. He holds a BSc Honours degree in Rural Enterprise and Land Management awarded by Harper Adams University College. He is a Member of the Royal Institution of Chartered Surveyors, following the Rural Faculty of the Royal Institution. He is also a Fellow of the Central Association of Agricultural Valuers. He has seventeen years' experience in rural planning and a total of nineteen years' experience in rural practice. He deals with a diverse range of planning applications from large scale agricultural buildings with EIA development, specialist poultry unit buildings requiring an Environmental Impact Assessment and not requiring an Environmental Impact Assessment, to new dwellings to renewable energy projects.

Rosina Riddle is a Professional and Associate with Roger Parry and Partners LLP. She holds a BSc Honours degree in Rural Enterprise and Land Management awarded by Harper Adams University. She is a Member of the Royal Institution of Chartered Surveyors, following the Rural Faculty of the Royal Institution. She has five years' experience in rural planning and a total of seven years' experience in rural practice, with over 3 years post qualification. She deals with a diverse range of planning applications from agricultural buildings, specialist poultry unit buildings both requiring an Environmental Impact Assessment and not requiring Environmental Impact Assessment, renewable energy projects and Agricultural Workers Dwellings.

CHAPTER 2 – SCOPING AND KEY ISSUES

2. Scoping and Key Issues

This chapter sets out the requirement for and process of scoping the Environmental Statement (ES), summarises the receiving environment in the vicinity, covers the scoping consultation process and indicates the results of the consultations, and provides the final scope for the ES. Finally it sets out other permitted/proposed developments with which the proposed poultry installation and rural workers dwelling could potentially create cumulative impact.

2.1 The Scoping Process

Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2017 specifies the general information that should be included within an Environmental Statement (ES) as best practice. An ES should identify, describe and assess the likely significant impacts of the extension on the environment with reference to:

- *"Population;*
- *Climate;*
- *Flora;*
- *Fauna;*
- *Landscape;*
- *Soil;*
- *Air;*
- *Water;*
- *Material assets (including architectural and archaeological heritage); and*
- *Any inter-relationships between the above"*

The EIA Regulations also require that EIA should cover:

"Direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects of the development, resulting from:

a) the existence of the development;

b) the use of natural resources;

c) the emission of pollutants, the creation of nuisances and the elimination of waste."

Scoping (i.e. determining the amount of information on each of these principal subjects and effect types to be presented in an ES) is regarded as an important first step in the overall EIA process, although it is not necessarily a mandatory requirement of the EIA Regulations. The primary aim of EIA scoping is to facilitate the planning of a focused EIA that concentrates on the resolution of substantive potential importance and, where appropriate, excluding any non–issues from further consideration. It also allows primary concerns to be identified at an early stage and informs developers of aspects of concern that they may not have been aware of. Surveys and assessment methodologies can also be agreed between all interested parties such that it is less likely that additional information is required after submission of the application.

Regulation 10 of the EIA Regulations allows potential applicants to ask the planning authority to state, in writing, the information that should be set out in an ES.

The issues to be addressed within the EIA are as follows:

- Transport related impact
- Heritage related impacts
- Landscape and Visual Impact
- Impact on protected species and habitats
- The noise impact
- The impact on designated ecological sites

2.2 Summary of the Receiving Environment

2.2.1 General

The application site is located adjacent to the existing poultry building to the north of the B4396. The site area is 4.4 hectares. The site currently forms part of an arable field.

The land immediately surrounding the site is predominately agricultural and a mixture of arable and grassland. The field on which the site is located is bounded by hedgerows and trees. The site is accessed by the existing track to the farm buildings.

2.2.2 Air Quality

There are no locally designated Air Quality Management Areas close to the site.

2.2.3 Highways

The site is located along an existing farm track off Portway Lane. All movements will be connected to the A513.

2.2.4 Population / Socio-Economics

There are seven properties that have residential curtilages within 400m of the proposed development: 1 Dunnimere Farm Cottages, 2 Dunnimere Farm Cottages, The Annexe, 6 Council Houses, 5 Council Houses, 4 Council Houses and 3 Council Houses.

The village of Harlaston is around 1.1miles to the North.

There are no public footpaths which crosses the site. There is a public right of way to the north east of the site.

2.2.5 Noise

The noise environment around the site is typical of a working farm with the associated feed deliveries, grain drying, milling, blowing off of feed, field work, yard etc.

2.2.6 Geology, Soils, Ground Stability and Contamination

According to the Agricultural Land Classification of England and Wales the site sits on an area of Grade 3 land. Land is graded according to the physical and chemical characteristics which can impose limitations on agricultural use, whereas Grade 1 is excellent and Grade 5 is very poor. Grade 3 has moderate limitations and Grade 4 has severe limitations. Grades 1 and 2 are recognised as the best and most versatile.

The development will result in a loss of a relatively small area of Grade 3 agricultural land and will not impact on the overall productivity of the farm.

The topsoil across the site is understood to be slowly permeable seasonally wet slightly acid but base-rich loamy and clayey soils.

2.2.7 Ecology

The proposals will result in the development of approximately 0.9ha of arable land. the biodiversity value of this habitat type is very low and therefore the overall impact of the proposal will have a negligible impact on ecological features. No protected or priority habitats will be affected by the work.

2.2.8 Cultural Heritage

There are no designated heritage assets within the proposed development area.

Dunnimere Farmhouse is the only listed building in the vicinity of the proposed development site.

There are no buildings that could be considered to be non-designated heritage assets under the guidance of the NPPF in sight of the proposed development site.

2.3 Summary of the Scoping Exercise

The Scope of the Environmental Impact Assessment are set out below:

Introduction and Project Description – The ES includes a description of the site and its surroundings and details of its planning history. It also includes a description of the extent and duration of the construction works and longer term day to day activities.

Planning Policy and Legislative Framework – The ES contains a section that considers the planning and legislative framework against which the proposals would be considered and assesses whether the proposals accord with such policies and legislation.

Highways and Traffic - The ES assesses the effects on the local road network of the development and includes details of existing and proposed movements, their timing and routing.

Landscape and Visual Assessment – A Landscape and Visual Impact Assessment assesses the impact of the development on the landscape and the impact on visual amenity.

Ecology and Conservation – The Ecology chapter in the ES includes a data search from the Shropshire Ecological Record and considers direct and indirect impacts on both statutory and non-statutory sites of biodiversity importance, determines the presence of protected species and includes mitigation as necessary.

Heritage – The development includes an assessment of the impact on heritage assets on site and in the surrounding area.

The ES is accompanied by a Non-Technical Summary.

2.4 Items scoped out of assessment

All construction phase activities and their impact on surface water hydrology and channel morphology, surface water quality, ground water hydrology and groundwater quality – There will be an increase in surface water runoff from compaction during a short (one month maximum) excavation period during which the surface water management will be constructed, following which all surface water run-off will reduce to acceptable levels (see the drainage Strategy accompanying the planning submissions). Due to the limited duration of the impact and the sandy nature of the soils, the increase of surface water run-off during the construction period has not been considered in the ES.

The site is greater than 8 metres from an open field ditch and therefore there is no assessment in the ES of the impact on the watercourse bed and bank stability.

The value of the development is greater than the threshold above which a Site Waste Management Plan is required and therefore construction will not be able to begin without a Site Waste Management Plan (as required by the Site Waste Management Regulations 2008). The management plan will cover all aspects of

construction work including preparatory work and will include measures to ensure that there is no impact on surface water quality, ground water hydrology and groundwater quality and therefore these aspects are not assessed further in the Environmental Statement. The Defra guidance to the regulations states:

"Site Waste Management Plans apply to all aspects of construction work including preparatory work such as demolition and excavation. They are required for civil and engineering projects as well as projects involving the maintenance, alteration and decoration of existing structures.".

Construction phase activities and their impact on local air quality and regional / global air quality – The phase of the construction is likely to cause dust emissions during the ground excavation if undertaken in dry weather. This is likely to last no more than one month. Given the short duration of this part of the construction phase and the separation distances between the site and sensitive receptors the impacts will be limited and no assessment is necessary.

The change in vegetation cover is from arable to buildings and hardstanding. The proposal does not involve any tree removal such that any difference would be made to regional / local air quality and this has not been assessed in the ES.

Operation Phase activities and impacts on surface water quality, groundwater hydrology and groundwater quality – The development description chapter describes the underground dirty water storage system and the materials management to show that sufficient management measures will be incorporated into the site design to prevent pollution from agricultural chemicals, spills or leaks of fuel and oil and no assessment is therefore necessary.

2.5 Alternatives

Where alternative approaches to development have been considered paragraph 4 of Part II of Schedule 4 to the Town and Country Planning (Environmental Assessment) Regulations 2017 requires the developer to include in an ES an outline of the main alternatives, and the main reasons for the choice.

Schedule 4 of the Town and Country Planning (Environmental Assessment) Regulations 2017 requires that the applicant provides "an outline of the main alternatives studied by the applicant…and an indication of the main reasons for the choice made, taking into account the environmental effects". The wording of this clause suggests that only those "alternative studied by the applicant" should be addressed such that it is not mandatory to consider all possible permutations of a proposal. It is also necessary only to deal with alternatives in "outline" such that detailed environmental assessment of all alternatives, or combination of alternatives, is not required. In addition, factors other than the environment may be taken into account such as: costs; engineering constraints; safety issues; practicability; operational requirements etc.

An appraisal of suitable sites was undertaken in consultation with having regard to the environmental impact of the sites and having regard to highways and views of the development. The subject site was considered the only suitable location as it is a natural extension to the existing poultry installation and as such not alternatives have been considered for the development.

CHAPTER 3 – DEVELOPMENT DESCRIPTION

3. Development Description

This chapter provides a description of the proposed extension to the poultry farm on land adjoining the existing poultry farm at Dunnimere Farm for which planning permission is sought. The description covers the site and its surroundings as well as the proposed buildings and structures. This description sets the basis against which the Environmental Impact Assessment has been carried out.

3.1 Site Location

The site for the poultry buildings and rural workers dwelling is situated adjacent to the existing poultry building. The site is surrounded by agricultural land. outlying land uses include residential to the North at Harlaston. Isolated farm units scatter the landscape.

The location has been carefully considered, with the land at Dunnimere Farm chosen to be the best suitable site due to the following factors:

- Good highway access
- Flat land that is well screened not requiring much excavation work during construction.

3.2 Proposed Development

The proposed description of the development is as follows:

Erection of an extension to an existing poultry installation to include three poultry rearing buildings, feed bins, rural workers dwelling, landscaping and all associated works.

The proposed development will provide 180,000 bird places in total, split between three sheds; this is based on the number of chicks that will be delivered at the start of the cycle. At the end of the crop cycle this number will be less due to an average mortality rate of 4% during each crop.

The buildings will each measure 113.728 metres by 24.68 metres bird area. Height to the eaves is 2.90 metres and ridge height 6.20 metres. The buildings will be situated directly adjacent to the existing poultry building on site.

The following sections include a description of the main buildings and ancillary works, operational arrangements and environmental controls and description of the production cycle.

3.3 Site Layout

3.3.1 Three poultry buildings and control rooms

The poultry shed design is illustrated on the proposed elevations, Drawing RJC-AZ164-12. The layout is illustrated on Drawing No 70985/RJC/001. The application is for full planning permission for the erection of 3 poultry houses and an rural workers dwelling as illustrated on the proposed layout plans.

The new buildings would each measure 113.728m x 24.68m x 2.90m (to eaves) and 6.20m (to ridge). Each unit would have a fan canopy and baffle area extending from the rear of the shed and included within the total length of 113.728m. The control rooms for each unit will be at the front of the building.

The buildings will be fitted with roof extraction and rear gable end extraction fans. The roof extraction will be via outlets along the roof that are staggered either side of the ridge line. Each shed will be fitted with 12 roof outlets.

All the new buildings and feed bins would be finished in a dark receding colour to be agreed with the planning authority.

Surplus material arising from the excavations would be used to create gentle ground modelling to help shield the development from views. Cement stabilisation will be used to considerably reduce the amount of stone/sub-base being imported to site.

The buildings will be of portal framed construction with insulated box profile metal sheeting to the walls and box metal profile sheet roofs. The buildings have been sited according to the ground levels, and to best fit the site and surrounding area. The internal flooring will be a smooth, easily washable concrete floor on a damp proof membrane. The walls will be on a poured concrete foundation.

The roof construction typically consists of an internal steel box profile 'ceiling' with a minimum of 140mm but potentially up to 280mm fibreglass insulation between timber purlins with steel box profile sheeting external roof covering. Walls will be timber framed panels/battens with 100mm fibreglass insulation with external steel box profile sheeting. The buildings will be insulated with fibre glass insulation to the walls and roofs to a U value of <0.4 W/m² degrees. This will eliminate condensation on the inner lining of the buildings and minimise any solar heat gain. The buildings will be ventilated by a computer controlled mechanical system.

3.3.2 Feed bins

There will be 4 feed bins situated between buildings which will have a capacity of 30 tonnes and measure up to 9.1 metres in height and 2.8 metres in diameter.

3.3.3 Hardstanding and turning

The yard area will be situated to the front of the sheds to allow for access and turning. The buildings will be accessed via the existing track which runs to the existing poultry unit.

3.3.4 Drainage Strategy

In terms of drainage it is proposed to maintain the existing surface water run-off from the site in accordance with the Technical Guidance to the National Planning Policy Framework (NPPF) and good practices. The surface water from the proposed development buildings will be collected in a mix of open and stone filled trenches and a piped system and will discharge to the existing watercourse at Greenfield rates of surface water run-off.

Dirty water from the clean-out process will be collected through a dedicated sealed drainage system to an underground pumping chamber. This will be located underneath the yard area and be sized to adequately accommodate the volumes of water used in each production cycle. This is then removed for use on surrounding land under appropriate spreading conditions. When the cleaning out is taking place the dirty water washing and any contaminated rain water will be directed via drains into the dirty water tanks.

A dry clean will take place to remove organic material before the sheds are washed down so there will be very little solid matter taken away with the wash water. Each shed will take around 6 hours to be washed down with drains in the lowest corner of the shed taking the water directly to the tanks. The tanks will be of a size to ensure that they can take the volume of washings from the clean-out and also have the capacity to allow for any heavy rain falling on the outside yard areas. There will also be a level indicator to ensure that if the tanks are becoming full they can be emptied using the farm equipment. The water will be taken away for safe spreading on the surrounding farmland. The wash water will be diluted and have a low nitrogen content and can be spread at times of the year so does not need to be included in the calculation of nutrient loading for field applications. An isolating valve will ensure that dirty water does not enter the clean water drainage system.

3.3.5 Lighting

Lighting on the site will be kept to a minimum to ensure the safe operation of the site but to reduce any light spill outside the unit. Each shed will have a low-wattage, low intensity light above the opening to allow safe working during normal working hours during the winter. Additional lighting may be required during the removal of birds but this will be carried out in low light levels to avoid causing unnecessary stress to the birds. There will be no use of high intensity lighting.

During hours of darkness the buildings will be lit internally to around 0.4 lux for bird welfare. As the buildings will be clad with high density metal profile sheeting there will be no light spill outside the building. The doors will be shut and windows shuttered at night to stop light escape.

3.3.6 Agricultural Workers Dwelling

The proposed farmhouse would be located on land owned by Dunnimere Poultry Ltd to the West of the poultry units. The dwelling is to have a total proposed footprint of approximately 160sqm. It is proposed that the dwelling is to be of red brick construction under a tile roof. Windows will be double glazed units with decorative arc brickwork over ground floor window frames.

The property is designed to have three bedrooms which is similar to other farmhouses in the area occupied by farm managers. This is to ensure the attraction of good quality staff for the lifetime of the enterprise.

The dwelling will support the overall farming business and enable it to be managed more effectively taking into account animal welfare, farm security and farm security.

There are currently 55,000 birds on site with an additional 156,000 birds proposed in a total of 4 buildings located on site at any one time; and the poultry unit rears 7.6 crops of broilers per year.

The labour involved in the day-to-day management of the enterprise consists of one full-time manager, one full-time assistant manager and one part-time stockman. In addition, contract labour is used on a periodic basis to catch the birds at the end of the growth cycle; remove manure from the buildings; and thoroughly clean each shed.

Please see appendix 6 for the Assessment of Need.

3.4 Management Cycle

The method of broiler production that represents the worst case scenario is described in the following section. The production cycle described is used to produce "roasters". Typically roasters are grown over 49 days with a 7 day turn around period (therefore 6.5 crops per year).

Broilers will be purchased as day old chicks. There will be 52,000 birds per shed and they will consist of a 50-50 mix of males and females.

The unit will be managed with a two wave clearout per crop: at 35 days the pullets will be removed. The average weight of the pullets at 35 days will be approximately 2.0kg (Aviagen, 2007). At 49 days the cocks will be removed. The average weight of the pullets at 56 days will be approximately 3.5kg (Aviagen, 2007).

As required under Best Practice, the worst case scenario is considered therefore lower than average bird weights have been used which increases the number of potential bird places per crop.

3.4.1 Stocking Rates

There is no maximum stocking density for intensive chicken meat production currently set down in UK domestic law, the law covering the welfare of broiler chickens is covered by general animal welfare law and farmers are expected to comply with the relevant DEFRA Code of Practice. It is not however an offence to fail to keep to the DEFRA Code.

In 2010 EU Legislation (Directive 2007/43/EC) came into force that sets new limits on stocking densities. The Directive sets as a limit a figure of 33kg per square metre but lays down requirements where derogation up to a maximum of 42kgs per square metre could be implemented.

Despite the potential derogations from the standard stocking density applied by the Directive, the commercial reality is that the industry as a whole is decreasing stocking rates in response to higher welfare expectations of consumers.

It is proposed that the poultry unit will grow chickens for the retail trade. In order to supply the retail trade, all farmers must as a minimum, be members of the independently audited Assured Chicken Production (ACP) Scheme. The scheme requires to comply with strict management requirements such as stocking at a maximum

of 38kg/m2. May retailers now require the supply of 'Higher Welfare Chicken' (HWC), which includes those endorsed by the RSPCA Freedom Foods Scheme, and these farms are stocked at a lower rate of 30kg/m2. For the purpose of this report a stocking rate of 38kg/m2 has been used for calculating the maximum number of birds stocked on site.

3.4.2 Summary of Production Cycle

The production cycle will follow the same basic procedure as follows:

- Chicken placement on day one following pre-warming of the house and covering of the floor with wood shavings
- Feed arrives for birds during growing cycle. Volume of feed consumed increases during the growing period
- Removal of pullets (50% of crop) on day 32
- Removal of cockerels (50% of crop) on day 41
- Remove all manure from buildings and move to existing manure store to be stored prior to land spreading or to be taken by neighbouring farmers
- Sheds power washed, disinfected and dried out prior to chick placement on days forty seven and forty eight.

The turnaround period between crops will be 7 days on average; the length of time taken to clear the site will depend on many factors which as when the date on which the crop cycle ends, e.g. if the cycle completes before a bank holiday weekend the clearout may take an additional day to avoid disturbance over the holiday. For the purpose of this report a 7 day turnaround period has been used. This would result in producing 6.5 crop cycles per year.

3.5 Waste Management

3.5.1 Litter

The bedding will be wood shavings to a depth of around 2cm. This complies with the Red Tractor Assurance Scheme Standards (formerly ACP) and will allow the floor to 'breathe'. The litter will be removed at the end of each production cycle. It will be cleared out by the specialist contractors using small machines such as bobcats and loaded into trailers directly inside the doors. To ensure poultry disease guidelines are adhered to and for biosecurity, the litter is taken off site immediately. No manure will be stored on site, even for a short period. The applicant farms sufficient land for spreading the manure and sufficient land for storing the manure within fields away from ground and surface water sources.

3.5.2 Dirty Water

After the litter is cleated, the building and roofs inside and the walls are blown down with compressed air. Washing water then passes via a pipe directly to collection tanks. When the cleaning out is in progress the dirty washing water and any contaminated rain water falling on the yard is directed via drains to manholes and into the tanks.

The floors are polished concrete and following a brushing down and a clean with compressed air, there is very little solid matter to be carried away with the washing water. With the drains in the lowest corner of the sheds leading directly into the collection tanks, and no water passing out on to the outside yard, there can be mistake over the position of the isolating valve when washing down is taking place. The outside area is then cleaned up when the litter has been taken away.

A single pump with 2 pressure washing lances is used for cleaning down of the sheds. The outside concrete service area is temporarily piped into the dirty water collection tank while the litter is being removed.

A level indicator in the tanks easily visible from the yard, will help to quickly identify that the tanks need emptying. The tanks will be emptied as necessary at the end of the day and taken away for safe spreading by a member of staff on land within the management control of the applicant.

The wash water from the washing down is diluted wash water with a low nitrogen content and therefore can be spread on land at all times of the year and are therefore not included within the calculation of nutrient loading for the purpose of field application.

3.6 Environmental Controls

3.6.1 Environmental Permit Determination

The proposed extension to the existing poultry farm has applied for a variation to their existing Environmental Permit.

The purpose of the Environmental Permitting is to achieve integrated prevention and control of pollution arising from activities listed in Annex 1 of the European Council Directive 96/61/EC, leading to a high level of protection of the environment as a whole. More specifically, it provides a system requiring operators and regulators to take an integrated, overall look at the polluting and consuming potential of the poultry installation. Central to this approach is the general principle that operators should take all appropriate preventative measures against pollution, in particular through the application of Best Available Technique (BAT) enabling them the improve environmental performance.

Best Available Technique
The term "best available technique" is defined in Article 2(11) of the European Directive as "the most effective and advanced stage in the development of activities and their methods of operation which indicate the practical suitability of particular techniques for providing the basis for emission limit values designed to prevent and, where that is not practicable, generally reduce emissions and the impact on the environment as a whole."

The best available techniques to be applied to the poultry extension are those set out in the European Commission's *Reference Document on Best Available Techniques for Intensive Rearing of Poultry and Pigs* known as the BREF document. The following systems within the BREF Document are applicable to the proposed development:

- Good agricultural practice for environmental management
- Best Available Techniques for nutritional management
- Best Available Techniques for efficient use of water
- Best Available Techniques for efficient use of energy
- Best Available Techniques for the reduction of emissions from poultry housing
- Best Available Techniques for housing of broilers
- Best Available Techniques for the reduction of odour
- Best Available Techniques for the reduction of emissions from storage
- Best Available Techniques for the reduction of emissions from application of manure to land
- Best Available Techniques to reduce noise emissions
- Best Available Techniques for the treatment and disposal of residues other than manure and carcases

3.7 Construction Phase

It is anticipated that the construction period would last approximately 4 months. During that period construction vehicles and machinery would be active on the site including excavators, dump trucks and haulage lorries.

The sequence of works would start with the stripping of soils. Top-soils would be placed in temporary storage bunds for reuse on site. Groundworks would include cut & fill operations as necessary to achieve the required finished levels, including the proposed ground modelling. All required services would need to be connected, including water supply, electricity supply and drainage.

Concrete floors and foundations would be imported on to site and structure steelwork would be erected. Roofing and wall cladding would be fitted to the framework. Tradesmen required for the construction and fitting out the buildings would be working throughout the construction phase, with the numbers on site varying according to workload.

Landscaping would be completed during the first planting season following occupation of the proposed buildings.

To avoid causing disruption to local residents construction will be limited to the hours of 07:30 to 18:30 Monday to Friday and 08:00 to 13:00 on Saturdays. No construction will take place on Sundays or Bank Holidays unless absolutely necessary. This will only take place with the consent of the LPA.

3.8 Labour and Hours of Operation

There will be an additional labour requirement for poultry catchers, shed cleaners and manure removal contractors amounting to the equivalent of approximately a further 2 additional full time workers. Other employment would include feed delivery drivers, poultry collection drivers, poultry processors, construction workers, cleaning teams, manure removal teams, maintenance plumbers, maintenance electricians, ground workers, landscape contractors etc.

The development will require continual on site husbandry provided by new employees and managers of the poultry farm. Hours of operation are therefore continual while the birds are in the sheds; during the night time staff are required to respond to alters relating to any equipment repair; a system of alarm via operators' mobile phones is in place. Twenty-four hour support is also provided by equipment suppliers for the climate control system (heating and ventilation). Therefore there is extreme importance of needing an agricultural worker to live on site within the proposed agricultural workers dwelling.

CHAPTER 4 – POLICY & LEGISLATION

4. Planning Policy and other Legislation

This chapter briefly summarises the principal planning policies relating to the operation of poultry farms at National and Local levels. It concludes that the proposal for the extension to the poultry farm at Land at Dunnimere Farm is consistent with these policies and objectives.

4.1 Introduction

The purpose of this Chapter of the Environmental Statement is to provide an overview of how the proposed development 'fits' with the European, National, Regional and Local agricultural policy and legislative framework.

The chapter is structured around the hierarchical policy framework of:

- National agricultural strategy and planning policy guidance;
- Local development plans.

The aims and objectives of these policies and plans broadly centre on the principles and practice of 'sustainable development'.

The section concludes with an overview of the proposed development in the context of the key policy messages.

4.2 The National Planning Policy Framework

Section 14 of the National Planning Policy Framework ("NPPF") states that "*at the heart of National Planning Policy Framework is a* ***presumption in favour of sustainable development".*** The section states that this presumption should be seen as a "golden thread" running through decision-making. For decision making this means "*approving development proposals that accord with the development proposals that accord with the development plan without delay".*

Government is committed to ensuring that the planning system does everything it can to support sustainable economic growth. Planning should operate to encourage and not act as an impediment to sustainable growth. Therefore significant weight should be placed on the need to support economic growth through the planning system.

The Government sets out in the NPPF that the purpose of the planning system is to contribute to achieving sustainable development (at paragraph 6) and that there are three dimensions to sustainable development: economic, social and environmental. It states at Paragraph 7 that:

"these dimensions give rise to the need for planning system to perform a number of roles:

"an economic role – contributing to building a strong, responsive and competitive economy, by ensuring that sufficient land of the right type is available in the right places at the right time to support growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure;

"a social role – supporting strong, vibrant and healthy communities, by providing the supply of housing required to meet the needs of present and future generations; and by creating high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural well-being; and

"an environmental role – contributing to protecting and enhancing our natural, built and historic environment; and, as part of this, helping to improve biodiversity, use of natural resources prudently, minimise waste and pollution, and mitigate and adapt to climate change including moving to a low carbon economy."

The proposed development contributes positively to all three dimensions: it performs an economic role because it is investment and economic diversification of an existing business which will provide local rural jobs for local people; it performs a social role because it promotes a strong vibrant community; and it performs an

environmental role because it is an environmentally efficient system of farming with associated landscaping to protect the local natural and built environment and biodiversity benefits.

Section 1 (Building a strong, competitive economy), Paragraph 18 inter alia states that "the Government is committed to securing economic growth in order to create jobs and prosperity…and to meeting the twin challenges of global competition and of a low carbon future…" and Paragraph 19 inter alia states that "significant weight should be placed on the need to support economic growth through the planning system".

The proposal accords with these aims as it constitutes sustainable economic development and contributes towards enhancing the sustainability of the applicant's existing business and generates employment.

Section 3 – (Supporting a prosperous rural economy), Paragraph 28 inter alia states that "planning policies should support economic growth in rural areas in order to create jobs and prosperity…"

The proposal accords with this aim since it is economic growth of an established farm and will lead to the creation of additional employment in the rural area. The proposal amounts to reinvestment into intensive food production.

Section 7 (Requiring good design states) inter alia states that "planning decisions…should address the connections between people and places and the integration of new development into the natural, built and historic environment".

The proposal accords with these aims as the landscaping scheme will integrate the development into the local character area and the proposal will not give rise to a significant impact on the significance of heritage assets.

Section 11 (Conserving and enhancing the natural environment) inter alia states "the planning system should contribute to and enhance the natural and local environment by: protecting and enhancing valued landscapes…; …providing net gains in biodiversity…; preventing new…development from contributing to…unacceptable soil, air water or noise pollution…"

Paragraph 118 of Section 11 inter alia states "local planning authorities should aim to conserve and enhance biodiversity…by applying…opportunities to incorporate biodiversity in and around developments".

The proposal meets this aim through its on-site and off-site landscaping which will have biodiversity benefits.

Paragraph of Section 11 inter alia states that "planning…decisions should aim to avoid noise from giving rise to significant adverse impacts on health quality of life as a result of new development; mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions…"

The proposal meets these aims since it will not give rise to significant adverse effects on health and quality of life; the Environment Agency confirmed this in granting the site an Environmental Permit to operate.

4.3 Lichfield District Local Plan Strategy

Policy NR1: Countryside Management
The countryside of Lichfield District is valued as an asset on its own right and will be protected.

The District Council recognises the important economic role of the countryside and wealth of resources it provides. Development proposals will be supported which:

- Assist in delivering diverse and sustainable farming enterprises;
- Deliver/assist in delivering other countryside-based enterprises and activities, including those which promote the recreation and enjoyment of the countryside, such as forestry, horticulture, fishing and equestrian activities, and crops for energy generation, which may fall outside the definition of agriculture;
- Provide for the sensitive use of renewable energy resources (in conjunction with Core Policy 3 and Development Management Policies SC1 & SC2).

Core Policy 3: Delivering Sustainable Development

All development will be required to contribute to the creation and maintenance of sustainable communities, mitigate and adapt to the adverse effects of climate change, make prudent use of natural resources, reduce carbon emissions, enable opportunities for renewable energy and help minimise any environmental impacts. To achieve this, all development should address the following key issues:

- Protect and enhance the character and distinctiveness of Lichfield District and its settlements;
- Protect the amenity of our residents and seek to improve their overall quality of life through the provision of appropriate infrastructure, services and facilities;
- Be of a scale and nature appropriate to its locality;
- Minimise and manage water, waste and pollution in a sustainable way, particularly through reduction, re-use and recycling measures in both the construction and use of buildings in line with the requirements of the Code for Sustainable Homes and BREEAM assessments, or their successors, and including incorporating adequate space provision within buildings/layouts for appropriate storage or sorting of materials for recycling;
- Give priority to utilising ground infiltration drainage techniques and including sustainable drainage techniques and incorporate other sustainable techniques for managing surface water run-off such as green roofs in new development and in retro-fitting where historic flooding events have been identified;
- Guide development away from known areas of flood risk as identified in the Strategic Flood Risk Assessment (Level 1) and Surface Water Management Plan. Where development is proposed in flood risk areas a site-specific flood risk assessment must be undertaken in line with the National Planning Policy Framework;
- Minimise levels of pollution or contamination to air, land, soil or water, including noise and light pollution and avoid unacceptable uses within source protection zone 1 areas to safeguard water resources and ensure water quality.

4.4 Policy Framework Overview

Examination of the current planning policy and legislative framework demonstrates that there is an acceptance that agricultural diversification has a continuing role in the rural area. The proposals are consistent with policies and objectives.

CHAPTER 5 - TRANSPORT

5. Transport

This chapter of the ES compares the existing and future traffic generation and its impact on the surrounding highway network.

5.1 Legislation and Policy

5.1.1 National Policy

The NPPF promotes sustainable transport and a reduction in the need to travel. Developments which generate significant amounts of movements should be supported by a transport statement or transport assessment. The NPPF sets out that:

"Plans and decisions should take account of whether:
The opportunities for sustainable transport modes have been taken up depending on the nature and the location of the site, to reduce the need for major transport infrastructure
Safe and suitable access to the site can be achieved for all people; and
Improvements can be undertaken within the transport network that cost effectively limit the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe"

'Plans and decision should ensure development that generate significant movement are located where the need to travel will be minimised and the use of sustainable transport modes can be maximised. However this needs to take account of policies set elsewhere in the framework, particularly in rural areas.'

5.1.2 Local Policy

Core Policy 5 (Sustainable Transport) of the Local Plan states:
'Accessibility will be improved and transport choice widened, by ensuring that all new development is well served by an attractive choice of transport modes, including public transport, footpaths and cycle routes to provide alternatives to the use of the private car and promote healthier lifestyles.

Development proposals will, either individually or collectively, have to make appropriate provisions for:

- *Reducing the need to travel;*
- *Widening travel choices and making travel by sustainable means of transport more attractive than the private car;*
- *Improving road safety; and*
- *Reducing the impact of travel upon the environment, in particular reducing carbon emissions that contribute to climate change and not contributing to unacceptable air quality level.*

5.2 Proposed Development

With poultry farming the movements are concentrated around certain activities during the growing cycle. Average movements per week increase during the crop cycle -feed movements increase during the crop cycle as bird weights increase, manure removal takes place in a short period between bird removal and chick placement. Bird removals take place in two waves lasting one day per wave during the crop cycle. The production cycle of standard broilers begins with the preparation of the buildings for chick placement including covering with sawdust, heating the sheds to the correct temperature and providing sufficient feed. Once chicks are placed feed input increases over the crop cycle and heat requirement decreases. When the cockerels reach the correct weight they are collected, pullets are collected a week later. Once all of the birds have been collected the manure is removed and the buildings are thoroughly washed down for the next cycle.

The site will be accessed from the A513 onto an unclassified road towards Harlaston, and then onto Main Road and Portway Lane with the site located on the left past the Council Houses.

The access route is subject to the national speed limit of 60mph. However due to the width and alignment of the roads it would not be possible reach a speed of 60mph. the width of Portway Lane is approximately 4.7m wide.

Between the site access and Harlaston there are a number of passing places. There are sections of the road along this route which have wide verges, so if required more passing places could be provided.

As a worst case this assessment uses a scenario that 100% of these trips utilise the above route, however, it is likely that through farm management some shared trips will be made with the existing Farm enterprises.

The assignment of manure removal by tractors and trailers will be exported to local farms in the nearby vicinity. All manure will be taken from site at the end of each cycle. The peak traffic events are (a) during bird clearing which takes place during the night time period when the least amount of traffic is on the road and (b) manure removal.

Construction/Decommissioning – Generated Traffic
The following table summarises the estimated construction traffic:
Estimated Construction Traffic Movements

Type	Estimated Movements
Stone	146
Concrete	40
Steel Sheeting	15
Employees	Approximately 8 per day for 2-3 months during weekdays

It is expected that the construction timescale will be approximately four months. It has been assumed that traffic levels during the decommissioning period would be similar to that during construction.

Operation – Generated Traffic

Total movements per crop	Peak movements per hour	
HGVs Bedding delivery	2	2
Chick delivery	4	1
Feed delivery	22	2
Mortality collection	6	2
Fuel delivery	2	2
Poultry collection	34	2
Manure collection	20	2
Tractors & trailers - Vets, engineers, company inspection, cleaning contractors, catchers	12	1
Small vehicles – Employees	0	0

The peak periods are during poultry harvesting and manure removal and amount to between three of four days during the cycle.

Peak Daily Event
Typically it is estimated that there would be four days of peak activity:
1. Thinning of birds – 17 movements (one day)
2. Crop Clearance – 17 movements (one day)
3. Manure removal – 20 movements (two days) (N.B. 2 movements equates to one vehicle, one movement in, one movement out).

Bird depopulation occurs on days 35 and days 42 of the crop cycle and manure removal takes place when all the birds have been removed. Bird collection is from 02:00 onwards at a rate of 1 collection per hour. However it may on a rare occasion begin earlier or later – from evidence provided by other poultry producers and processors this scenario is highly unlikely to occur due to factory opening hours and bird welfare standards.

It must be noted that the majority of these traffic movements will take place at the same time as the existing poultry unit and therefore the traffic movements will not increase.

5.3 Conclusions

It is concluded that the vehicle movements generated by the development will be conveniently accommodated on the highway network. It will have only a very limited impact of no significance on the local highway conditions.

The existing access allows all vehicles to safely turn on and off the highway network and will therefore reduce any impact on the flow of traffic on the highway and increase the safety condition for all road users.

CHAPTER 6 – LANDSCAPE & VISUAL

6.0 Landscape and Visual Assessment

6.1 Introduction

This report presents the findings of a landscape and visual impact assessment that has been undertaken to identify the likely effects of the proposed development on the landscape character and visual amenity of the locality.

The assessment has been undertaken by a Technical Member of the Landscape Institute (TMLI) with over 25 years' experience in the landscape and visual assessment of various development types including residential, commercial, agricultural and renewable energy developments.

The assessment has concentrated on a 3.0km radius study area for landscape character, landscape designations and visual amenity, which is considered sufficient to identify all likely impacts on landscape character and visual (see **Figure LV1** for the extent of the study area).

The assessment is illustrated by **Figures LV1 – LV4,** by **Viewpoints 1 – 7** and by **Appendix LV1**.

6.2 Method of Assessment

Assessment Approach

The assessment is a study identifying the key views towards the proposed development and describing how these views could change as a result of the proposal. In addition, the study identifies the landscape character of the site and surroundings and sets out the potential changes to landscape character that could occur as a result of the proposal.

The methodology used in this study conforms to the Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3). This assessment also refers to Landscape Institute Technical Guidance for the Visual Representation of Development Proposals (LI, TGN 06/19). The assessment has also drawn on information provided within the local development plans that cover the study area (see list of references) and landscape character assessments which cover the study area (see list of references).

Good Practice Guidance and Data

As mentioned above, the assessment has utilised guidance set out within the GLVIA3. Photographs illustrating views from each viewpoint have been taken using a Canon EOS 6D digital camera using a fixed lens with a 50mm focal length. Individual frames from each viewpoint have been stitched together to provide a panoramic image giving context to the viewpoint and the locality. The viewpoints are also illustrated as single frame photographs at A3 size at a set viewing distance, with a selection of the viewpoints also illustrated as wireframes and Type 3 photomontages (in line with Landscape Institute TGN 06/19). The viewpoint panoramas cover varying horizontal widths of view and so no set viewing distance should be ascribed to these panoramic views. The viewpoint photographs and panoramas are provided for information purposes and are labelled with relevant notes and should not be considered as a substitute to visiting a viewpoint in the field.

Assessment Process

The assessment has involved information review, fieldwork observations and photography, and has been undertaken in several stages, as presented in the following sections of this report:

- Predicted effects and mitigation – a review of the visual characteristics of the proposed development to identify the aspects with the potential to give rise to visual effects and a description of the measures incorporated into the design to mitigate these effects.
- Landscape and visual context – a review of the existing landscape and visual baseline of the study area, to identify landscape character, landscape designations and visual receptors in the study area.
- Viewpoint analysis – to illustrate typical local views and to predict the changes to views as a result of the proposed development from a selection of viewpoints that represent the main visual receptors in the study area.

- Landscape assessment – an assessment of the potential effects of the proposed development on landscape fabric, landscape character and landscape designations in the landscape study area.
- Visual assessment – an assessment of the potential effects of the proposed development on the visual amenity of receptors in the visual study area.
- Conclusions – a summary of the findings of the landscape and visual assessments.

Prediction Methodologies

The prediction methodologies for the viewpoint analysis, landscape assessment and visual assessment are provided at the beginning of these sections.

6.3 Predicted Effects and Mitigation

A detailed description of the proposed development and information on the installation of the various components of this proposed development are provided in the **Environmental Statement** of the Planning Application.

It is the visual appearance of the proposed development and associated activities and any proposed changes to the existing landscape fabric of the site that are the main aspects of the development with the potential to affect landscape and visual amenity and these are summarised below.

The main elements of the proposed development that would be visible would be:

- Built form – a series of three poultry unit buildings and a single dwelling.
  - Poultry units – each poultry building would measure approximately 113.73m by 24.68m (the same as the existing poultry building on site) and each unit would be approximately 7.0m apart so that the four poultry units together with their 7m spacings would cover an area of approximately 119.74m by 113.73m. Each building would measure 6.2m to the ridge of the roof with an eaves height of approximately 2.9m, the same as the current poultry unit building. Twelve extraction fans would be located along the ridge of the roofline at a height of approximately 1m above the roof. Each building would be fitted externally on the gable end with a single low-wattage low intensity light with shielding to minimise the light spread. Three additional silos would be located by the buildings as shown on the floor plans (RJC-AZ164-12) to compliment the existing silos and would be of a height of up to 9.1m. The building, roof and silos/hoppers would all be olive green (or similar) in colour to compliment the colour of the existing poultry building and silos. (Final colours to be agreed with the Council).
  - Agricultural worker's dwelling – of brick construction, two storey and approximately 10.8m by 7.1m, and 7.35m to the ridge of the roof. A garage would be associated with the dwelling, approximately 5.5m by 6m and 4m in height, also of brick construction. The dwelling and associated garden area would be located immediately west of the existing poultry unit and would require approximately 40m of new access track extending from the existing access to the site.
- Hardstanding area – the existing access track currently leads to a hardstanding area located around the existing poultry unit and this hardstanding area would be extended between and immediately in front of the three proposed poultry units.
- Deliveries to and from the site (as set out within the Environmental Statement).
- Landscape enhancement proposals – a detailed planting scheme would be submitted post permission, although Figure LV4 indicates the broad proposed landscaping measures such as the creation of approximately 350m of new native hedgerow with scattered hedgerow trees and the addition of numerous hedgerow trees to a stretch of existing hedgerow approximately 180m in length. These measures are proposed to aid in the integration of the building into the area as well as adding enhancements to local landscape fabric.

From a landscape and visual perspective, the number of elements visible has been minimised by situating the proposed development immediately adjacent to existing built form of a similar size and style, by the suggested olive green colour for the poultry unit built form to match with the surrounding local colour palette and existing building, the brick construction of the proposed dwelling to match with local dwellings, the positioning of the proposals adjacent to existing mature hedgerows which would provide screening to this typically low level form of development, and through a comprehensive set of landscape enhancements associated with the proposal.

6.4 Landscape and Visual Context

The proposed development would be situated within an arable field to the east of a local road which runs between Wigginton and Harlaston. The site is part of a large arable field of irregular shape where the single existing poultry unit building is located orientated broadly north to south within the western end of the field. The field is bounded by a farm access track on its southern boundary and by hedgerows on all other sides. In the southeast corner of the field a large storage barn was built in 2021, approximately 60m by 30m and 7.3m to the roof eaves.

The site is surrounded by a network of irregular agricultural fields occasionally dissected by local roads or the rail line between Tamworth and Burton-upon-Trent. There are few woodland blocks within the local area, although they can be found to the north of Harlaston and around the edges of the study area. Typically local field boundaries are formed by hedgerows with scattered hedgerow trees, with some occasional small copses of trees also found scattered through the local landscape.

A pylon line runs northeast to southwest through the study area, crossing through the field immediately west of the proposal.

The nearest public right of way to the site is a public footpath (Harlaston 8) which follows a route from Main Road just south of Harlaston village, heading southeast across Hogs Hill to Syerscote Lane within the southeast of the study area. At its closest point this footpath is located approximately 300m east of the proposal. Other public rights of way are all located approximately 750m or more from the proposal and are spread throughout the study area.

The nearest residential properties to the proposal are two semi-detached properties on Main Road located approximately 220m west-southwest of the proposal at its closest point, with White Post End located approximately 250m west of the proposal on Main Road, and a further two properties located approximately 290m from the proposal in a northwesterly direction on Main Road. A series of properties are located at the farmhouse at Dunnimere Farm, approximately 360m southeast of the proposal at its closest point. Beyond this, two properties are located at Portway Farm on either side of Main Road, approximately 410m southwest of the proposal and a series of properties are located on or close to Winterdyne Lane approximately 815m - 920m south of the proposal. A few further properties are located to the northwest of the proposal along Main Road and a nearby local road, including Ashfield, Willow Lodge and Coppinshill Barn, at a range of distances from the proposal (400m to 720m distance from the proposal at its closest point). Harlaston is the closest settlement to the proposal, located at approximately 890m north of the proposal at its closest point.

The landform of the site and immediately surrounding area is broadly flat, located at approximately 65m AOD. The landform across the study area gently undulates, with slightly higher ground located around Harlaston at approximately 70m AOD and at Hogs Hill to the southeast of the site (approximately 85m AOD). Beyond this the study area tends to gently undulate between 55m AOD and 85m AOD, with the highest point in the study area located to the east of Syerscote Lane at 98m AOD.

A review of all existing poultry units has been undertaken and **Figure LV3** indicates those located within 3.0km of the proposal, the closest of which is by Messe Meadow Wood at a distance of approximately 2.1km northeast of the proposal. These two poultry units are located within relatively close proximity to each other within the northeast of the study area and are discussed further later within the assessment. Further to these developments, Woodingway Farm includes a series of large agricultural barns approximately 700m southeast of Harlaston village which are a notable feature in the local landscape. This will also be discussed further within the assessment.

Landscape Fabric

The field within which the proposed buildings and hardstanding are located is currently an arable field. However, an existing poultry unit and hardstanding area with an access point are already located within a western part of the arable field where the proposed development would use this same access point and extend the existing hardstanding area to the east to accommodate the three new poultry buildings. A further small area of the arable field would be used to accommodate the proposed dwelling, garage and garden area to the

west of the existing poultry building. As mentioned above, the existing access point for the existing poultry building would be utilised to access both the proposed dwelling and the new poultry units.

The site field is bounded by hedgerows with scattered hedgerow trees on all sides except for the southern boundary where a farm track forms the field boundary, extending into a further arable field to the south of the farm track. Therefore, the landscape fabric elements within the red line boundary of the site itself are extremely limited as the application boundary is contained entirely within arable land, with the only landscape fabric elements being the arable crops that are currently grown within the field.

The local road to the west is bounded on both sides by hedgerows, with hedgerows generally maintained to a height of approximately 1.0m – 1.5m or higher; typical of the height of field boundaries in the locality.

Landscape Character

At a national level, Natural England has divided England into 159 National Character Areas (NCAs). The site and the majority of the study area fall within NCA 72: Mease/ Sence Lowlands, with a small part of the far west of the study area located within NCA 69: Trent Valley Washlands. The full NCA descriptions for both these areas are included within **Appendix LV1**, with the key characteristics for the area covering the site set out below (NCA 72).

NCA72: Mease/ Sence Lowlands

- This is a gently rolling landscape with rounded clay ridges and shallow valleys, with a more undulating landform in the north-west. This is a well-ordered agricultural landscape of open views, with a relatively tranquil character.
- Triassic Mercia Mudstones underlie this area and give rise to productive clay soils; outcrops of sandstone extend across the area southwards and westwards from the edge of the adjacent coalfield.
- Woodland cover is generally limited to scattered hedgerow trees, coverts and spinneys, and occasional groups of trees along rivers and streams. Larger-scale planting associated with The National Forest in the north of the NCA has significantly increased woodland cover and strengthened the wooded character of the landscape.
- The majority of the farmland has a strongly rectilinear pattern of low hedgerows and scattered hedgerow trees. On steeper ground and heavier clays, hedgerows are more substantial and hedgerow trees more frequent.
- Extensive, open areas of arable cultivation predominate. On steeper ground and heavier clays the land is less intensively farmed, and arable and pasture are mixed. Beef and dairy farming are also common.
- The main river courses of the Mease and Sence are generally very open; they are nationally important for nature conservation and support internationally rare species, including the white-clawed crayfish, spined loach and bullhead fish. Willow and alder riparian vegetation is a feature along minor streams.
- Important habitats include neutral grasslands, wet meadows, parkland, wet woodlands, rivers and streams, all of which support characteristic and rare species.
- The Ashby Canal and Coventry Canal are landscape features that are important for nature conservation and recreation. They act as reminders of our cultural heritage.
- Landscaped parklands and fine country house estates, spired churches and historic farmsteads, areas of remnant ridge and furrow and deserted settlements contribute to the time depth and sense of history of the area.
- Wide verges and straight enclosure roads. Red brick buildings and spired churches are often prominent landscape features. Isolated large 19th-century red brick farmsteads are also notable.
- Larger modern urban development is present on the fringes of the NCA7 in Nuneaton, Hinckley and Burton-upon-Trent. Straight motorways and main roads cut through the area north–south and east–west.

The site and study area are characterised to a greater level of detail as part of the Lichfield District Update of Landscape Character Assessment (White Consultants, September 2019). Within this assessment the landscape of the study area is divided into three Landscape Character Types (LCTs), with the proposed development entirely located within the Estate Farmlands LCT, as indicated on **Figure LV2**.

The Landscape Character Assessment describes the key characteristics of the Estate Farmlands LCT as:

- Gently rolling landform
- Productive arable farming with pockets of pasture around villages
- A planned enclosure pattern of medium to large, closely cropped hedged fields
- Many small, regularly shaped game coverts
- Tree lined stream corridors
- Large country houses, often set in mature grounds
- Small rural villages often marked by a tall church spire
- Narrow country lanes bounded by wide grass verges

The descriptive text associated with the LCT further describes the characteristics of the LCT, such as noting that this is "*a well ordered agricultural landscape associated with productive Brown soils, characterised by small nucleated villages, estate farms and small game coverts. These occupy a lowland mixed farming landscape set within a semi-regular pattern of medium to large hedged fields. This landscape owes much of its present day character to the late enclosure of former open fields, mainly by Parliamentary Act.*"

The text goes on to judge the LCT as having a strong overall strength of character, a moderate overall condition, a high quality to the landscape, a moderate inherent sensitivity and a moderate visual sensitivity.

In total three LCTs fall within the 3.0km radius study area, as indicated on **Figure LV2.** The key characteristics of the remaining two LCT are set out below.

River Meadowlands LCT

- Flat, low-lying river corridor
- Seasonally flooded alluvial floodplain
- Meandering river channel
- Surviving 18th to 19th century water meadow earthworks and associated features
- Pastoral farming with grazing livestock
- Lines of poplar, willow and alder along watercourses
- Hedge and ditch field boundaries
- Unsettled with few roads

The text associated with the LCT goes on to judge the LCT as having a strong overall strength of character, a moderate overall condition, a high inherent sensitivity and a low visual sensitivity.

River Terrace Farmlands LCT

- Flat, low-lying landform
- Intensively managed arable farmland
- Large hedged fields and hedgerow trees
- Waterside tree species along ditches
- Small broadleaved woodlands
- Scattered farmsteads
- A few relatively straight minor lanes

The text associated with the LCT goes on to judge the LCT as having a weak overall strength of character, a poor overall condition, a low inherent sensitivity and a low/moderate visual sensitivity.

Landscape Designations

There are no national or local landscape designations across the site or the study area. However, the National Forest is a landscape orientated initiative seeking to redress woodland loss in parts of the region. This strategy is noted within the Lichfield District Local Plan Strategy 2008 – 2029 (LDC 2015) and its proposals maps where the National Forest area includes land within the far north of the study area to the north of Harlaston, at a distance of approximately 1.5km from the proposal at its closest point. As this initiative seeks to encourage the introduction of more tree planting into the area and does not cover the site itself or land in the vicinity of the site, it is not considered any further within this assessment.

Visual Receptors

The visual receptor locations within the 3.0km radius study area include:

- Settlements –the villages of Harlaston, Haunton, Edingale, Elford and Wigginton.
- Individual residential properties – scattered houses and farmsteads.
- Local public rights of way – footpaths, bridleways and byways open to all traffic (BOATs).
- Public highways – including the A513 and a network of minor roads.
- Passenger rail route – between Tamworth and Burton-upon-Trent.

The Countryside and Rights of Way (CRoW) Access Lands Maps on the Natural England website [1] have been checked and show no areas of access land within 3.0km of the site.

6.5 Visual Analysis

Theoretical Visibility Analysis

Figure LV1 illustrates a zone of theoretical visibility (ZTV) for the proposed development, indicating the locations within a 3.0km radius where topography would theoretically allow visibility of the proposed buildings. This has been generated based on one of the highest points of the existing poultry building and also one of the highest points of the proposed buildings; the ridge of the roofline for both the existing and proposed poultry buildings. These points have been used at a height above ground level relating to the height of these built elements within the design. The ZTV has been generated using a computer-based intervisibility package and the Ordnance Survey Digital Terrain Model (DTM) with height data at 5m intervals. The navy blue point denotes the roof ridge line of the existing building and the red point denotes the roof ridge line of the proposed poultry units. Where the blue tone is shown within the study area this indicates that only the existing building (and not the proposed development) would potentially be visible – based on topography alone. Where the pink tone is shown within the study area this indicates that only the proposed development (and not the existing built form) would potentially be visible – based on topography alone. Where the purple tone is shown within the study area this indicates that both the existing building and the proposed development would potentially be visible – based on topography alone.

The ZTV is based on bare terrain topographical data only. It does not take into account the screening effects of any minor topographic features, vegetation such as woodland, tree belts and hedgerows or other built structures and therefore tends to over-emphasise the extent of visibility in the landscape, providing a worst case scenario. In reality, these surface features would fragment and reduce the extent of most of these zones of theoretical visibility, and would also reduce the amount/proportion of the proposed buildings visible from any given location.

The ZTV suggests that there are sizeable sections of the study area where topography would not allow any visibility of the existing building or proposed buildings, particularly in western and eastern portions of the study area. However, these areas without potential visibility of the proposal are likely to be greater than indicated on the ZTV due to the screening effects of vegetation across the gently undulating landform. It is also worthwhile noting that in the vast majority of locations where potential visibility is suggested by the ZTV, this is predominantly where the ZTV suggests that the existing poultry development is already visible, with extremely limited 'pink tone' areas indicating areas of new visibility.

The ZTV does not illustrate the decrease in the scale of the proposed built development with increased distance from the site which is better illustrated by viewpoints. As a result, fieldwork and the viewpoint analysis are essential as a way of verifying the ZTV and undertaking a thorough assessment.

Viewpoint Analysis

Seven viewpoints were selected as representing and illustrating some of the most open and/or key locations or receptors within the 3.0km radius study area and have been located in positions where the ZTV has suggested

1 www.openaccess.naturalengland.org.uk

that potential visibility of the proposed buildings may be available. These viewpoints are listed below and the locations of these viewpoints are shown on **Figures LV1 and LV2**. A detailed description of these viewpoint panoramas and the potential changes that would occur through the introduction of the proposed development are contained below. The A3 single frame images from each viewpoint are produced at a set viewing distance, although they should not be considered as a substitute to visiting a viewpoint in the field.

Table LV1 – List of viewpoints

Vp	Viewpoint Name	NGR	Distance from proposed buildings	Landscape Character Type	Visual Receptor
1	Main Road by Woodingway Farm	421425 310315	0.5km	Estate Farmlands	Motorists, A few nearby residents
2	Footpath Harlaston 8, east of Dunnimere Farm	422170 309470	0.6km	Estate Farmlands	Walkers
3	Manor Lane, Harlaston	421695 310705	0.9km	Estate Farmlands	Residents
4	Footpath Harlaston 10(a), southwest of Harlaston	421230 310825	1.1km	Estate Farmlands	Walkers
5	Footpath Clifton Campville 28, west of Haunton	423045 310680	1.7km	Estate Farmlands	Walkers
6	Willow Bottom Lane byway near Haselour Lane (Byway Elford 11)	419660 309760	1.8km	Estate Farmlands	Walkers, Horse riders, Cyclists
7	Syerscote Lane near Wigginton junction with Footpath Wigginton & Hopwas 4	421105 306585	3.1km	Estate Farmlands	Walkers, Motorists

Prediction Methodology

The following viewpoint analysis has identified the visual receptor sensitivity at each viewpoint location and combined these with the predicted magnitude of change in the view in order to determine the overall impact and whether or not this would be a significant change in the view for each visual receptor type at each location.

In accordance with GLVIA3, the sensitivity of each visual receptor group at each location is a function of the susceptibility of visual receptors to change at that location and the value attached to these views.

All visual receptors are people and are assumed to be equally sensitive to change. However, the location and activities of visual receptors influence the way in which they currently experience the landscape and views, the extent to which views of the surrounding landscape may contribute to their existing visual amenity, the value they place on these views and their susceptibility to changes in these views. Accordingly, at any one location there may be different levels of sensitivity for the different receptor groups, the sensitivity may vary depending on the direction of the view, and any one receptor group may be accorded different levels of sensitivity at different locations.

Receptor susceptibility levels of susceptible, moderate susceptibility and slight susceptibility are used taking into account the following factors:

- Receptor location, occupation or activity,
- Movement of receptor and duration and frequency of view experienced,
- Focus of attention and interest.

The judgement of value is based on a five point scale – National value, County/Borough/District value, Community value, private value, unvalued. The value attached to a location or to a particular view at a location

can influence the purpose and expectation of receptors at the location and the judgement of value takes into account:

- Recognised value – for example by the presence of planning designations or designated heritage assets,
- Indicators of value – to individuals, communities and society generally, such as the popularity of a location.

Accordingly, within this assessment visual receptor sensitivity is determined in terms of the sensitivity of each location for each receptor type (rather than the sensitivity of the receptors *per se*), using a five point relative scale (high, high/medium, medium, medium/low and low).

The magnitude of the change in the views from the viewpoints has been assessed using a four point scale – substantial, moderate, slight and negligible. This magnitude of change scale is a relative scale and is not an absolute scale. It is based on the assessor's interpretation of largely quantifiable parameters, including:

- Distance and direction of the viewpoint from the development.
- Extent of the development visible from the viewpoint.
- Field of view occupied by the development (horizontal and vertical angles of view) and proportion of view (as a percentage of the panorama).
- Context of the view and degree of contrast with the existing landscape and built elements (background, form, composition, pattern, scale and mass, line, movement, colour, texture, etc).
- Scale of change with respect to the loss or addition of features in the view.
- Duration and nature of the effect, eg direct/ indirect, secondary, cumulative, temporary/ permanent, short term/ long term, intermittent/ continuous, reversible/ irreversible, etc (as related to the nature of the development).

The sensitivity and magnitude of change have then been combined as per the matrix in **Table LV2** below. Overall effects of major or major/moderate are considered significant and are shaded dark grey in **Table LV2** below. Overall effects of moderate may be significant if experienced over a sustained length of a route or over most of a zone, area or location, whereas moderate/minor or lower changes are unlikely to result in significant changes to views.

In order to consider a worst case scenario, it is recommended that the predicted effects on views are considered to be adverse.

Table LV2: Assessment of overall impact

Location sensitivity	Magnitude of change Substantial	Moderate	Slight	Negligible
High	Major	Major/ moderate	Moderate	Moderate/ minor
High/ medium	Major/ moderate	Moderate	Moderate/ minor	Minor
Medium	Moderate	Moderate/ minor	Minor	Minor/ negligible
Medium/ low	Moderate/ minor	Minor	Minor/ negligible	Negligible
Low	Minor	Minor/ negligible	Negligible	Imperceptible

Viewpoint 1 – Main Road by Woodingway Farm

This viewpoint is located at approximately 61m AOD and 0.5km northwest of the proposed development on a local road within the Estate Farmlands LCT. The viewpoint is taken from the roadside, looking over the roadside field boundary hedgerow. The view shows arable fields extending out from the viewpoint with the landform gently rolling and undulating throughout the view. To the northeast the large agricultural buildings at Woodingway Farm are visible in the middle distance. To the south parts of the roofline of the existing poultry building at Dunnimere Farm are discernible above an intervening hedgeline. No other existing poultry buildings are visible from this viewpoint.

As the photomontage illustrates, the proposed buildings would be partially visible where intervening vegetation allows, seen in the middle distance of the view.

Immediately post construction - the viewpoint represents views of motorists (medium sensitivity (moderately susceptible & community value view)) and a nearby residential property on the road junction (high sensitivity (susceptible with a private view)). The magnitude of change in the view resulting from the introduction of the

proposed buildings would be *moderate (*a moderate degree of change, some loss of horizon views etc*)*, resulting in a *moderate/minor* effect on the visual amenity of motorists, which would not result in a significant effect at this location, but a major/ moderate effect on the visual amenity of residents at Ashfield, which would be considered a significant effect. These effects would be adverse and long term. However, it should be noted that the main view from Ashfield in the direction of the site would be upper storey oblique views as the property is orientated northeast to southwest.

Year 10 post construction – the planting proposals would include additional hedgerow and tree planting immediately north of the proposed poultry buildings, as well as additional hedgerow trees in the existing boundary hedgerow to the west of the proposed dwelling. By Year 10 these trees and the hedgerow would be established with the trees approximately 6m in height. As the photomontage shows, these measures are expected to add further screening of the proposal. As a result, the magnitude of change in the view is expected to reduce down to slight (limited degree of change within a limited proportion of the view), resulting in a minor effect on the visual amenity of motorists and a moderate effect on the visual amenity of residents at Ashfield, which would not result in a significant effect on visual amenity, although these effects would be adverse and long term.

Viewpoint 2 – Footpath Harlaston 8, east of Dunnimere Farm

This viewpoint is located at approximately 82m AOD and 0.6km southeast of the proposed buildings on a local footpath within the Estate Farmlands LCT. Limited parts of the existing poultry unit and associated silos are visible amongst intervening vegetation in the middle distance. Other built form visible in this section of the view are Dunnimere Farmhouse and also the large agricultural barn located close to the site, as well as the line of pylons running approximately 100m from the proposal. This is an elevated and open view looking out across a wide and long distance. No other existing poultry buildings are visible from this viewpoint.

The proposed poultry buildings and some of the grain silos would be partially visible in the middle distance immediately in front of the existing poultry building, although the angle of this view would make the change in the view difficult to discern. The residential dwelling would be located behind the existing poultry unit and would barely be discernible from this orientation.

Immediately post construction - the viewpoint represents views of walkers along the public right of way (high/medium sensitivity (susceptible & community value view)). The magnitude of change in the view resulting from the introduction of the proposed buildings would be *negligible (*a very limited degree of change, no change to the proportion of the view occupied by development, no loss of horizon views etc*)*, resulting in a *minor* effect on the visual amenity of walkers at this point. These effects would not be significant for these receptors but would be adverse and long term.

Year 10 post construction – the planting proposals would include a new hedgerow with hedgerow trees to the east of the proposed buildings and hardstanding area. At the point of ten years post construction the hedgerow trees would be approximately 5-6m in height and would add some limited further screening to the proposed buildings. However, the degree of visibility of the proposal would remain broadly similar, resulting in a *negligible* magnitude of change and a *minor* effect on the visual amenity of walkers at this point. These effects would not be significant for these receptors but would be adverse and long term.

Viewpoint 3 – Manor Lane, Harlaston

This viewpoint is located at the edge of a residential area on the southern edge of Harlaston, situated at approximately 68m AOD and 0.9km north of the proposed buildings within the Estate Farmlands LCT. Views are available out across the nearby agricultural fields to the site field in the middle distance and further afield. The large agricultural barns at Woodingway Farm are visible as part of the view, as is the nearby pylon line and the existing poultry building at Dunnimere Farm No other existing poultry buildings are visible from this viewpoint.

The proposed buildings and silos would be partially visible in the middle distance, partially screened behind hedgerow vegetation along an intervening field boundary. They would be viewed directly adjacent to the existing poultry building.

Immediately post construction - the viewpoint represents views of residents within the southern edge of Harlaston who have open views to the south (high sensitivity (susceptible & private view)). The magnitude of change in the view resulting from the introduction of the proposed buildings would be *slight (*a limited degree of change, adding development to an already developed section of the view, no loss of horizon views etc*)*, resulting in a *moderate* effect on the visual amenity of residents at this point. These effects would affect a very small number of residents, predominantly from upper storey views only and would be adverse and long term but would not be significant.

Year 10 post construction – the planting proposals would include a new native hedgerow with hedgerow trees to the north of the proposal as well as further hedgerow trees within the existing hedgerow on the west side of the proposed dwelling. At the point of ten years post construction this planting would screen large parts of the proposed development from this viewpoint, with parts of the roofline of the buildings still discernible, resulting in a *negligible* magnitude of change (extremely limited degree of change within a limited proportion of the view) and a *moderate/ minor* effect on the visual amenity of residents at this point. These effects would not be significant but would be adverse and long term.

Viewpoint 4 – Footpath Harlaston 10(a), southwest of Harlaston

This viewpoint is located on a local footpath at approximately 65m AOD and 1.1km northwest of the proposal within the Estate Farmlands LCT. This viewpoint offers an open and wide view to the south and southeast where the greater degree of woodland in the northwest of the study area is evident within the right hand side of the view. The pylon line through the study area is evident across eastern and southeastern parts of the view. Limited parts of the existing poultry building at Dunnimere Farm are discernible above intervening vegetation, although not clearly visible. No other existing poultry buildings are visible from this viewpoint. The agricultural barns at Woodingway Farm are visible within the far left of the view.

The proposed poultry buildings would be located adjacent to and partially screened behind the existing poultry building. The existing agricultural barn at Dunnimere Farm is also located in this section of the view and would provide a backdrop to the visible sections of the poultry buildings, as a taller built form element of a lighter colour, with the roofline of the poultry buildings seen below this in a darker colour. The proposed dwelling would be screened behind existing intervening tree cover in the view and even in winter months would be difficult to discern.

Immediately post construction - the viewpoint represents views of walkers on the footpath (high/medium sensitivity (susceptible & community value view)). The magnitude of change in the view resulting from the introduction of the proposed buildings would be *negligible (*a very limited degree of change, no loss of horizon views, no extension of view occupied by built form etc*)*, resulting in a *minor* effect on the visual amenity of walkers at this point. These effects would not be significant but would be adverse and long term.

Year 10 post construction – the planting proposals would include the introduction of a new native hedgerow and hedgerow trees immediately north of the proposed buildings. At the point of ten years post construction this vegetation would screen the majority of the proposal from view so that they would be barely discernible. Therefore, at worst, a *negligible* magnitude and a *minor* effect on the visual amenity of walkers would occur. These effects would not be significant but would be adverse and long term.

Viewpoint 5 – Footpath Clifton Campville 28, west of Haunton

This viewpoint is located on a local footpath at approximately 60m AOD and 1.7km northeast of the proposed development, located within the Estate Farmlands LCT. This is a generally well vegetated view where the combination of rolling landform and high field boundary hedgerows allow limited views out across the landscape to the south and southwest. The large agricultural barns at Woodingway Farm are openly visible as a part of this simple view. No existing poultry units are discernible at this viewpoint.

The proposed buildings would be located behind the Woodingway Farm agricultural barns and would be entirely screened from view in the same way that the existing poultry unit at Dunnimere Farm is entirely screened.

Immediately post construction - the viewpoint represents views of walkers along the local footpath (high/ medium sensitivity (susceptible & community value view)). The magnitude of change in the view resulting from the introduction of the proposed development would be *none (*entirely screened from view*)*, resulting in no effect on the visual amenity of walkers at this point.

Viewpoint 6 – Willow Botton Lane byway near Haselour Lane (Byway Elford 11)

This viewpoint is located on a public byway near to Haselour Lane at approximately 71m AOD and 1.8km southwest of the proposed development, within the Estate Farmlands LCT. From this relatively elevated location, open and long distance views are available to the north. The view encompasses an agricultural landscape with some occasional large agricultural barns including the hay store barn at Dunnimere Farm which is discernible within the far right of the view. The existing poultry unit is largely obscured from view by intervening field boundary hedgerows, due to its limited height, although some parts of the roofline of the building are discernible. No other existing poultry buildings are discernible from this location.

The proposed poultry buildings would be located behind the existing building on the site and would be largely screened from view by this existing built form but also by the semi-detached properties along Main Road in the vicinity of the site, by their garden vegetation and the nearby pylon. The proposed worker's dwelling would be located in front of the existing poultry building in this view, but behind roadside and intervening field boundary hedgerows where very limited parts of the building would be discernible.

Immediately post construction - the viewpoint represents views of walkers, horse riders and cyclists along the local byway (high/ medium sensitivity (susceptible & community value view)). The magnitude of change in the view resulting from the introduction of the proposed development would be *negligible (*a very limited degree of change, no loss of horizon views, no extension of view occupied by built form etc*)*, resulting in a *minor* effect on the visual amenity of users of the byway at this point. These effects would not be significant but would be adverse and long term.

Year 10 post construction – the planting proposals would include the introduction of some hedgerow trees along the field boundary immediately west of the proposal. At the point of ten years post construction this vegetation would be barely discernible due to the effective screening already provided by the intervening roadside and field boundary hedgerows within this view. Therefore, at worst, a *negligible* magnitude and a *minor* effect on the visual amenity of byway users would occur. These effects would not be significant but would be adverse and long term.

Viewpoint 7 – Syerscote Lane by Wigginton, junction with Footpath Wigginton & Hopwas 4

This viewpoint is located on a local road and footpath junction at approximately 70m AOD and 3.1km south of the proposed development, within the Estate Farmlands LCT. This is a long distance view although much of the detail is screened by the layering of vegetation within the landscape. No existing poultry units are discernible at this viewpoint.

The proposed buildings would be entirely screened behind the layering of vegetation within the view in the same way that Dunnimere Farmhouse is screened and the existing poultry unit at the site is also not visible.

Immediately post construction - the viewpoint represents views of walkers along the local footpath (high/ medium sensitivity (susceptible & community value view)) and motorists on the local road (medium sensitivity (moderate susceptibility & community value view)). The magnitude of change in the view resulting from the introduction of the proposed development would be *none (*entirely screened from view*)*, resulting in no effect on the visual amenity of walkers and motorists at this point.

Table LV3 – Summary of visual impacts

Vp	Viewpoint Name	Distance from proposed buildings	Predicted Visual Effects
1	Main Road by Woodingway Farm	0.5km	Motorists – initially moderate/ minor effects reducing to minor effects by Year 10. Residents in Ashfield - initially major/ moderate effects reducing to moderate effects by Year 10.
2	Footpath Harlaston 8, east of Dunnimere Farm	0.6km	Walkers – initially minor effects, remaining at minor effects by Year 10.
3	Manor Lane, Harlaston	0.9km	Residents – initially moderate effects reducing to moderate/ minor effects by Year 10.
4	Footpath Harlaston 10(a), southwest of Harlaston	1.1km	Walkers – initially minor effects, remaining at minor effects by Year 10.
5	Footpath Clifton Campville 28, west of Haunton	1.7km	No effects
6	Willow Bottom Lane byway near Haselour Lane (Byway Elford 11)	1.8km	Walkers – initially minor effects, remaining at minor effects by Year 10.
7	Syerscote Lane near Wigginton junction with Footpath Wigginton & Hopwas 4	3.1km	No effects

Further Photographs

It is noted that the ZTV in **Figure LV1** suggests that the proposed development may potentially be visible from several parts of the 3.0km radius study area. However, fieldwork suggests that the extent of actual visibility of the proposal would be much more limited than the ZTV indicates due to the screening effects of intervening vegetation combined with the gently undulating and rolling nature of the local landform. The photographs below have been provided as evidence of this limited potential visibility.

It is also useful to note the very limited potential visibility of the existing poultry building at Dunnimere Farm as well as the lack of visibility of the two other existing poultry developments within the study area. Due to their relatively low elevation within a gently undulating landform, fieldwork and site photography found these developments are generally visible within a confined part of the study area. Therefore, they do not feature in the following photographs.

It has been noted within the description of the Estate Farmlands LCT that this is a landscape with scattered hedgerow tree cover. The following photographs provide illustration of this through typical views available from a number of local footpaths and roads surrounding the proposed site.

Plate 1 – View from Footpath Harlaston 8 looking towards site. Existing poultry unit is almost entirely screened by intervening vegetation. NGR 421955 309750.

Plate 2 – View north towards Woodingway Farm agricultural buildings from Footpath Harlaston 8. NGR 421955 309750.

Plate 3 – View towards site from Footpath Harlaston 8 indicating that landform will at times entirely screen the proposal. The existing poultry building is currently screened. 422405 309295.

Plate 4 - View towards Woodingway Farm agricultural buildings from Footpath Harlaston 8. NGR 422275 309400.

Plate 5 - View from track by Dunnimere Farmhouse towards the site. Existing hay barn is clearly visible with limited visibility of existing poultry unit. NGR 421845 309450.

Plate 6 - View adjacent to rear of semi-detached properties on Main Road. View looks towards the site where the existing poultry building is screened by intervening field boundary vegetation. NGR 421295 309685.

Plate 7 - View towards site from eastern edge of Edingale. Nearby vegetation entirely screens views to the south. NGR 421980 312230.

Plate 8 – View towards the site from Syerscote Lane where intervening vegetation in near distance would screen visibility of the proposal. NGR 421760 307435.

6.6 Landscape Assessment

This assessment draws on the review of the predicted effects of the development, the landscape fabric of the site, the key characteristics of the LCTs, the purposes/objectives of the landscape designations, the viewpoint analysis and fieldwork observations.

Effects on Landscape Fabric

Prediction Methodology

Landscape fabric is composed of the physical components of the landscape (eg landform, land cover and landscape elements and features). Developments can bring about both direct and indirect effects on landscape fabric. Direct effects occur where changes to the fabric of the landscape arise as the result of physical disturbance, for example, the loss of landscape elements such as hedgerows, walls and trees. Indirect effects are consequential changes that are separated from the source of the change in a temporal or spatial manner, for example changes in vegetation downstream as the result of modifications to surface water patterns upstream in a catchment area.

This assessment of effects on landscape fabric considers the existing landscape fabric of the site and the predicted effects of the development, and makes a judgement as to whether there are likely to be any significant beneficial or adverse changes to landscape fabric based on the following two definitions:

- Significant beneficial effects on landscape fabric - could occur where important/mature/diverse/distinctive components, which had previously been lost or degraded as the result of agricultural operations or other development, would be added, reinstated or improved.
- Significant adverse effects on landscape fabric - could occur where existing important/mature/diverse/distinctive components would be permanently lost (or long term temporarily lost) and the effects cannot be adequately mitigated.

The proposed development would be located within an arable field where the footprint of the buildings and hardstanding area would not require the removal of any existing important, mature, diverse or distinctive landscape components, hedgerows or isolated trees. Access from the public highway would be along an existing access track and so would require only a 40m section of track to access the new proposed dwelling. There would be no requirement to remove any existing important, mature, diverse or distinctive landscape components.

A range of planting proposals are suggested as part of the development including new native hedgerows, hedgerow trees and scattered trees. In total this would be approximately 350m of new native hedgerow with scattered hedgerow trees and the addition of numerous hedgerow trees to a stretch of existing hedgerow approximately 180m in length.

Overall there would be no disturbance of the existing ground levels on site and no loss of landscape fabric. Planting proposals are included within the application, as outlined above, which would be beneficial. Therefore, overall on balance there would be moderate beneficial effects on landscape fabric as a result of the proposal.

Effects on Landscape Character

Prediction Methodology

In accordance with GLVIA3, the sensitivity of each landscape unit is judged on the basis of its value and its susceptibility to change arising from the specific type, scale and location of development proposed.

The susceptibility to change of a landscape unit is based on a three point scale (susceptible, moderate susceptibility and slight susceptibility) and depends on:

- The key characteristics of the landscape, and the clarity and robustness of these characteristics,
- Nature of views (visual enclosure/openness of views and extent to which views contribute to landscape character),
- Landscape planning policies and strategies for the landscape unit,

- The nature of the changes to landscape character and views that could be brought about by the type, scale and location of the proposed development and the compatibility of these with the above factors.

Judgements on landscape value are based on those given in published landscape character assessments (where given) and/or checked in the field from fieldwork observations.

Accordingly, the assessment of landscape sensitivity for each landscape unit is derived from the judgement of value and combined with the judgement of susceptibility to give a level of landscape sensitivity as part of a five point scale – high, high/medium, medium, medium/low or low sensitivity.

The magnitude of the change in landscape character is assessed using a four point scale –substantial, moderate, slight and negligible. This magnitude of change scale is a relative scale and is not an absolute scale. It is based on the assessor's interpretation of largely quantifiable parameters, those of which have already been set out within paragraph 40 above.

The sensitivity of the LCT is then combined with the magnitude of change to predict the potential impacts on landscape character as set out within the matrix below (the same as illustrated in **Table LV2** above). Overall effects of major or major/moderate are considered significant and are shaded dark grey in **Table LV2** below. Overall effects of moderate may be significant if experienced over most of a zone, area or location, whereas moderate/minor or lower changes are unlikely to result in significant changes to landscape character.

Table LV2 – Assessment of overall impact

Location sensitivity	Magnitude of change Substantial	Moderate	Slight	Negligible
High	Major	Major/ moderate	Moderate	Moderate/ minor
High/ medium	Major/ moderate	Moderate	Moderate/ minor	Minor
Medium	Moderate	Moderate/ minor	Minor	Minor/ negligible
Medium/ low	Moderate/ minor	Minor	Minor/ negligible	Negligible
Low	Minor	Minor/ negligible	Negligible	Imperceptible

Estate Farmlands LCT

Both fieldwork and the viewpoint illustrations have indicated that the proposed development is located within a moderately vegetated landscape with undulating or rolling topography. The Lichfield District Updated Landscape Character Assessment notes in relation to the Estate Farmlands LCT that "…*Overall the area is not heavily wooded and tree cover is mostly restricted to stream corridors, scattered hedgerow trees and small, regularly shaped game coverts. This is a relatively open landscape of medium to large sized, mostly regular fields enclosed by closely cropped thorn hedgerows".* The report ascribes a **moderate sensitivity** to this landscape type in its published documents. The 'Vision Statement' for the LCT states "***Conserve and restore the structure and overall integrity of this historic, rural landscape****. In particular, encourage the conservation of field boundaries and look for opportunities to restore primary hedgelines and enhance hedgerow tree cover."*

It is worth noting that the existing mature field boundary hedgerows to the immediate west and to the north of the site would assist in containing any impacts on landscape character as a result of the proposal. Nevertheless, the introduction of this scale of development into an agricultural field would result on a significant effect on the landscape character of the site itself, fundamentally changing the character from agricultural to developed. The key characteristics of this LCT are a gently rolling landform, productive arable farming, medium to large fields, game coverts, tree lined stream corridors, large country houses, small rural villages and narrow country lanes. These key characteristics would not fundamentally alter beyond the site itself although the proposal would add built form to a limited number of views across some parts of this LCT. Nevertheless, the existing poultry unit at the site has been accommodated into this part of the LCT successfully as has the nearby hay barn and the Woodingway Farm agricultural barns. These elements, combined with the pylon line crossing the landscape to the immediate west of the site, add some less rural characteristics to this part of the LCT and it could be argued they combine to reduce its visual sensitivity in this area too.

Nevertheless, as described above, this is a moderately vegetated and undulating/ rolling LCT where views are varied and only form a small part of the character of the area, with large parts of the character gained from its own intrinsic features such as the patterns of vegetation and landuse. Due to the position of the site within the LCT and the features of its design, the susceptibility to the type and location of development proposed is considered to be slight and the sensitivity of the LCT to the proposal is considered to be **medium** (taken from the Landscape Character Assessment and verified from the assessors observations).

Within many parts of the LCT within the study area, the proposed development would not be visible, screened by intervening field boundary vegetation, topography and built form, as indicated by some of the photographic plates above, where no impacts on landscape character would occur. This is similar to the landscape character effects seen as a result of the existing poultry unit at Dunnimere Farm and also the two further poultry developments within the northeast of the study area, all of which are discernible over a contained part of the LCT.

From some locations within the LCT at middle distances from the site (approx. 900m to 1.5km away), some limited visibility of the proposal would be available, similar to the views illustrated by Viewpoints 3 – 4, where the limited visibility of the proposal would result in a slight or negligible magnitude of change (occupying a limited horizontal field of view, limited scale of change, no loss of existing features of view etc*)* and a minor or minor/ negligible adverse (long term) effect on landscape character. These effects would not be significant.

As set out above, the main change to the character of the LCT would occur in the vicinity of the site itself, with the viewpoints surrounding the site at a distance of 500m or more from the proposed buildings suggesting a moderate or lower magnitude of change, which indicates a moderate/ minor or lower effect on landscape character, which would not be significant, although these effects would be long term and adverse.

It is also worthwhile noting that the planting proposals would gradually reduce the visibility of the proposed development from several parts of the LCT over time, as indicated by Viewpoints 1 & 3.

In cumulative terms, fieldwork did not identify any locations within the LCT where the two existing poultry developments within the northeast of the study area were visible. The screening provided by the field boundary vegetation within the Estate Farmlands LCT itself creates a visual divide between these parts of the study area so that cumulative visibility would not occur. This also illustrates how poultry developments of three of more units can successfully be accommodated into this LCT with minimal effects on landscape character across the LCT.

River Meadowlands LCT

This LCT is located within the far west of the study area at a distance of over 2.1km from the proposed development at its closest point. The ZTV in **Figure LV2** indicates that intervening topography would entirely screen the proposal from view from this LCT and so no effects on the character of this LCT would occur as a result of the proposal.

River Terrace Farmlands LCT

The River Terrace Farmlands LCT is located within the far west of the study area at distances of over 2.6km from the proposed development at its closest point. The LCT encompasses the lower lying land within the western edges of the study area around Stubby Leas. The ZTV suggests some extremely limited potential visibility of the proposal could be available from this LCT. Despite the ZTV suggesting visibility of the proposal from these distant parts of this LCT, fieldwork found that the mature tree belt vegetation alongside the A513 in the intervening landscape would entirely screen the proposal from view.

The Landscape Character Assessment has asserted this LCT a medium/ low sensitivity where the key characteristics are noted as flat low-lying landform, intensively managed arable farmland, large hedged fields, waterside tree species, small broadleaved woodlands, scattered farmsteads, few minor lanes. Given the distance of this LCT to the site, the layering of vegetation within the intervening landscape would entirely screen any visibility of the proposal from this LCT and no effects on the character of the River Terrace Farmlands LCT would occur.

6.7 Visual Assessment

Prediction Methodology

Visual amenity arises from a visual receptor's experience of the visual world around them and the value they place on a particular view or views. For the purposes of this assessment, the predicted changes in views have been examined and significant effects on visual amenity have been identified where the proposed development would result in a significant effect on the primary view(s) at a location or along a route and the view(s) is/are valued and can be appreciated by receptors who are at that location for purposes that include the appreciation of the view(s).

The assessment identifies whether the predicted effects on visual amenity would be significant or not significant and, whilst it is expected that these significant effects would be considered to be adverse, it is important that the broad range of public opinions on such effects is also taken into account in the decision making process.

This assessment draws on the predicted effects of the development, the viewpoint analysis and fieldwork observations, and discusses the significance of the predicted effects on the visual amenity of receptors at a range of visual receptor locations within the study area. Within this study area these include settlements, individual residential properties, the local public rights of way network and public highways.

Settlements

Villages and hamlets are the main settlements within the study area and the ZTV in **Figure LV1** indicates that the proposal would potentially be visible from parts of each of these settlements. However, the ZTV is based on topography alone and does not take into account the screening effects of vegetation, which can be particularly effective in this landscape at providing screening of a low elevation development such as a poultry development, particularly over greater distances. Therefore, fieldwork to the settlements in the study area confirmed that no visibility of the proposal would be available from Elford, Edingale (see Plate 7 above), Haunton (see Viewpoint 5 as an example of local visibility) or Wigginton (see Viewpoint 7 as an example of local visibility).

Viewpoints 3 and 4 represent views from within or close to Harlaston and whilst it is recognised that both views indicate potential visibility of the proposal, it is also worthwhile noting that this is a nucleated settlement where the main potential visibility of the proposal would be from properties within the southeastern edge of the settlement in the vicinity of Manor Lane. In this area there are several properties that would gain no visibility of the proposal due to their orientation and/ or the screening from intervening nearby residential properties and their garden vegetation. The main visibility would be from properties adjacent to Viewpoint 3 where initially a moderate effect on visual amenity would occur, reducing down over time to a moderate/ minor effect. The proposal would be seen in the context of the existing hay barn, poultry unit and pylon line and would be a contained zone of visibility within Harlaston as rear view secondary views, where no significant effect would occur.

It is also worthwhile noting that the two existing poultry developments within the northeast of the study area (see **Figure LV3**) would not be visible from this section of the settlement due to the screening effects of mature woodland and intervening vegetation within the landscape.

Individual residential properties

The nearest residential properties to the proposal are two semi-detached properties on Main Road located approximately 220m west-southwest of the proposal at its closest point, with White Post End located approximately 250m west of the proposal on Main Road, and a further two properties located approximately 290m from the proposal in a northwesterly direction on Main Road.

Plate 6 above illustrates a view from adjacent to the rear of the two closest properties to the site indicating that the existing poultry unit at Dunnimere Farm is entirely screened from view by intervening field boundary vegetation. It is also worthwhile noting that one of the two properties is owned by the applicant. Nevertheless

it is accepted that upper storey views from both these properties would be more elevated and that some visibility of the roofline of the existing building is likely from both these properties. This is seen in the same section of the view as the hay barn and also the pylon line, with the pylon located very close to the rear gardens of these properties. Not withstanding this, the upper level and roof of the proposed dwelling, as well as parts of the roofline of the proposed poultry units and the new grain silos would be at least partially discernible from upper storey views from these two properties. Ground floor views are unlikely to be available due to the screening provided by intervening hedgerow planting as well as garden plants and boundary fencing. Nevertheless, the upper storey rear visibility of the proposal is expected to initially result in a moderate magnitude of change and a major/ moderate effect on the visual amenity of these residents which would be a significant effect, long term and adverse. Over time, planting proposals including tree planting within the existing intervening hedgeline, as well as new tree and hedgerow planting around the proposal would establish and begin to reduce visibility of the proposal, so that at a point of ten years post construction these upper storey views are expected to reduce to a slight magnitude of change and a moderate effect on visual amenity, which would be long term and adverse but not significant.

White Post End is a dormer property located approximately 250m west of the proposal, with a 3m high well maintained hedgerow located along its boundary to Main Road. Fieldwork has suggested that no visibility of the existing poultry building is available from this property, particularly when the mature coniferous vegetation within the garden of the property is taken into account. Therefore, it is expected that no visibility of the proposals would be available either, resulting in no significant effects on the visual amenity of these residents.

Two detached two storey properties are located on Main Road approx. 290m northwest of the proposal. Both properties currently gain some visibility of the existing poultry building and the hay barn mainly from upper storey windows, where the intervening field boundary hedgerow immediately west of the site forms a partial screen to the existing poultry building from ground floor views, with only parts of the roofline discernible. Given the position of these residential properties in relation to the three proposed poultry buildings, from ground floor views they would predominantly be screened by the intervening hedgerow and existing building, although the rooflines of the three proposed units would be discernible from upper storey views. The proposed residential dwelling would be slightly taller in height than the poultry buildings and would be located between the hedgerow and the existing poultry building, where the upper storey and roofline of the building would initially be visible from both ground floor and upper storey views. The main change in the views from the rear of these two properties would be the visibility of the new dwelling at a distance of almost 300m away where initially a slight magnitude of change and a moderate effect on visual amenity would occur, which would not be significant. Over time the new hedgerow trees within the intervening hedgerow would grow and offer some softening to visibility of the dwelling but at ten years post construction there would be little alteration in the visibility of the proposal, especially in winter months, and no change to the magnitude and subsequent overall effects for these residents. These effects would be long term and adverse.

A series of properties are located at the farmhouse at Dunnimere Farm, approximately 360m southeast of the proposal at its closest point. Plate 5 above illustrates the view from the track near the houses and illustrates that the roofline of the existing poultry unit is visible above intervening hedgerows. The introduction of the proposal would result in a broadly similar view to that seen currently due to the orientation of the development where the proposed poultry units would only minimally extend the proportion of the view currently occupied by the existing unit, and the proposed units would also only be partially visible as a roofline above the intervening hedgerow. The proposed dwelling would be located behind this development and the existing building where limited visibility of the upper part of the dwelling would be discernible. Visibility from ground floor level would be limited although some more open upper storey views may be available. Several properties here are single storey only. From upper storey locations the visibility of the proposals would result in a slight magnitude of change and a moderate effect, which would not be significant but would be long terms and adverse. A number of dwellings here are single storey where ground floor views would at worst result in a negligible magnitude of change and a moderate/ minor effect, which would not be significant, but would be adverse and long term. The planting proposals associated with the application would add some filtering of views over time through the addition of hedgerow trees, but the main screening factor would remain the existing intervening field hedgerow.

Beyond this, two properties are located at Portway Farm and Portway House on either side of Main Road, approximately 410m southwest of the proposal and a series of properties are located on or close to Winterdyne

Lane approximately 815m - 920m south of the proposal. Portway Farm is a two storey property with mature coniferous vegetation located immediately north of the property which would entirely screen the proposal from view. Portway House is located to the east of Main Road and is a two storey property with more open views out across the surrounding landscape where it is expected that the existing poultry building and hay barn at Dunnimere Farm are currently partially visible above intervening field boundary vegetation. Nevertheless, the proposed development would be a noticeable introduction, increasing the width over which built form would be discernible, particularly immediately post construction. At this stage a moderate magnitude of change and a major/ moderate effect on the visual amenity of these residents is expected, which would be significant, long term and adverse. The planting proposals include a new native hedgerow and hedgerow trees wrapping around the development and at a point of ten years post construction, it is likely that these elements would screen large parts of the proposal from view, with further filtering added by the hedgerow trees. Nevertheless, the roofline of the poultry buildings as well as the grain silos and parts of the residential dwelling would still be discernible above this vegetation, especially in winter months, where a slight magnitude and a moderate effect on visual amenity would be expected, which would not be significant, but would be long term and adverse.

A few further properties are located to the northwest of the proposal along Main Road and a nearby local road, including Ashfield, Willow Lodge and Coppinshill Barn, at a range of distances from the proposal (400m to 720m distance from the proposal at its closest point). Viewpoint 1 illustrates the view of the proposal near to Ashfield and has noted that initially a major/ moderate effect would occur for the residents of this property (significant, long term and adverse), but that this would reduce down to moderate over time as a result of the planting proposals, which would not be significant but would be long term and adverse. Two semi-detached two storey properties are located along Main Road approximately 400m northwest of the proposal where similar views of the proposed development would be available to nearby properties. The main change in the views from the rear of these two properties would be the visibility of the new dwelling at a distance of almost 400m away where initially a slight magnitude of change and a moderate effect on visual amenity would occur, which would not be significant. Over time the new hedgerow trees within the intervening hedgerow would grow and offer some softening to visibility of the dwelling but at ten years post construction there would be little alteration in the visibility of the proposal, especially in winter months, and no change to the magnitude and subsequent overall effects for these residents. These effects would be long term and adverse.

Willow Lodge is a two storey property with only rear oblique views towards the site at a distance of approx. 720m away where a slight or lower magnitude of change is expected, resulting in a moderate or lower effect on the visual amenity of these residents. This would be an adverse and long term effect, but not significant. Over time the planting proposals would establish and grow to add further screening so that by year 10 the magnitude of change would reduce down to negligible with a moderate/ minor effect on visual amenity. Similar effects are expected for the residents at Coppinshill Barn.

Local public rights of way

Five of the viewpoints are located on the local public rights of way network (Viewpoints 2 and 4 - 7). Footpath Harlaston 8 is the only public right of way located in close proximity to the site and the visibility from this route is illustrates by Viewpoint 2 and also by Plates 1 – 4 above. This footpath is located approx. 300m east of the proposal at its closest point with several points along the route where the proposal would not be visible or would be largely screened, as already indicated by the partial and often screened visibility of the existing poultry unit. It is also worthwhile noting the regular visibility of the existing agricultural barns at Woodingway Farm from this route which are significantly taller in height than the proposals. Viewpoint 2 illustrates the visibility of the proposal from one of the closest sections of the route to the proposal where a negligible magnitude of change and a minor effect on the visual amenity of walkers is expected. These effects would be long term and adverse but not significant.

Other rights of way further afield include Footpath Harlaston 10(a) to the west of Main Road, as illustrated by Viewpoint 4. For parts of this route hedgerows adjacent to the footpath would entirely screen the proposal from view, with Viewpoint 4 illustrating the most open view of the proposal where a negligible magnitude of change and a minor effect on the visual amenity of walkers is expected. These effects would be long term and adverse but not significant. Viewpoint 5 illustrates a view from a footpath near Haunton where no visibility of the proposal would be available at a distance of 1.1km away as the built form of the agricultural barns at Woodingway Farm would entirely screen the more distant landscape from view. Viewpoint 6 is located on a

local byway at a distance of 1.8km from the proposals. For the majority of the length of this route, hedgerows on either side of the byway would entirely screen the proposal from view, with only one location providing a view, as illustrated by the viewpoint. Here a negligible magnitude of change and a minor effect on the visual amenity of walkers is expected. These effects would be long term and adverse but not significant. Finally, Viewpoint 7 illustrates a distant view from a footpath near Wigginton at a distance of 3.1km from the site, where intervening vegetation would layer across the view to entirely screen the proposal.

These viewpoints illustrate that in locations proximate to the site some limited visibility of the proposal may be possible, seen in conjunction with the existing poultry development but regularly at least partially screened by intervening field boundary hedgerows and hedgerow trees. This visibility would be intermittent and consistently from distances of over 300m or more away where at worst a minor effect on the visual amenity of walkers is expected. This would not result in a significant effect on their visual amenity. Other public rights of way are located at greater distances from the proposal where views of the proposed development would regularly not be available due to screening from intervening vegetation. However, occasional visibility would be possible but would be distant and generally partial, where no significant effect on the visual amenity of public rights of way users would occur.

It is worthwhile noting that the existing poultry developments within the northeast of the study area would not be readily discernible from any of these public rights of way due to the low elevation of the development type and the screening provided by intervening field boundary vegetation.

Public highways

The ZTV suggests potential views of the proposal would be available from some local roads in the study area. However, roads in this landscape are characteristically bounded by mature hedgerows, as indicated in several of the viewpoints. As a result, views of the proposal would be extremely limited in reality, with fieldwork suggesting that visibility of the proposal would be limited to Main Road where views of the proposal would be short-lived and intermittent initially and as the planting proposals grow and mature this visibility would reduce even further. Viewpoint 1 illustrates potential views of the proposal from Main Road at a distance of 500m away, where no significant effect on the visual amenity of motorists is expected, with potential visibility gradually reducing further as planting proposals establish.

Passenger Rail Routes

A passenger rail line runs through the west of the study area between Tamworth and Burton-upon-Trent and at its closest point is located approximately 800m west of the proposal. Whilst the ZTV suggests there could be some potential visibility of the proposal from this closest section of the route, fieldwork has indicated that mature vegetation is located alongside the rail line. This in combination with the roadside vegetation along both sides of Main Road in the intervening landscape is expected to entirely screen the proposal from view, resulting in no effects on the visual amenity of rail passengers.

6.8 Conclusions

The proposed development would be located adjacent to an existing poultry building within a section of the local landscape which is partly characterised by pylon lines and large agricultural buildings.

Through careful site design the significant effects of this proposal would be limited to:

- The character of the landscape of the site and immediate surroundings. This includes a limited part of the Estate Farmlands LCT covering the site itself and areas up to approximately 350m – 450m from the proposed development. The proposals are located adjacent to an existing poultry unit development and so some significant changes to the local landscape character have already occurred as a result of the introduction of the original building. Some mitigation planting measures have been proposed to further screen the proposal and once established these measures would begin to add further filtering and screening of views of the proposed buildings.
- The visual amenity of a limited number of nearby residents with clear and open views of the proposed development. Some mitigation planting measures have been proposed to further screen the proposal and once established these measures would begin to add further filtering and screening of views of the proposal.

There would not be any significant effects on landscape fabric, landscape designations or any of the other LCTs located within the 3.0km radius study area. In addition, there would be no significant effects on the visual amenity of the vast majority of visual receptors within the study area.

Furthermore, over time the proposed mitigation measures within the site would establish and begin to provide increased filtering and screening of views of the proposal within the area local to the site, strengthening the local landscape fabric in the locality.

Therefore, it is considered that the significant effects on landscape and visual amenity as a result of the proposal would be very limited in extent and duration in this location.

CHAPTER 7 – AIR QUALITY, HEALTH & CLIMATE

7. Air Quality, Health & Climate

7.1 Executive Summary

Redmore Environmental Ltd was commissioned by Dunnimere Poultry Ltd to undertake an Ammonia Assessment in support of a planning application for the proposed expansion to existing poultry rearing operations at Dunnimere Farm, Tamworth.

The farm features an established poultry rearing unit. This comprises a single mechanically ventilated building which currently provides accommodation for up to 56,000 broilers. It is proposed to construct three new buildings at the site in order to increase the overall capacity of the unit to 240,000 bird places.

The proposals have the potential to result in additional ammonia emissions and associated impacts at sensitive ecological designations in the surrounding area. An Ammonia Assessment was therefore undertaken to quantify effects in the vicinity of the site.

Potential ammonia releases were defined based on the size and nature of the existing and proposed rearing operations. Impacts at sensitive receptors were quantified using dispersion modelling, the results compared with the relevant standards and the significance assessed in accordance with the appropriate guidance.

The results of the dispersion modelling indicated that impacts as a result of emissions under the proposed rearing arrangements were below the relevant significance criteria at all ecological designations. As such, it is considered that no further assessment of potential effects is required in support of planning consent for the development.

Based on the assessment results, potential ammonia emissions from the proposed expanded poultry unit are not considered to represent a constraint to the development.

7.2 Introduction

7.2.1 Background

Redmore Environmental Ltd was commissioned by Dunnimere Poultry Ltd to undertake an Ammonia Assessment in support of a planning application for the proposed expansion to poultry rearing operations at Dunnimere Farm, Tamworth.

The proposals have the potential to result in ammonia (NH_3) emissions and associated impacts at sensitive ecological locations. An Ammonia Assessment was therefore undertaken to quantify effects in the vicinity of the site.

7.2.2 Site Location and Context

Dunnimere Farm is located on land off Porthway Lane, Tamworth, at National Grid Reference (NGR): 421500, 309750. Reference should be made to Figure 1 for a map of the site and surrounding area.

The farm features an established poultry rearing unit. This comprises a single mechanically ventilated building of conventional design which currently provides accommodation for up to 56,000 broilers.

It is proposed to increase the overall capacity of the unit to 240,000 bird places. This will be facilitated through the construction of three additional mechanically ventilated buildings, as well as an increase in stocking of the existing shed.

The expanded unit may result in additional NH_3 emissions during normal operation. These have the potential to cause impacts at sensitive ecological locations within the vicinity of the site and have therefore been assessed within this report

7.3 Ammonia Background

7.3.1 Atmospheric Ammonia and Nitrogen Deposition

The breakdown of urea or uric acid in animal manures produces NH_3. As such, the potential for atmospheric emissions of NH_3 from agricultural facilities depends largely on the type of animals housed, the manure management system utilised during production and building ventilation arrangements.

Exposure to high concentrations of NH_3 can lead to direct damage to vegetation, as well as acute toxicity in some sensitive plants. Certain species are more sensitive than others. For example, lichens and mosses have a much lower tolerance to atmospheric NH_3 than higher plants species such as grasses and trees.

Atmospheric emissions of NH_3 can also lead to indirect effects on vegetation. Deposition of the nitrogen component of NH_3 on to land can cause a fertilising effect which leads to an increase in plants which thrive in a nitrogen rich environment. This may lead to competition between species and imbalances in the natural diversity of flora within the receiving habitat.

The combination of these effects can lead to changes in ecosystem structure and function. Some of the most significant problems resulting from NH_3 and nitrogen deposition are found at nature conservation sites located in intensive agricultural areas.

7.3.2 Critical Loads and Levels

A critical load is defined by the UK Air Pollution Information System (APIS)1 as:

"A quantitative estimate of exposure to deposition of one or more pollutants, below which significant harmful effects on sensitive elements of the environment do not occur, according to present knowledge. The exceedance of a critical load is defined as the atmospheric deposition of the pollutant above the critical load."

A critical load refers to deposition of a pollutant, while a critical level refers to pollutant concentrations in the atmosphere (which usually have direct effects on vegetation or human health).

When pollutant loads (or concentrations) exceed the critical load or level it is considered that there is a potential risk of harmful effects. The excess over the critical load or level is termed the exceedence. A larger exceedence is often considered to represent a greater risk of harm.

Maps of critical loads and levels and their exceedences have been used to show the potential extent of pollution damage and aid in developing strategies for reducing pollution. Decreasing deposition below the critical load is seen as means for preventing the risk of damage. However, even a decrease in the exceedence may infer that less harm will occur.

Table 1 presents the critical levels for the protection of vegetation for pollutants considered within this assessment.

Table 1 Critical Levels for the Protection of Vegetation

Pollutant	Critical Level	
	Concentration (µg/m³)	Averaging Period
NH_3	1	Where lichens and bryophytes are present (where they form a key part of the ecosystem integrity)
	3	Other vegetation

Critical loads have been designated within the UK based on the sensitivity of the receiving habitat and have been identified for the relevant designations considered within the assessment in Section 3.4.

7.4 Methodology

7.4.1 Introduction

The proposed expanded poultry unit may result in NH_3 emissions during normal operation. Associated impacts were assessed in accordance with the following stages:

- Identification of NH_3 sources;
- Identification of NH_3 emission rates;
- Dispersion modelling of NH_3 emissions; and,
- Comparison of modelling results with relevant criteria.

The following Sections outline the methodology and inputs used for the assessment.

7.4.2 Ammonia Sources

The existing unit comprises a single building which is ventilated via 12 ridge mounted fans. The proposed buildings will utilise the same ventilation arrangements as the existing shed.

There is the potential for NH_3 emissions from the ridge mounted fans on the existing and proposed buildings during normal operation. As such, releases from these sources have been considered throughout the assessment.

Litter generated by the proposed rearing operations will be removed from site at the end of each growing cycle. As such, there will be no external storage of manure and associated emissions were therefore not considered further in the assessment.

7.4.3 Ammonia Emission Rates

NH_3 emission rates for use in the assessment were obtained from the Environment Agency (EA) 'Intensive Farming Guidance Note' 2. The EA guidance indicates an NH_3 emission rate of 0.034kgNH_3/bird place/yr for fan ventilated broiler houses. The total release rates for the existing and proposed buildings were calculated by multiplying this value by the number of birds that will be housed. A summary of the results is provided in Table 2.

Table 2 Total NH_3 Emission Rates - Existing and Proposed Poultry Buildings

Source	NH_3 Emission Rate (kg/place/yr)	Number of Broilers	Total NH_3 Emission (kg/yr)	Total NH_3 Emission Rate (g/s)
Existing Building	0.034	60,000	2,040	0.065
Proposed Building 1	0.034	60,000	2,040	0.065
Proposed Building 2	0.034	60,000	2,040	0.065
Proposed Building 3	0.034	60,000	2,040	0.065

7.4.4 Dispersion Modelling

Dispersion modelling was undertaken using ADMS-5.2 (v5.2.4.0), which is developed by Cambridge Environmental Research Consultants (CERC) Ltd. ADMS-5 is a short-range dispersion modelling software package that simulates a wide range of buoyant and passive releases to atmosphere. It is a new generation model utilising boundary layer height and Monin-Obukhov length to describe the atmospheric boundary layer and a skewed Gaussian concentration distribution to calculate dispersion under convective conditions.

The model utilises hourly meteorological data to define conditions for plume rise, transport and diffusion. It estimates the concentration for each source and receptor combination for each hour of input meteorology and calculates user-selected long-term and short-term averages.

The model requires input data that details the following parameters:
- Assessment area;
- Process conditions;
- Pollutant emission rates;
- Terrain information;
- Building dimensions;
- Meteorological data;
- Roughness length (zo); and,
- Monin-Obukhov length.

These are detailed in the following Sections.

Modelling Scenarios

The scenarios considered in the modelling assessment are summarised in Table 3.

Table 3 Assessment Scenarios

Parameter	Modelled As	
	Long Term	Short Term
NH_3	Annual mean	-
Nitrogen deposition	Annual deposition	
Acid deposition	Annual deposition	

Predicted pollutant concentrations were summarised in the following format:

• Process contribution (PC) - Predicted pollutant level as a result of emissions from the proposed poultry sheds only; and,
• Predicted environmental concentration (PEC) - Total predicted pollutant level as a result of emissions from the proposed poultry sheds and the existing baseline.

Predicted ground level pollutant concentrations and deposition rates were compared with the relevant Critical Levels and Critical Loads. These criteria are collectively referred to as Environmental Quality Standards (EQSs).

Process Conditions and Emissions

The data shown in Table 2 was utilised with additional information provided by the applicant to define releases within the dispersion model. These are summarised within the following Section.

Emissions from the ridge mounted fans on the existing and proposed buildings were represented by 48-point sources within the model. A summary of the inputs is provided in Table 4.

Table 4 Model Inputs - Existing and Proposed Buildings

Parameter	Unit	Value
Number of sources (per building)	-	12
Positions	-	As shown on Figure 2
Source diameter	m	0.8
Source height	m	6.6
Source efflux velocity	m/s	11
Emission temperature	°C	22
Total NH_3 emission rate (per building)	g/s	0.065
NH_3 emission rate (per source)	g/s	0.0054

Emissions were assumed to be constant 24-hours per day, 365-days per year in order to provide a worst-case assessment of potential impacts.

Ecological Receptors

The Conservation of Habitats and Species Regulations (2010) and subsequent amendments require competent authorities to review applications and consents that have the potential to impact on ecological designations. A study was therefore undertaken to identify the following sites of ecological or nature conservation importance:
• Special Areas of Conservation (SACs), Special Protection Areas (SPAs) Sites of Special Scientific Interest (SSSI) or Ramsar sites within 10km of the unit; and,
• National Nature Reserves, Local Nature Reserves and Ancient Woodland within 2km of the unit

The study was completed using the Multi-Agency Geographic Information for the Countryside (MAGIC) web-based interactive mapping service3 which draws together information on key environmental schemes and designations. The findings indicated that the following ecological designations are located in the vicinity of the site and should be considered as part of the assessment:
• River Mease SSSI and SAC;
• Alvecote Pools SSSI;
• Stowe Pool and Walk Mill Clay Pit SSSI; and,

• Birches Barn Meadows SSSI.

For the purpose of the dispersion modelling, discrete receptors were placed on the closest point of the designations to the development site in order to facilitate a worstcase appraisal of potential impacts. These are summarised in Table 5.

Table 5 Ecological Receptor Locations

Receptor		NGR (m)	
		X	Y
E1	River Mease SSSI and SAC	420768.5	311697.1
E2	River Mease SSSI and SAC	421541.2	311149.2
E3	River Mease SSSI and SAC	422379.3	311114.3
E4	River Mease SSSI and SAC	423058.3	311007.7
E5	Alvecote Pools SSSI	423855.5	304907.0
E6	Alvecote Pools SSSI	424262.0	305221.3
E7	Alvecote Pools SSSI	424663.3	305385.5
E8	Stowe Pool and Walk Mill Clay Pit SSSI	412209.8	310103.0
E9	Birches Barn Meadows SSSI	427945.7	302163.8

Reference should be made to Figure 3 for a map of the ecological receptor locations.

Site Specific Critical Loads and Levels

Critical loads and levels have been designated within the UK based on the sensitivity and relevant features of the receiving habitat. A review of the APIS4 website was undertaken in order to identify the most sensitive habitats within each designation to NH_3 emissions and nitrogen and acid deposition, as well as the associated EQSs.

The relevant critical levels for NH_3 are summarised in Table 6.

Table 6 Critical Levels

Designation	Critical Level for NH_3 ($\mu g/m^3$)
River Mease SSSI and SAC	-(a)
Alvecote Pools SSSI	3
Stowe Pool and Walk Mill Clay Pit SSSI	-(a)
Birches Barn Meadows SSSI	3

NOTE: (a) Aquatic habitat and site interest feature is not sensitive to NH_3.

The relevant critical loads for nitrogen deposition are presented in Table 7.

Table 7 Critical Loads for Nitrogen Deposition

Designation	Feature	Relevant Nitrogen Critical Load Class	Critical Load (kgN/ha/yr)	
			Low	High
River Mease SSSI and SAC	Cobitis taenia - Spined Loach	Rivers and streams	-[a]	-[a]
Alvecote Pools SSSI	Aythya ferina - Pochard	Pioneer, low-mid, mid-upper saltmarshes	20	30
Stowe Pool and Walk Mill Clay Pit SSSI	Austropotamobius pallipes - White-Clawed (Or Atlantic Stream) Crayfish	Rivers and Streams	-[a]	-[a]
Birches Barn Meadows SSSI	Neutral grassland (Alopecurus pratensis - Sanguisorba officinalis grassland)	Low and medium altitude hay meadows	20	30

NOTE: (a) No critical loads have been assigned to the qualifying feature at the designation.

The relevant acid deposition critical loads are presented in Table 8.

Table 8 Critical Loads for Acid Deposition

Designation	Feature	Relevant Acid Critical Load Class	Acid Critical Load (keq/ha/yr)		
			CLMinN	CLMaxS	CLMaxN
River Mease SSSI and SAC	Cobitis taenia - Spined Loach	Freshwater	-[a]	-[a]	-[a]
Alvecote Pools SSSI	Aythya ferina - Pochard	Littoral sediment	-[b]	-[b]	-[b]
Stowe Pool and Walk Mill Clay Pit SSSI	Austropotamobius pallipes - White-Clawed (Or Atlantic Stream) Crayfish	Rivers and streams	-[a]	-[a]	-[a]
Birches Barn Meadows SSSI	Neutral grassland (Alopecurus pratensis - Sanguisorba officinalis grassland)	Acid grassland	0.223	0.48	0.703

NOTE: (a) No critical loads have been assigned to the qualifying feature at the designation.
(b) Habitat not sensitive to acid deposition.

Baseline Pollutant Levels

Background NH_3 concentrations, as well as nitrogen and acid deposition rates, at each ecological receptor location were obtained from the APIS website5. These are summarised in Table 9. It should

be noted that the reported values represent the maximum concentrations and deposition rates for the designations.

Table 9 Baseline Pollutant Levels

Receptor	Baseline Annual Mean NH_3 Conc. ($\mu g/m^3$)	Baseline Deposition Rate		
		Nitrogen (kgN/ha/yr)	Acid (keq/ha/yr)	
			Nitrogen	Sulphur
E1	3.18	13.8	1.0	0.2
E2	3.18	13.8	1.0	0.2
E3	3.18	13.8	1.0	0.2
E4	3.18	13.8	1.0	0.2

Receptor	Baseline Annual Mean NH_3 Conc. ($\mu g/m^3$)	Baseline Deposition Rate		
		Nitrogen (kgN/ha/yr)	Acid (keq/ha/yr)	
			Nitrogen	Sulphur
E5	2.52	21.3	1.5	0.2
E6	2.52	21.3	1.5	0.2
E7	2.52	21.3	1.5	0.2
E8	7.31	16.7	1.2	0.2
E9	2.44	20.9	1.5	0.2

Terrain Data

Ordnance Survey OS Terrain 50 data was included in the model for the site and surrounding area in order to take account of the specific flow field produced by variations in ground height throughout the assessment extents. This was pre-processed using the method suggested by CERC6.

Buildings

The dispersion of substances released from elevated sources can be influenced by the presence of buildings close to the emission point. Structures can interrupt the wind flows and cause significantly higher ground-level concentrations close to the source than would arise in the absence of the buildings.

Analysis of the site layout indicated that the proposed building should be included within the model in order to take account of effects on pollutant dispersion. Input geometries are shown in Table 10.

Table 10 Building Geometries

Building	NGR (m)		Height (m)	Length (m)	Width (m)	Angle (°)
	X	Y				
Existing Building	421506.8	309745.5	6.2	24.7	113.7	111.9

Building	NGR (m)		Height (m)	Length (m)	Width (m)	Angle (°)
	X	Y				
Proposed Building 1	421537.1	309732.9	6.2	24.7	113.7	111.9
Proposed Building 2	421566.9	309721.6	6.2	24.7	113.7	111.9
Proposed Building 3	421597.7	309709.4	6.2	24.7	113.7	111.9

Reference should be made to Figure 2 for a map of the building locations.

Meteorological Data

Meteorological data used in the assessment was taken from East Midlands Airport meteorological station over the period 1st January 2015 to 31st December 2019 (inclusive). East Midlands Airport meteorological station is located at NGR: 445745, 326055, which is approximately 29.8km north-east of the development. It is anticipated that conditions would be reasonably similar over a distance of this magnitude. The data was therefore considered suitable for an assessment of this nature.

All meteorological files used in the assessment were provided by Atmospheric Dispersion Modelling Ltd, which is an established distributor of data within the UK. Reference should be made to Figure 4 for wind roses of utilised meteorological records.

Roughness Length

The z0 is a modelling parameter applied to allow consideration of surface height roughness elements. A z0 of 0.3m was used to describe the modelling extents. This is considered appropriate for the morphology of the area and is suggested within ADMS-5 as being suitable for 'agricultural areas (max)'.

A z0 of 0.2m was used within the model to describe the meteorological site. This is considered appropriate for the morphology of the area and is suggested within ADMS-5 as being suitable for 'agricultural areas (min)'.

Monin-Obukhov Length

The Monin-Obukhov length provides a measure of the stability of the atmosphere. A minimum Monin-Obukhov length of 1m was used to describe the modelling extents. This value is considered appropriate for the nature of the area and is suggested within ADMS5 as being suitable for a 'rural location'.

A minimum Monin-Obukhov length of 10m was used to describe the meteorological site. This value is considered appropriate for the nature of the area and is suggested within ADMS-5 as being suitable for 'small towns <50,000'.

Deposition Calculation

Stage 1 Assessment

Nitrogen deposition rates were calculated using the conversion factors provided within EA document 'Technical Guidance on Detailed Modelling approach for an Appropriate Assessment for Emissions to Air AQTAG 06'7. Predicted pollutant concentrations were multiplied by the relevant deposition velocity and conversion factor to calculate the speciated dry deposition flux. The conversion factors used for the determination of nitrogen deposition are presented within Table 11.

Table 11 Conversion Factors to Determine Dry Deposition Flux for Nitrogen Deposition

Pollutant	Deposition Velocity (m/s)		Conversion Factor (µg/m²/s to kg/ha/yr of pollutant species)
	Grassland	Forest	
NH_3	0.020	0.030	260

The relevant deposition velocity for each ecological receptor was selected from Table 11 based on the vegetation type present within the designation.

Predicted ground level NH_3 concentrations were converted to kilo-equivalent ion depositions (keq/ha/yr) for comparison with the critical load for acid deposition at each of the identified ecological receptors. The conversion to units of equivalents, a measure of the potential acidifying effect of a species, was undertaken using the standard conversion factors shown in Table 12.

Table 12 Conversion Factors to Determine Dry Deposition Flux for Acid Deposition

Pollutant	Deposition Velocity (m/s)		Conversion Factor (µg/m²/s to keq/ha/yr of pollutant species)
	Grassland	Forest	
NH_3	0.02	0.03	18.5

The following formula was used to calculate predicted PCs as a proportion of the critical load function where PECs were identified to be greater than the CLminN value.

PC as %CL function = ((PC of S+N deposition)/CLmaxN) x 100

The above formula was obtained from the APIS website.

It should be noted that plume depletion was turned off for the Stage 1 Assessment.

Stage 2 Assessment

Scientific literature suggests that the dry deposition velocity of NH_3 is concentration dependent and is significantly reduced at high concentrations, i.e. from 0.02m/s to 0.03m/s at ambient concentration down to approximately 0.003m/s at a long-term average over 80µg/m3 9 10. When the concentration dependence of the deposition velocity is considered, the reported cumulative depletion ratio (the ratio of NH_3 deposited to the total emitted) was about 10% at 500m to 1,000m downwind.

In order to represent the above within the model, the Stage 2 Assessment utilised the variable concentration dependent deposition velocity function within ADMS-5, as outlined within EA guidance13. This utilised the concentrations predicted in Stage 1 to determine location specific deposition velocities throughout the assessment extents. This provided predicted annual mean NH_3 concentrations and deposition rates for comparison with the relevant criteria.

It should be noted that plume depletion was turned on for the Stage 2 Assessment.

Assessment Criteria

A summary of the assessment criteria utilised to provide interpretation of the modelling results is provided in the following Sections.

Environment Agency Guidance

The EA guidance 'Intensive farming risk assessment for your environmental permit' 14 provides screening thresholds for the assessment of predicted PCs to atmospheric NH_3 concentrations and nitrogen/acid deposition rates at ecological designations. A summary of the relevant criteria is provided in Table 13.

Table 13 EA Screening Thresholds

Designation	Lower Threshold (%)	Upper Threshold (%)
SPAs, SACs and Ramsar sites	4	20
SSSIs	20	50

The guidance indicates that if predicted PCs are less than the lower threshold of the relevant critical level or load, no further detailed assessment of potential impacts is required.

If predicted PCs are above the upper threshold of the relevant critical level or load, further detailed modelling is required in order to quantify potential effects.

If predicted PCs are above the lower threshold but less than the upper threshold of the relevant critical level or load, further detailed assessment may be required in order to determine the potential for in-combination effects due to other agricultural installations in the vicinity of the site.

Natural England Advisory Criteria

NE are a statutory consultee for planning applications in England. Review of consultation reports prepared by NE in relation to agricultural developments which are exempt from regulation by the EA under the Environmental Permitting (England and Wales) Regulations (2016) and subsequent amendments, such as the proposed expanded unit, indicates that the following advisory screening thresholds are applicable to predicted PCs to atmospheric NH_3 concentrations and nitrogen/acid deposition rates at statutory ecological designations:

- 1% of the relevant critical level or load at SACs, SPAs and Ramsar sites; and,
- 4% of the relevant critical level or load at SSSIs.

Should predicted PCs exceed the thresholds at relevant ecological designations, there is usually a requirement to consider whether there is the potential for in-combination effects as a result of emissions from other agricultural installations in the vicinity of the site.

It should be noted that the stated screening thresholds are advisory and have not been published as part of any formal guidance produced by NE. However, interpretation of the modelling results has been undertaken with reference to the criteria in order to determine an indicative requirement for further assessment as a result of emissions from the proposed development.

Modelling Uncertainty

Uncertainty in dispersion modelling predictions can be associated with a variety of factors, including:

- Model uncertainty - due to model limitations;
- Data uncertainty - due to errors in input data, including emission estimates, operational procedures, land use characteristics and meteorology; and,

• Variability - randomness of measurements used.

Potential uncertainties in the model results were minimised as far as practicable and worst-case inputs used in order to provide a robust assessment. This included the following:
• Choice of model - ADMS-5 is a commonly used atmospheric dispersion model and results have been verified through a number of studies to ensure predictions are as accurate as possible;
• Meteorological data - Modelling was undertaken using five annual meteorological data sets from a local observation station in order to take account of conditions at the site. The assessment was based on the worst-case year to ensure maximum concentrations were considered;
• Surface characteristics - The zo and Monin-Obukhov length were determined for both the dispersion and meteorological sites based on the surrounding land uses and guidance provided by CERC. Terrain data was included and processed using the method outlined by CERC;
• Emission rates - Emission rates were derived from EA guidance. As these values have been validated and reported at similar facilities, they are considered to be representative of potential releases during normal operation;
• Proposed conditions - Operational parameters were provided by the applicant to describe the existing and proposed rearing operations at the farm. As such, these are considered to be representative of anticipated operating conditions; and,
• Variability - All model inputs are as accurate as possible and worst-case conditions were considered as necessary in order to ensure a robust assessment of potential pollutant concentrations.

Results were considered in the context of the relevant EQSs, EA and NE criteria. It is considered that the use of the stated measures to reduce uncertainty and the use of worst-case assumptions when necessary has resulted in model accuracy of an acceptable level.

7.5 Assessment

7.5.1 Introduction

Dispersion modelling was undertaken using the input data specified previously. The results are summarised in the following Sections.

7.5.2 Ammonia

Predicted annual mean NH_3 PCs at the ecological receptor locations are summarised in Table 14.

Table 14 Predicted Annual Mean NH_3 PC Concentrations

Receptor		Predicted Annual Mean NH_3 PC ($\mu g/m^3$)				
		2015	2016	2017	2018	2019
E1	River Mease SSSI and SAC	0.014	0.014	0.016	0.012	0.016
E2	River Mease SSSI and SAC	0.046	0.033	0.044	0.046	0.046
E3	River Mease SSSI and SAC	0.083	0.065	0.081	0.071	0.082
E4	River Mease SSSI and SAC	0.044	0.048	0.047	0.036	0.043
E5	Alvecote Pools SSSI	0.003	0.003	0.002	0.003	0.003
E6	Alvecote Pools SSSI	0.003	0.003	0.003	0.003	0.002
E7	Alvecote Pools SSSI	0.003	0.003	0.003	0.003	0.002
E8	Stowe Pool and Walk Mill Clay Pit SSSI	0.001	0.001	0.001	0.001	0.001
E9	Birches Barn Meadows SSSI	0.001	0.001	0.001	0.001	0.001

Maximum predicted annual mean NH3 concentrations at the ecological receptor locations are summarised in Table 15.

Table 15 Maximum Predicted Annual Mean NH_3 PC Concentrations

Receptor		Maximum Predicted Annual Mean NH_3 PC Concentration ($\mu g/m^3$)	PC Proportion of EQS (%)
E1	River Mease SSSI and SAC	0.016	-
E2	River Mease SSSI and SAC	0.046	-
E3	River Mease SSSI and SAC	0.083	-
E4	River Mease SSSI and SAC	0.048	-
E5	Alvecote Pools SSSI	0.003	0.1
E6	Alvecote Pools SSSI	0.003	0.1
E7	Alvecote Pools SSSI	0.003	0.1
E8	Stowe Pool and Walk Mill Clay Pit SSSI	0.001	-
E9	Birches Barn Meadows SSSI	0.001	-

As shown in Table 15, the predicted PC proportion of the EQS was less than 1% at Alvecote Pools SSSI. As such, in accordance with the EA guidance and the advisory NE criteria, impacts are not considered

to be significant and no further assessment of potential effects at the designation as a result of NH_3 emissions is required.

7.5.3 Nitrogen Deposition

Predicted annual nitrogen PC deposition rates at the receptor locations are summarised in Table 16.

Table 16 Predicted Annual PC Nitrogen Deposition Rates

Receptor		Predicted Annual PC Nitrogen Deposition Rate (kgN/ha/yr)				
		2015	2016	2017	2018	2019
E1	River Mease SSSI and SAC	0.072	0.074	0.084	0.065	0.085
E2	River Mease SSSI and SAC	0.240	0.172	0.227	0.240	0.240
E3	River Mease SSSI and SAC	0.432	0.336	0.424	0.367	0.424
E4	River Mease SSSI and SAC	0.231	0.250	0.243	0.187	0.223

Receptor		Predicted Annual PC Nitrogen Deposition Rate (kgN/ha/yr)				
		2015	2016	2017	2018	2019
E5	Alvecote Pools SSSI	0.022	0.024	0.018	0.020	0.020
E6	Alvecote Pools SSSI	0.025	0.025	0.020	0.022	0.019
E7	Alvecote Pools SSSI	0.025	0.024	0.021	0.022	0.018
E8	Stowe Pool and Walk Mill Clay Pit SSSI	0.004	0.005	0.003	0.005	0.005
E9	Birches Barn Meadows SSSI	0.005	0.005	0.005	0.005	0.004

Maximum predicted annual nitrogen deposition rates at the receptor locations are summarised in Table 17.

Table 17 Maximum Predicted Annual PC Nitrogen Deposition Rates

Receptor		Maximum Predicted Annual PC Nitrogen Deposition Rate (kgN/ha/yr)	PC Proportion of EQS (%)	
			Low EQS	High EQS
E1	River Mease SSSI and SAC	0.085	-	-
E2	River Mease SSSI and SAC	0.240	-	-
E3	River Mease SSSI and SAC	0.432	-	-
E4	River Mease SSSI and SAC	0.250	-	-
E5	Alvecote Pools SSSI	0.024	0.1	0.1
E6	Alvecote Pools SSSI	0.025	0.1	0.1
E7	Alvecote Pools SSSI	0.025	0.1	0.1
E8	Stowe Pool and Walk Mill Clay Pit SSSI	0.005	-	-
E9	Birches Barn Meadows SSSI	0.005	0.0	0.0

As shown in Table 17, the predicted PC proportion of the EQS was less than 1% at all ecological designations. As such, in accordance with the EA guidance and the advisory NE criteria, impacts are not considered to be significant and no further assessment of potential effects at the designation as a result of nitrogen deposition is required.

7.5.4 Acid Deposition

Predicted annual acid PC deposition rates at the ecological receptor locations are summarised in Table 18.

Table 18 Predicted Annual PC Acid Deposition Rates

Receptor		Predicted Annual PC Acid Deposition Rate (keg/ha/yr)				
		2015	2016	2017	2018	2019
E1	River Mease SSSI and SAC	0.005	0.005	0.006	0.005	0.006
E2	River Mease SSSI and SAC	0.017	0.012	0.016	0.017	0.017
E3	River Mease SSSI and SAC	0.031	0.024	0.030	0.026	0.030
E4	River Mease SSSI and SAC	0.016	0.018	0.017	0.013	0.016
E5	Alvecote Pools SSSI	0.002	0.002	0.001	0.001	0.001
E6	Alvecote Pools SSSI	0.002	0.002	0.001	0.002	0.001
E7	Alvecote Pools SSSI	0.002	0.002	0.002	0.002	0.001
E8	Stowe Pool and Walk Mill Clay Pit SSSI	0.000	0.000	0.000	0.000	0.000
E9	Birches Barn Meadows SSSI	0.000	0.000	0.000	0.000	0.000

Maximum predicted annual acid deposition rates at the ecological receptor locations are summarised in Table 19.

Table 19 Maximum Predicted Annual PC Acid Deposition Rates

Receptor		Maximum Predicted Annual PC Acid Deposition Rate (keq/ha/yr)	Proportion of EQS (%)
E1	River Mease SSSI and SAC	0.006	-
E2	River Mease SSSI and SAC	0.017	-
E3	River Mease SSSI and SAC	0.031	-
E4	River Mease SSSI and SAC	0.018	-
E5	Alvecote Pools SSSI	0.002	-

Receptor		Maximum Predicted Annual PC Acid Deposition Rate (keq/ha/yr)	Proportion of EQS (%)
E6	Alvecote Pools SSSI	0.002	-
E7	Alvecote Pools SSSI	0.002	-
E8	Stowe Pool and Walk Mill Clay Pit SSSI	0.000	-
E9	Birches Barn Meadows SSSI	0.000	0.1

As shown in Table 19, the predicted PC proportion of the EQS was less than 1% at Birches Barn Meadows SSSI. As such, in accordance with the EA guidance and the advisory NE criteria, impacts are not considered to be significant and no further assessment of potential effects at the designation as a result of acid deposition is required.

7.4 Carbon Dioxide

The proposed poultry development will result in very low emissions of carbon monoxide. Most carbon monoxide emissions associated with poultry houses are usually from the fuel used to heat the buildings. However, the buildings will be heated using biomass boilers utilising a renewable energy source and encouraged by Government policy.

Any carbon dioxide emitted from the poultry development would also be off-set due to the reduction in emissions from transporting poultry meat from elsewhere. Increasing the amount of home produced poultry meat will reduce the need for importing meat from abroad and hence help to reduce the level of transportation required.

7.5 Dust

This is addressed in Chapter 9 – Amenity.

7.6 Conclusion

Redmore Environmental Ltd was commissioned by Dunnimere Poultry Ltd to undertake an Ammonia Assessment in support of a planning application for the proposed expansion to poultry rearing operations at Dunnimere Farm, Tamworth.

The farm features an established poultry rearing unit. This comprises a single mechanically ventilated building which currently provides accommodation for up to 56,000 broilers. It is proposed to construct three new buildings at the site in order to increase the overall capacity of the unit to 240,000 bird places.

The proposals have the potential to result in additional NH_3 emissions and associated impacts at sensitive ecological designations in the surrounding area. An Ammonia Assessment was therefore undertaken to quantify effects in the vicinity of the site.

Potential NH_3 releases were defined based on the size and nature of the existing and proposed poultry rearing operations. These were represented within a dispersion model produced using ADMS-5. Impacts at sensitive ecological designations in the vicinity of the site were quantified, the results compared with relevant standards and the significance assessed in accordance with the relevant criteria.

The results of the dispersion modelling indicated that impacts as a result of emissions from the proposed development were below the relevant significance criteria at all ecological designations. As such, impacts are not considered to be significant and no further assessment of potential effects is required in support of planning consent for the scheme.

Based on the assessment results, potential NH_3 emissions from the proposed expanded poultry unit are not considered to represent a constraint to the development.

CHAPTER 8 – ECOLOGY

8. Ecology & Biodiversity

8.1 Introduction

8.1.1 Background to Development

Planning permission will be sought for the construction of three poultry units adjacent to an existing shed and a rural worker dwelling at Dunnimere Farm near Tamworth.

Arbor Vitae were commissioned by Roger Parry and Partners to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species.

8.1.2 Scope of Survey

The survey is primarily designed to:
- Identify and record habitats and important ecological features on site;
- Evaluate the potential of the proposed development site to provide opportunities for protected species;
- Determine any likely impact which the development and landscape proposals may have on these.
- Identify opportunities for the enhancement of habitats and biodiversity features on site.

8.1.3 Key Principles

All ecological surveys conducted by Arbor Vitae Environment Ltd are underpinned by the following key principles, as outlined by CIEEM (2018):
Avoidance - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).
Mitigation - Adverse effects should be avoided or minimized through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.
Compensation - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures. Enhancements - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

8.2 Site Description

8.2.1 Location, Landscape and Background

Dunnimere Farm is located approximately 3.7km north of Tamworth between Fisherwick and Haunton villages (Figure 1). The landscape in the area is heavily dominated by arable agriculture with the land being intensively managed (Figure 2).

There is an existing poultry shed on site including access track, parking areas and infrastructure.

8.3 Survey Methodology

8.3.1 Desk Study

An initial desk study was composed to gain background information regarding any protected species or designations within the area. The main sources of information were MagicMap and NBN Atlas.

8.3.2 Site Survey

A site visit was made on 25/07/2022. The survey was carried out in accordance with CIEEM (2017) best practice guidelines. The objective of the survey was to find and record any signs of use by protected species and to note the habitat features present.

An assessment of the available habitats both on and adjacent to the site led to consideration of the potential of the site for the following protected species:

- Badger
- Bats
- Breeding birds
- Great Crested Newt

The survey methodology was tailored to evaluate the area for these species in the following ways:

Badger
An area within 50 metres of the site was closely searched for the following signs of badger activity:

- Setts,
- Tracks and footprints,
- Latrines,
- Snuffle holes.

Bats
The site was assessed in terms of its suitability to support bat species. Hedgerow habitat and nearby potential habitat were assessed and recorded and potential impacts from the proposals considered.

Breeding birds
The site was assessed in terms of its suitability to support breeding bird populations. Hedgerow habitat and nearby potential habitat were assessed and recorded.

Great crested newt
A desk study and a ground search were conducted to search for any areas of open water within 250 metres. Waterbodies were then assessed based on the Habitat Suitability Index for great crested newts (Oldham et al., 2000 and ARG UK, 2010).

8.3.3 Personnel

The survey was carried out by Phillipa Stirling MSc ACIEEM: Ecologist. Natural England bat licence number: 2021-52205-CLS-CLS and GCN licence number: 2019-42631-CLS-CLS.

8.3.4 Constraints

There were no constraints to the survey work being carried out.

8.4 Survey Results

8.4.1 Desk Study

There are statutorily designated sites within 1km of the search area. The search included Ramsar, SSSI, SAC, SPA, LWS, NNR and LNR.

Results from the desk study revealed that within a 1km radius of the proposed development site the following protected species have been recorded:

Species	Distance	Protection
European Hedgehog	1km	s.41 NERC

Badger	0.5km	Protection of Badgers Act 1992, Wildlife and Countryside Act 1981.
Common and soprano pipistrelle Brown long eared bat Noctule	0.9km	European Protected Species, Wildlife and Countryside Act 1981.
Barn owl	0.9kmkm	Wildlife and Countryside Act 1981.

8.4.2 Habitats on Site

All habitats are classified using JNCC's Phase 1 Habitat Survey Handbook (JNCC, 2010).

Arable
The proposed development site for the poultry sheds lies within a larger arable field with a wheat crop which has been recently harvested.

There is a corridor of arable land between the existing poultry shed and the west boundary of the field which consists of a sown oat crop with the following arable species throughout: scentless chamomile, scarlet pimpernel, creeping thistle, common daisy, white clover, common poppy and hoary willowherb.

Hedgerow
The west boundary of the field is marked by a continuous length of native hedgerow, including: English elm, hawthorn, blackthorn and field maple. Bramble and dog rose are also present with hogweed, cow parsley and nettle at the ground level.

8.4.3 Adjacent Habitats

Arable
The surrounding land use is in arable production.

Hedgerow
A mature network of hedgerow is present throughout the area which includes occasional mature trees.

8.4.4 Protected Species

Badgers
Badger have been recorded within 500m of the site and a previous survey at the site found a badger latrine beneath the west hedgerow.

The hedgerows and surrounding land were searched for field signs of badger- none were found during the survey.

Bats
The proposed development site offers limited opportunities for bat species and there are no structures or trees which provide potential roosting features.

Breeding birds
The hedgerow at the margins of the arable field may provide suitable nesting and feeding sites for breeding birds. The open arable field may also provide suitable nesting sites for ground nesting birds such as skylark. No evidence of nesting birds was found during the survey of the site.

Great crested newt
Two ponds are mapped within 250m of the proposed development site but upon inspection were found to be completely dry and dominated by mature and development trees including: goat willow, grey willow, ash, oak and hawthorn. A further four ponds are mapped within 500m of the site which contain no water.

8.5 Potential Ecological Impact

8.5.1 Habitat Assessment

The proposals will result in the development of approximately 0.9ha of arable land. The biodiversity value of this habitat type is very low and therefore the overall impact of the proposal will have a negligible impact on ecological features. No protected or priority habitats will be affected by the work.

The proposed dwelling boundary will sit close to the west hedgerow. Suitable buffers need to be implemented to ensure the development has no impact upon the root protection area of the hedge.

8.5.2 Protected Species Assessment

Badger
No evidence of badger was found on or adjacent to the proposed development site. There are no known badger setts in the vicinity of the area and the proposals will have no impact upon this species. Given the presence of historic field signs of badger near to the site, precautionary measures will be adopted.

Bats
The proposals will have no direct impact upon bats, their roosting sites or features/structures which may provide roosting features. It will be necessary to ensure that surrounding hedgerow systems remain unlit to maintain 'dark movement corridors' for bat species and other nocturnal wildlife.
Breeding birds
The proposals have potential to disturb breeding birds, if present. Mitigation will be required.

Great crested newt
The proposals will have no impact upon GCN given that:
- The landscape surrounding the site provides very limited foraging/resting opportunities for GCN,
- there are no records of the species within 1km,
- there are no ponds within 250m of the site an
- the intensively managed landscape is unlikely to be in use by this species.

Studies have demonstrated that 95% of all summer refuges of GCN fall within 63m of their summer breeding pond (Jehle, 2000). Subsequent studies also found that capture rates of GCN were at their highest within 50m of a breeding site with a significant reduction in capture rates beyond 100m (Cresswell and Whitworth, 2004).

8.6 Avoidance, Mitigation and Enhancement

8.6.1 Habitat Mitigation

Mitigation is not required for the loss of 0.9ha of arable land but there is an opportunity to provide an increase in good quality habitats on site. See section 6.3.

A distance of at least 5m will be left between the west hedgerow and any construction work which requires excavation of more than 20cm.

8.6.2 Protected Species Mitigation

Badger
A section of the west hedgerow running parallel with the construction site will be fenced off during works. This will maintain a corridor along the hedge which will be free from disturbance if badger decide to use this route.

Bats
All artificial lighting will be designed with nocturnal wildlife in mind. The following measures will be incorporated into lighting plans for the site:
- Hedgerows and key habitat features including mature trees on the site will not be illuminated in order to retain dark movement corridors for nocturnal wildlife. Illuminance along these features should be below 0.2 lux on the horizontal plane, and 0.4 lux on the vertical plane.
- External lights will be hooded and directed toward the ground to reduce upward light spill
- A warm white spectrum will be adopted throughout the scheme to reduce blue light component (<2700Kelvin).
- Internal luminaires will be recessed where installed in proximity to windows to reduce glare and light spill. LED luminaires should be used internally where possible due to their sharp cut-off, lower intensity, and dimming capability.
- Luminaires will always be mounted horizontally with an upward light ratio of 0%.

Breeding birds
Where possible, groundworks will begin between September and March. All excavation work within the arable field will be completed outside of the main breeding season for birds.
If this is not possible, a thorough breeding bird survey will be carried out within the development are to check for active nesting. If any nests are found, works will be postponed until such a time that nesting is complete and there is no risk to breeding birds.

General avoidance measures
The following measures should be implemented to decrease the likelihood of killing/injuring small animals which may be present:
- If piles of rubble, logs, bricks, other loose materials or other potential refuges are to be disturbed, this should be done by hand and carried out during the active season (March to October) when the weather is warm to allow animals to disperse naturally.
- All building materials, rubble, bricks and soil must be stored on raised platform (e.g. wooden pallets) to prevent their use as refuges by wildlife.
- Where possible, trenches should be opened and closed in the same day to prevent any wildlife becoming trapped. If it is necessary to leave a trench open overnight then it should be provided with a means of escape in the form of a shallow ramp.
- Any open pipework should be capped overnight. All open trenches and pipework should be inspected at the start of each working day to ensure no animal is trapped.
- Any common reptiles or amphibians discovered should be allowed to naturally disperse. Advice should be sought from an appropriately qualified and experienced ecologist if large numbers of common reptiles or amphibians are present.

8.6.3 Ecological Enhancement

The new boundary of the development site will be planted with a species-rich native hedgerow to create approximately 300m of new hedge. Species to be planted will include a minimum of 7 different varieties such as: hawthorn, hazel, English elm, field maple, oak, holly, dog rose, wild privet and guelder rose.

8.7 Summary

Planning permission will be sought for the construction of three poultry units adjacent to an existing shed and a rural worker dwelling at Dunnimere Farm near Tamworth. Arbor Vitae were commissioned by Roger Parry and Partners to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species.

The proposals will result in the development of approximately 0.9ha of arable land. The biodiversity value of this habitat type is very low and therefore the overall impact of the proposal will have a negligible impact on ecological features. No protected or priority habitats will be affected by the work.

The proposed dwelling boundary will sit close to the west hedgerow. A distance of at least 5m will be left between the west hedgerow and any construction work which requires excavation of more than 20cm. This is to ensure that the root protection area of the hedge is not compromised due to construction work.

No evidence of badger was found on or adjacent to the proposed development site. There are no known badger setts in the vicinity of the area and the proposals will have no impact upon this species. Given the presence of historic field signs of badger near to the site, precautionary measures will be adopted.

The proposals will have no direct impact upon bats, their roosting sites or features/structures which may provide roosting features. It will be necessary to ensure that surrounding hedgerow systems remain unlit to maintain 'dark movement corridors' for bat species and other nocturnal wildlife.

The proposals will have no impact upon GCN given that: The landscape surrounding the site provides very limited foraging/resting opportunities for GCN, there are no records of the species within 1km, there are no ponds within 250m of the site and the intensively managed landscape is unlikely to be in use by this species. Mitigation will not be required.

Where possible, groundworks will begin between September and March. All excavation work within the arable field will be completed outside of the main breeding season for birds. If this is not possible, a thorough breeding bird survey will be carried out within the development are to check for active nesting. If any nests are found, works will be postponed until such a time that nesting is complete and there is no risk to breeding birds.

Approximately 300m of species-rich native hedgerow will be planted around the new boundary of the development. This will provide habitat and opportunities to a variety of wildlife including: bats, badgers, breeding birds, hedgehog, invertebrates and common amphibians.

CHAPTER 9 – AMENITY

9 Amenity

9.1 Introduction

The proposed poultry development at Dunnimere Farm does have the potential to affect amenity issues in the surrounding area. There are residential and commercial properties in relatively close proximity of the site (within 400 metres). The following issues have been assessed in this chapter in relation to the development; dust, odour, flies and vermin. Noise and odour issues have been covered in separate chapters. The potential for nuisance caused by these issues could potentially impact on local population.

Statutory nuisances are regulated by Part III of the Environmental Protection Act (EPA) 1990. The powers allow for action to be taken by local authorities or individuals against statutory nuisance that exists or is likely to occur or recur. Statutory Nuisances include smoke, fumes or gases emitted from premise, any dust, steam, smell or other effluvia arising on industrial, trade or business premises, which are prejudicial to health or a nuisance. There is a defence of using Best Available Technique (BAT) to prevent the nuisance or counteract its effects together with reasonable excuse. The granting of planning permission is not a defence.

The NPPF sets out in Chapter 11 Conserving and enhancing the natural environment, that when considering the location of new development, the effects (including cumulative) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution, should be taken into account.

In this Chapter, the types and sources of potential nuisances are identified and assessed against the potential sensitivity of individual receptors. This is based on the nature and proximity to the activity, and also general wind direction and nature of the receptor. This uses risk assessment tables to identify sources, receptors and pathways in relation to potential amenity issues. This is based on guidance relating to intensive livestock farming (from the Environment Agency's (EA's) 'Simple assessment of environmental risk for accidents, odour, noise and fugitive emissions (EPR – H1) – Version 080328 (March 2008)) and includes comprehensive management plans based on accepted guidance and Best Available Technique (BAT).

9.2 Baseline Environment and Sensitive Receptors

The application site is adjacent to the existing poultry unit on the east side of Portway Lane. The site is currently down to arable. Land management operations include the application of farm yard manure, produced on the holding and artificial fertilisers. Poultry manure can be brought in from off the farm for additional fertiliser if necessary. The storage and application of manure on arable land are existing potential sources of flies and odour.

There is currently one poultry building on site.

It is generally accepted that a 400 metre zone around intensive livestock development is the threshold for nuisance complaints relating to airborne emissions. Potentially receptive sensors within 400m of the site are as follows (based on site area not emissions points which may actually be further away):

Residential Properties:
White Poste End
The Annexe, White Poste End
2 Dunnimere Farm Cottages
1 Dunnimere Farm Cottages
6 Council Houses
5 Council Houses
4 Council Houses
3 Council Houses

Public rights of way:
Footpath to the north east of the site

Roads:
Portway Lane to the West of site –

Further information:
The village of Harlaston is around 1.1 kilometres to the North.

The prevailing weather/wind direction is from a south-west direction.

9.3 Mitigation Measures

Standard noise, odour, dust, vermin and fly management controls will be put in place. These are integral to the design of poultry buildings and management operations will be as the best available technique. The site will operate under an Environmental Permit (EP) issued by the EA and operating under an EP demonstrates that the site has demonstrated that 'best available techniques' will be used to minimise emissions to the receiving environment. Further details can be seen in Chapter 4. Mitigation measures have been taken into account when considering potential amenity issues.

9.4 Flies

Flies should not be a problem on well managed and efficient broiler production sites, primarily as most flies and larvae hatching in the litter are eaten by the hens. Flies can however be a problem outside the buildings when a site is not managed efficiently as set out below:

Feed storage – flies will be attracted to animal feed as breeding areas if it is stored in unsuitable buildings or storage bins. This will be designed out of the proposed development at Dunnimere Farm by installing modern feed storage systems to meet the requirements of the Food Hygiene Regulations and the 'Red Tractor' Farm Assurance Standards.

Manure storage – this is important when preventing fly infestations as it can be attractive as a breeding site. By reducing moisture levels in the manure (to around 30%) flies will not find it suitable for laying eggs. Frequent inspections of storage sites are required to ensure there is no fly activity as even manure that is produced, transported and delivered in a dry, fly free condition can sometimes become infested.

The litter will be removed at the end of each production cycle. It will be cleared out by specialist contractors using small machines such as bobcats and loaded into trailers directly inside the doors. The trailers will be sheeted and the litter taken straight off the site. Any manure required to be stored on the farm will be temporary field storage sites or suitable existing storage facilities at the main farmstead.

Manure storage – this is important when preventing fly infestations as it can be attractive as a breeding site. By reducing moisture levels in the manure (to around 30%) flies will not find it suitable for laying eggs. Frequent inspections of storage sites are required to ensure there is no fly activity as even manure that is produced, transported and delivered in a dry, fly free condition can sometimes become infested. There will be careful management and monitoring of any manure stockpiles, although the management practices will minimise the need to stockpile by having quick spreading and incorporating to land. Any stockpiled manure will be checked once a week between April and October inclusive to ensure there is no fly activity in the manure. If on these inspections, any fly larvae are found in the manure, immediate steps will be taken to control the fly and larvae populations. The methods to be used for the control are those recommended in the 'Code of Practice for the use of Poultry Manure'. This includes keeping records of inspections, covering the stockpiles at the first sign of fly activity (sheeting raises the temperatures which kills any flies and larvae), ensure the manure remains

covered for at least 10 days, and during the summer months of May to September not to store manure near to residential areas.

The main source for fly nuisance is the manure storage and the pathway is through self dispersal through flight with the potential impact being general annoyance, the need for control and potential spread of disease. There is a slight occasional risk that spreading during the summer could introduce a further potential source of flies, although spreading of poultry manure is already taking place using manure from the holding.

In conclusion, there should not be a risk of fly problems from the development itself, although there could be a number of sensitive receptors close to where manure spreading is taking place (an existing activity). Control measures and mitigation methods will however limit the effect of flies. Furthermore it is anticipated that the muck will be exported off the farm.

9.5 Vermin

The main issue with regard to the potential for vermin on the site is the storage of feed. This will be limited however through installing modern feed storage systems to meet the requirements of the Food Hygiene Regulations and the 'Red Tractor' Farm Assurance Standards. The site will also be checked regularly for the presence of any animals that could considered to be vermin. All employees will be fully trained to deal with vermin control and further advice can be sought from Lichfield District Council if required.

The main source for vermin is feed storage and the pathway is self-dispersal over land. The potential impact is general annoyance, the need for control and potential spread of disease. Mitigation will include storage of feed in sealed containers, maintenance of the feed containers to prevent deterioration, and fast removal of any feed spillages.

In conclusion, vermin are only a potential risk in close proximity to the source and it is expected that no significant vermin impacts will result from the proposed poultry development. The separation distance from the site and potential receptors will be too far to cause any loss of amenity and the development will therefore not have a significant impact.

9.6 Dust

The main sources of dust from poultry buildings are the birds themselves, the food and litter. Dust levels have found to vary depending on the number of birds, their age and the activity levels within buildings. The particle size of the dust will also vary although in general, particles smaller than 2 microns (2 um) will account for around 70% of the number but only 5% of the mass. Larger particles of greater than 5 um will account for less than 10% in number but between 40% and 90% of the dust mass. Dust particles can be emitted into the atmosphere through the ventilation systems so potential for impact is greater during the summer months when fans will be operating at a higher rate. Dust baffles can however be used over the ventilation fans to avoid any dust becoming airborne. The larger dust particles will tend either to not get into the ventilation fans, or if they are expelled from the building will be immediately deposited on the ground. Smaller particles can be carried in the wind. As the distance from the site becomes greater, the concentration of dust will fall to a level below air quality guidelines and become indistinguishable from normal background dust levels.

In addition there is the potential for dust from vehicles moving over dusty surfaces and the wind blowing over dusty surfaces as well as through the ventilation system. The pathway for the transportation of dust particles is the wind with greater emissions of dust in stronger winds but being countered by greater dilution. Potential impacts of dust will be respiratory tract/eye irritation or the perception of health effects for sensitive receptors within 400m of the site. Mitigation available includes dust baffles over the ventilation fans, internal handling of manure and good practice during construction such as dampening down surfaces.

In conclusion, there are few receptors close enough to be significantly affected by dust as course dust will tend not to travel in significant volumes further than 100m from the source due to reductions in concentration and deposition with distance. The potential receptors are outside of this zone.

In addition the prevailing wind is from the south-west away from residential properties. Impact from vehicles will not have a significant impact as the poultry vehicles will not considerably alter the baseline level of dust. The greatest dust emissions are likely to arise during the construction and decommissioning phases for a short period of time and it is considered that no significant impact in terms of dust nuisance will occur.

9.7 Conclusion

The risk assessment suggests that significant adverse impacts on local amenity as a result of the proposed poultry development are unlikely.

There should not be a risk of fly problems from the development itself, although there could be a number of sensitive receptors close to where manure spreading is taking place. Control measures and mitigation methods will however limit the effect of flies. The greatest risk is from flies being attracted to any in field heaps of manure. It is anticipated that the majority of the manure will be taken straight off the site after clean-out. Vermin are only a potential risk in close proximity to the source and it is expected that no significant vermin impacts will result from the proposed poultry development.

There are no residential receptors close enough to be significantly affected by dust as course dust will tend not to travel in significant volumes further than 100m from the source due to reductions in concentration and deposition with distance. The greatest dust emissions are likely to arise during the construction and decommissioning phases for a short period of time and also vehicle movements. It is considered that no significant impact in terms of dust nuisance will occur.

CHAPTER 10 – NOISE & VIBRATION

10. Noise & Vibration

This chapter assesses the noise and vibration impacts of the proposed poultry installation facility on nearby residential receptors. Impacts arising from construction, operation and decommissioning and associated traffic are assessed, where appropriate, using quantitative techniques. Using worst case assumptions regarding operational noise emissions, traffic levels and noise insulation levels of the building fabric, all predicted impacts are minor or negligible only. Impacts will be easily mitigated by incorporating appropriate noise baffling and insulation.

i. Introduction

10.1.1 Scope

There is the potential for noise from the proposed poultry installation to affect sensitive receptors around the site and, as such, the following impacts have been considered within this assessment. Sensitive receptors are predominantly residential properties around the proposed site.

Chapter 4 (Development Description), sets out the detailed design for the proposed poultry installation.

The operation of the proposed poultry installation is not considered to have the potential to generate significant sources of vibration. As such, the impacts from vibration during the operation of the proposed poultry installation have not been considered further.

For decommissioning of the poultry installation site, the resultant noise impacts would be likely to be similar to those for the construction phase.

10.1.2 Terminology

Relevant British Standards and planning guidance refer to noise in decibels (dB). The decibel scale is logarithmic rather than linear; hence a 3dB increase in the sound pressure level represents a doubling of sound energy present. Judgement of the loudness of a sound is subjective but, as a general guide, nothing less than a change of 10dB corresponds to a doubling of perceived loudness.

The A weighted sound level, dB(A), takes this response into consideration and is used for the measurement of environmental noise. It can be used to indicate the subjective human response to noise.

Environmental noise usually varies continuously from second to second. It is impractical to specify the sound level for each second. As such, human response has been related to various units, which allow for the fluctuating nature of sound.

These include;

- **LAeq,t** – The A weighted equivalent continuous sound pressure level. A representation of a continuous sound level containing the same amount of sound energy as the measured varying noise over the measurement period, t.
- **LA90,t** – The A weighted sound pressure level that is exceeded for 90% of the measurement period, t. This is commonly used as the background noise level for assessing the effects of industrial noise in the UK.
- **LA10,t** – The A weighted sound pressure level that is exceeded for 10% of the measurement period, t. This is commonly used in the UK for describing traffic noise levels.
- **LAMax** – The highest A weighted noise level recorded during a noise measurement period.

10.1.3 Legislation, Planning Policy and Other Guidance

Noise nuisance in the UK is principally governed under Statutory Nuisance legislation under the Environmental Protection Act (1990 – as amended). No legal standards regarding noise levels are applied; however, guidelines are provided both in British Standards (BS) and by the World Health Organisation (see later sections of this chapter). Noise nuisance is generally policed by Local Authority Environmental Health Departments.

ii. Methodology & Approach

10.2.1 Documents Consulted

The noise impact assessment has assessed the potential impact of noise and vibration from the proposed poultry installation (including both normal noise emissions and any occasional intense noise sources) and alterations to traffic flows during the construction, operation and decommissioning phases. The following guidance has been used for the assessment;

- Planning Practice Guidance – Noise (updated March 2014)
- BS5228: 1997 'Noise and Vibration Control on Construction and Open Sites',
- BS4142: 1997 'Method for Rating Industrial Noise Affecting Mixed Residential and Industrial Areas',
- BS7445: 2003 'Description and Measurement of Environmental Noise',
- Department of Transport 'Calculation of Road Traffic Noise' 1984
- World Health Organisation 'Guidelines for Community Noise', 1999.
- Institute of Environmental Management and Assessment (IEMA), and Institute of Acoustics (IOA) 'Guidelines for Noise Assessment', 2002
- Highways Agency 'Design Manual for Roads and Bridges –Volume II', 1994

10.2.2 Baseline Noise Environment

The main sources of noise in this area are (a) road traffic (b) agricultural operations and (c) aircraft traffic (usually helicopter training). The agricultural traffic peaks during the harvest period (between May and October). During the harvest period it is common for movements of agricultural traffic to occur between the hours of 2300 and 0700.

The noise climate in the area surrounding the site is deemed to be typical of a rural area. The principal noise sources include road traffic noise, which is influenced by reasonably high levels of HGV's associated with local agricultural activities, as well as operational noise from the field work.

10.2.3 Noise Generation from the Proposed Development

Construction Phase

There will be noise generated as a result of the construction phase, however this will be for a short time period only (construction is expected to last 4 months) and will not have any significant medium or long term impacts. The noise created will be similar to that generated by any other construction process and will be predominantly confined to normal working hours, leading to minimal disruption for both residents and amenity users.

The roof and wall construction will have noise attenuation properties, and the resultant sound reduction index values have been calculated as 33bB Rw for the roof and 32dB Rw for the walls.

Internal Noise Sources

Poultry noise – noise generated by the birds will be most evident during the capture period (depopulation) although this is typically undertaken at night to reduce stress levels on the livestock. It has been calculated that the sound power level (SWL) for 50,000 birds (per building) is 102.9dB SWL.

External Noise Sources

The majority of the fixed/static plant associated with the proposals would be the fans/extract units necessary to provide adequate ventilation for the livestock.

The ventilation requirements of the birds within the broiler houses will vary depending on the age of the brood, internal environmental factors (air quality, relative humidity etc) and external environmental factors (ambient temperature etc).

Minimum Ventilation

Minimum ventilation is required whenever a brood is within the house to ensure adequate internal environmental conditions prevail throughout the growing period. Minimum ventilation brings fresh air into the house and exhausts any stale air, removing moisture and harmful gases while maintaining an appropriate air temperature.

Transitional Ventilation

Transitional ventilation is used to remove excess heat from the houses when the internal temp exceeds a set criteria. The transitional ventilation process is temperature driven during which the air handling fans stop running on the minimum ventilation cycle timer and start running continuously for temperature control. This means of ventilation is used when the outside temperature is too cold or birds are too young for full house ventilation which might expose the birds to chill air.

Given the lower external ambient air temperatures during the overnight period and the reduced activity levels of the livestock, it is considered highly unlikely that transitional ventilation would be required during the overnight period.

Maximum Ventilation

This means of ventilation is used when the movement of air provided by transitional ventilation is no longer sufficient to keep the birds cool. Maximum ventilation is only used during periods of hot weather when the external air temperature exceeds 30°C and when birds are older and more able to with stand chill factors.

Again given the lower external ambient air temperatures during the overnight period and the reduced activity levels of the livestock, it is considered highly unlikely that maximum ventilation would be required during the overnight period.

Vehicle movements are a further source of external noise. Vehicle movements to and from the proposed poultry unit would occur during both the daytime and overnight periods and primarily occur during the initial livestock delivery period and at the depopulation stages as follows. It is noted that only HGV movements associated with the depopulation would be required to occur during the overnight, and typically overnight HGV activity would not occur.

Due to animal welfare considerations and factory opening times, depopulation usually occurs overnight in order to minimise the bird's time in transit. The predominant noise source during this operation will be from the lorries engines and also the sliding drawers on which the birds are held during transit. The collection vehicles will however be fitted with a plastic drawer system to reduce noise and the engines will not be left running.

Noise resulting from feed deliveries and other goods does have the potential to affect sensitive receptors along the delivery route. The disturbance from noise generated by the day to day traffic

movements however will be minimal due to the fact that this will in all likelihood take place during normal working hours when heavy goods vehicles are common on the surrounding roads.

During the manure removal stages the main source of noise will be from tractor and trailer movements to and from the sites. This is a common agricultural practice, will be carried out during normal working hours, and noise impact will not be significant.

The daytime assessments have not included HGV or forklift truck movements as such events would be limited to feed, bedding, and fuel delivery. Movements associated with these activities would be infrequent and during the day would be unlikely to have a significant impact upon the noise environment, as the existing noise environment is dominated by road traffic noise.

At night broiler delivery will occur on just one night during the 42 day cycle, whilst broiler collection will take place on two nights of the cycle.

Decommissioning
During the decommissioning of the site the noise created will be similar to that produced in the construction phase and will not have any significant medium or long term impacts.

10.2.4 Mitigation and Noise Management

A robust Noise Management Plan will be put in place as part of the Environmental Permit for the facility.

In order to mitigate the possible impacts of noise created by the proposed development, noise management would form an integral part of the day to day running of the site. Measures that could be implemented in order to keep the potential noise nuisance to a minimum include:

- Vehicle engines to be switched off
- Large capacity lorries to reduce number of deliveries
- Modern poultry transporters to utilise plastic drawer systems to keep noise to a minimum
- Scheduling traffic during bird catching to minimise duration
- Restricting major noise generating operations to normal working hours where reasonably practical. This could include construction and manure removal
- Maintaining the buildings ventilation system to a high standard in order to keep noise to a minimum
- Retention of existing tree and landscape features as screening
- Audible alarms can be timed to normal working hours with pagers and mobile phones used for time outside of this period

10.3 Residual Impacts and Conclusion

Overall conclusions are that there are no significant issues relating to noise associated with the proposed facility that would be sufficient to deny the approval of planning permission on the grounds of noise. No noise complaints have been received for the existing poultry unit. It is an agricultural operation in an agricultural setting.

Ventilation is controlled and takes place at a variable rate. The fans will very rarely, if at all operate to full capacity and minimum ventilation requirements will apply. A further source of noise is HGV traffic, however this is already one of the primary noise sources in the area including during the night and any further noise generated by the proposed developments would only be of minor impact.

The facility will operate under an Environmental Permit issued by the Environment Agency. This will require a Noise Management Plan to be prepared to include noise mitigation. This will also include a Noise Complaints Form to enable complaints to be logged and appropriately investigated.

There will be no significant impact as a result of noise generated by the proposed development.

CHAPTER 11 - ARCHAEOLOGY

11. Archaeology

11.1 Summary

This report examines possible impacts on the setting of Dunnimere Farmhouse, a Grade II Listed Building, List Entry 1116606, near Harlaston, Staffordshire, B79 9LA, from three proposed poultry units and an agricultural dwelling to be added alongside an existing poultry unit.

The development would be located at SK2156609700, approximately 350 metres to the northwest of the 18th century Dunnimere Farmhouse, a Listed Building, List Entry 1116606.

This report assesses the impacts of the development on the listed farmhouse and other heritage assets in the immediate vicinity. Amongst these is an area of well-preserved ridge and furrow cultivation of probable medieval date, which lies between the proposed development and the farmhouse.

The assessment has concluded that there are no significant impacts on the setting of the listed Dunnimere Farmhouse and these impacts do not impact on its significance.

11.2 Introduction

11.2.1 This report has been prepared by Trysor at the request of Roger Parry and Partners on behalf of their client.

11.2.2 Planning permission is being sought for an extension to a poultry unit on land northwest of Dunnimere Farmhouse, Harlaston, Tamworth, Staffordshire, see Figure 1.

11.2.3 The proposed development would be centred on SK2156609700. The new poultry units would be erected immediately to the southeast of the existing poultry unit, whilst the proposed agricultural dwelling would stand to the northwestern side of the existing poultry unit (see Photographs in Appendix C).

11.2.4 This report assesses potential impacts on the setting and, therefore, the significance of Listed Building, List Entry 1116606. Dunnimere Farmhouse is an 18th century farmhouse which appears to have been built as part of a new farm layout over the previous fieldscape. The farmhouse is now used for holiday lets and the outbuildings have been converted into dwellings. Trysor undertook a similar assessment in 2018 for the existing poultry unit, planning application 17/01500/FULM (Trysor, 2018).

11.2.5 A site visit was carried out on 1st July 2022, in the early afternoon. Both visibility and light levels were good.

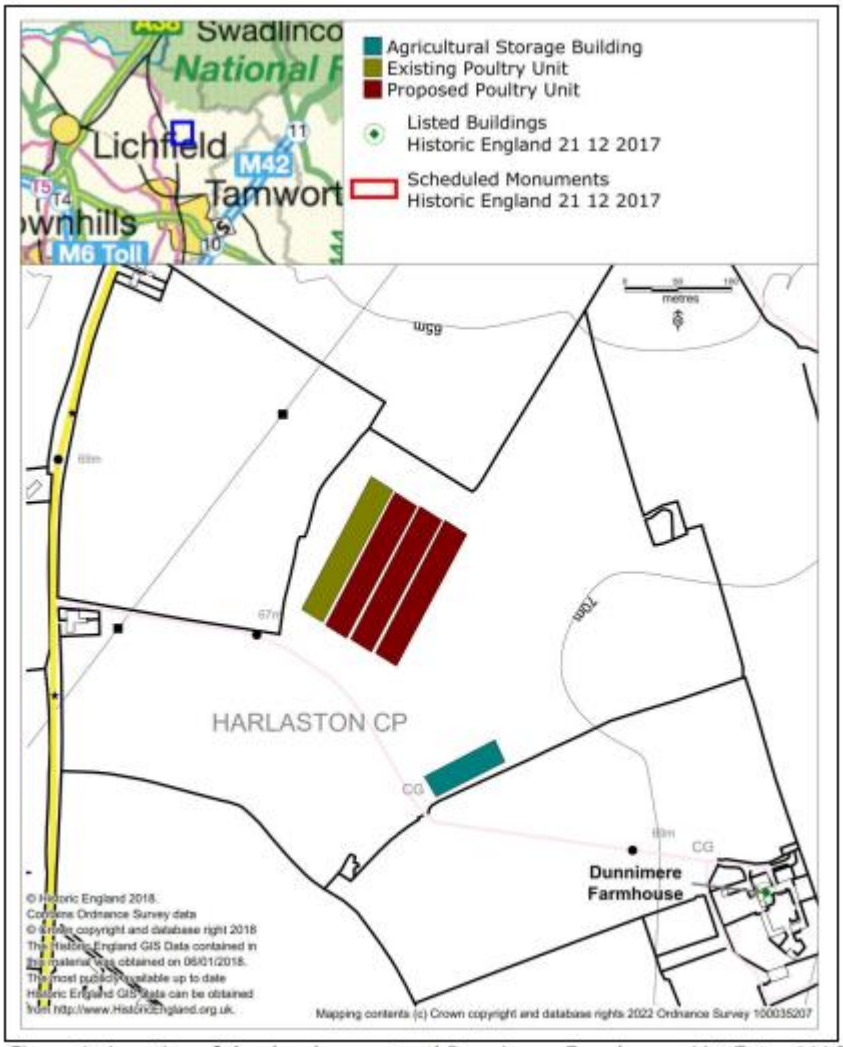

Figure 1: Location of the development and Dunnimere Farmhouse, List Entry 1116606.

11.3 Methodology

11.3.1 In response to Historic England's request for an assessment of impact on the setting of the listed farmhouse at Dunnimere Farm (List Entry 1116606) from the proposed development, the process outlined in "Setting of Heritage Assets" (Historic England, 2017) in order to assess impacts on the setting of the heritage asset, and therefore impacts on its significance, has been followed. This process has five steps, the first four of which are dealt with in this report;
Step 1: Identify which heritage assets and their settings are affected
Step 2: Assess the degree to which these settings make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated
Step 3: Assess the effects of the proposed development, whether beneficial or harmful, on that significance or on the ability to appreciate it
Step 4: Explore ways to maximise enhancement and avoid or minimise harm
Step 5: Make and document the decision and monitor outcomes

11.4 Impacts on Setting Step 1: Identify which heritage assets and their settings are affected

11.4.1 The listed farmhouse at Dunnimere Farm (List Entry 1116606) is a heritage asset which could potentially be impacted upon by the development. The minimum distance between the two locations is approximately 350 metres.

11.4.2 Three important aspects relate to the setting of the listed farmhouse;

11.4.3 The farmhouse is intimately associated, and physically attached to, a fine range of farm outbuildings arranged around a courtyard to its southern side.

11.4.4 The house and its outbuildings stand within a post-medieval field system which to some extent was originally aligned on a north-northwest to south-southeast axis conforming with the original access lane to the farm and the axis of the 18th century courtyard building range. Many historic field boundaries have been removed in modern times, but some hedgerows survive, defining the fields of the modern farmstead.

11.4.5 The post-medieval field system overlies an earlier field system, which survives as areas of ridge and furrow cultivation. These are remnants of an open field system which would have been farmed by medieval tenants. A particularly well-preserved area of ridge and furrow can be seen in the fields immediately to the north and west of the farm buildings.

11.5 Impacts on Setting Step 2: Assess the degree to which these settings make a contribution to the significance of the heritage asset(s) or allow significance to be appreciated

11.5.1 Dunnimere Farmhouse is situated in a slightly elevated position in a rolling, agricultural landscape. The house is attached to a range of outbuildings which stand around a courtyard to the rear of the house. It is possible that the elevated position was intentionally selected as the site for the house and buildings, for reasons of good drainage, but also to allow for views over the landscape and for the property to be visible within the landscape. Full details of Step 2 are given in Appendix A.

11.5.1.1 It is probable that the view to the north-northwest was of some importance to the house, as originally it appears to have faced along the line of an access drive which approached from that direction. That access drive was lost by the early 20th century and became a footpath, which means that any importance relating to that view has been devalued in the modern landscape.

11.5.1.2 Although the building assemblage is easily seen from the surrounding landscape, there is no obvious key view from distance. Indeed, it is difficult to determine from distance where the house is located within the building range. A visitor would have had to approach along the access track from the northwest and come quite close to the buildings before being able to identify the original farmhouse. In the modern arrangement, this identification would be much more difficult as all of the outbuildings have also now been converted into dwellings, making it harder to determine which part of the building range was the original house.

11.5.2 The most important factor in determining the significance of Dunnimere Farmhouse is the quality and character of the building itself, in terms of its external and internal architecture and fixtures and fittings. To fully experience the significance of these features, a visitor would have to be in close proximity to the building, or would have to enter it, see Plates 8 & 9

11.5.3 The relationship between the farmhouse and its associated outbuildings also contributes to the significance of the heritage asset. The building range was conceived and developed to serve as a single farming unit, at the heart of a large farm holding. In that respect the buildings compliment each other in appearance (red brick was used throughout) and in terms of original purpose.

11.5.3.1 In recent times the close relationship between the farmhouse and its outbuildings has been weakened by end of active farming at the building complex and the conversion of the outbuildings into a series of private dwellings. With the farmhouse now used as a holiday let, none of the buildings serve their original purpose, which was focused on farming.

11.5.4 The surrounding post medieval fieldscape contributes to the setting of Dunnimere farmhouse. The buildings at the heart of the working farmstead had a close relationship to the fields which surrounded the farmhouse and outbuildings. There is some map evidence, particularly the 1815 Ordnance Survey Original Surveyors Drawings that the field parcels closest to the buildings and along the original access drive to the north-northwest had been deliberately laid out as rectilinear parcels,

on the same alignment as the buildings and drive. This suggest that, initially, the fieldscape may have made an important contribution to the setting of the heritage asset and thereby enhanced its significance as an example of a purpose-built, 18th century farmstead.

11.5.4.1 By the end of the 19th century, the field system surrounding Dunnimere Farmhouse and outbuildings had been changed to a considerable degree; field boundaries appear to have been reconfigured and there was little evidence of regularity in the field system shown on the 1883 and 1901 1:2500 scale Ordnance Survey map. During the 20th century the access drive to the north-northwest became reduced in its importance (being shown only as a Footpath on the 1958 edition of the map). The old drive had been replaced by the present access drive, which approaches from the northwest and cuts across the post medieval fieldscape, breaching several old field boundaries and also cutting across an area of otherwise well-preserved ridge and furrow cultivation of probable medieval date, see Plate 6 & 7.

11.5.4.2 During the early 21st century changes to the fieldscape have proceeded apace, with a considerable degree of field amalgamation taking place, creating large, arable fields to meet the requirements of modern agricultural practice, see Plates 2, 14, 15 & 19. These are defined by a combination of surviving hedgerows and modern post and wire fences. The fieldscape around Dunnimere has therefore changed considerably and is now of relatively minor influence on the setting of the heritage asset and contributes little to its significance.

11.5.4.3 The survival of areas of well-preserved ridge and furrow cultivation of probable medieval date close to the farm buildings are, however, of some interest and contribute to the modern setting of Dunnimere Farmhouse, see Plates 6 & 7. They are reminders of the agrarian history of the landscape prior to Dunnimere farm, which was created as a holding within a landscape which had already been farmed under a very different system. The ridge and furrow cultivation would have probably already been out of use by the time Dunnimere farm was created, becoming fossilised beneath the later fields set out to conform to the new farm buildings.

11.5.4.4 Notable additions to the surrounding fields in recent years have been the erection of a single poultry unit in 2021, 480 metres to the northwest of the farmhouse, see Plates 1, 4, 5 & 7, and a large, steelframed agricultural storage building 270 metres to the west-northwest of the farmhouse which was also built in 2021, see Plates 3 & 7.

11.5.4.5 Modern developments in the wider landscape have impacted on the character of the local landscape. These include the line of electricity pylons which now passes circa 640 metres to the northwest of Dunnimere Farmhouse and are highly visible in views to the north and northwest see Plates 2, 4, 5, 7, 10, 12, 14 & 18. Less that 900 metres to the northeast of Dunnimere Farmhouse two large agricultural buildings and four grain silos have recently been built near Fishpits Barn, see Plate 15 & 16. These modern structures are also highly visible from Dunnimere, but reflect the modernisation of agricultural practices. Such modern features already present highly visible additions to the local landscape.

11.5.5 In summary, the importance of setting to the significance of Dunnimere Farmhouse has been reduced in recent years by the change of use of the house and outbuildings and their separation in terms of ownership from each other and the surrounding fieldscape. The changes to the surrounding fieldscape and landscape associated with modern agricultural practices have also reduced the importance of the field system and landscape to the setting of the listed building.

11.5.5.1 The survival of probable medieval ridge and furrow cultivation in the fields immediately surrounding Dunnimere's farm buildings does contribute to the modern setting of the listed building and its associated outbuildings. They are highly visible from the access track approaching the farmhouse and are, visually, an important element in the local landscape.

11.6 Impacts on Setting Step 3: Assess the effects of the proposed development, whether beneficial or harmful, on that significance or on the ability to appreciate it

11.6.1 The proposed development would be located a minimum of 350 metres to the northwest of Dunnimere Farmhouse. The development would be on lower ground (67 metres above sea level) than the farmhouse (73 metres above sea level) and in a low point in the gently undulating landscape (see Appendix B).

11.6.2 The main view from Dunnimere Farmhouse would appear to have originally been to the north-northwest along its original access drive, now lost. The proposed development would be located to the northwest and rather peripheral to that view, but also on the same line of sight as an existing poultry unit and agricultural storage building. The view from the front of the farmhouse to the northwest is altered by a mature yew tree close to the house, which would partially block views towards the proposed development.

11.6.3 The proposed development would include three relatively low-profile structures, less than 6 metres in height, which would be constructed from green, powder-coated panels which would be non-reflective. The proposed units would not cause the removal of any existing field boundaries or landscape components. In view of this and the fact that the structure would be in a lower point in the landscape that Dunnimere Farmhouse, the poultry units would not represent a dominant addition to the landscape and would not have a significant impact on the setting of the heritage asset.

11.6.3.1 The proposed agricultural dwelling would stand to the west of the existing poultry unit and be hidden from view from the farmhouse.

11.6.4 The development would increase traffic to the site but that would not extend to the farmhouse. An existing access trackway would be used with a common turning point serving the range to avoid interfering with other users. Noise levels would be low and the use of extractor fans to ventilate the buildings would be intermittent and restricted to periods of hot weather. External lighting around the buildings would be minimal.

11.6.5 The development would not extend into the area of probable medieval ridge and furrow cultivation immediately to the north and northwest of the listed farmhouse. The cultivation ridges are of importance to the modern setting of the farmhouse and outbuildings and are of historic interest in their own right, but would not be disturbed by the development (see Figures 6, 7, 10 & 11).

11.6.6 The hedgerow which forms the northern boundary of the area of ridge and furrow and separates it from the field in which the development would take place would not be affected by the development. This hedgerow is part of the post-medieval field system which overlies the ridge and furrow and has no historic association with the medieval open field system.

11.6.7 The development would not have a significant impact on the setting of Dunnimere Farmhouse or on important views of the heritage asset. The significance of the listed building would not be altered.

11.7 Impacts on Setting Step 4: Explore ways to maximise enhancement and avoid or minimise harm

11.7.1 No mitigations are proposed in association with the proposed development.

11.8 Conclusions

11.8.1 The proposed development would not have a direct impact on the listed former farmhouse at Dunnimere Farm.

11.8.2 The development would not have any significant impact on the setting or significance on the farmhouse. This assessment has found that;

- The proposed poultry units will be low buildings, clad in powdercoated, green steel sheeting which will not be reflective.
- The proposed poultry units will be in a relatively low point in the , gently undulating landscape of the district and therefore not prominent
- The proposed poultry units will be at a sufficient distance from the listed building at Dunnimere so as not to impact on key views to or from the farmhouse and stand on the same line of sight as the existing poultry unit and a new agricultural storage building.
- The proposed agricultural dwelling would stand to the west of the existing poultry unit and be hidden from view from the farmhouse.

11.8.3 An area of probable medieval ridge and furrow cultivation survives in the field immediately to the north and northwest of the listed farmhouse would not be affected by the proposed development.

11.8.4 No further archaeological mitigations are recommended in association with this development.

CHAPTER 11 – SUMMARY & CONCLUSIONS

11. Summary and Conclusions

The following table summarises and concludes the previous technical assessment chapters with regards to the proposed poultry development at Dunnimere Farm:

Table 6: Summary of Environmental Impacts

Key Issue	Potential Impact	Principal Mitigation	Residual Impact Significance
Air Quality, Health and Climate	Effects on designated habitats and ammonia emissions and deposition	EA Ammonia Assessment impact screened out	No significant
Landscape and Visual Impact	Direct impacts on landscape features	Choice of site, levels and landscape work, sensitive building design	Minor significance
	Landscape character	Choice of site, levels and landscape work, sensitive building design	Minor significance
	Visual amenity	Choice of site, levels and landscape work, sensitive building design	Minor significance
	Lighting	Minimising light spill and timing of lighting	Not significant
Historic Environment and archaeology	Impact on setting of heritage assets	Choice of site, levels and landscape work, sensitive building design	Not significant
	Direct impact on archaeological features	Archaeological watching brief	Not significant
Traffic	Minor increase in HGV movement	Sensitive routing and timing of deliveries and carefully planned and managed poultry collections.	Not significant
Amenity	Odour	Management practices and built in controls Best Available Technique to reduce odour from manure	Minor significance
	Flies	Follow best practice guidance and ensure control measures in place	Not significant
	Vermin	Management practices and maintenance to prevent breach of stores etc	Not significant
	Dust	Management practices and use of Best Available Technique to reduce dust	Not signficant
Ecology	Designated Sites	Choice of site and good design. Ammonia assessment screened out	Not significant
	Grassland habitats	Choice of site and good design	Minor significance

	Trees and hedgerows	Avoid direct disturbance to retained features and control of lighting. Replant.	Minor significance
	Watercourse	Avoid direct disturbance and control of lighting. Avoid pollution	Not significant
	Bats	Control of lighting	Not significant
	Great Crested Newt	Use of RAMS	Not significant
	Reptiles	Appropriate safe working methods	Not significant
	Nesting birds	Avoid nesting season for works	Not significant
	Badger	Appropriate safe working methods	Not significant
	Otter	Management practices to avoid pollution of ditchcourse	Not significant
	Watervole	Management practices to avoid pollution of ditchcourse	Not significant
Noise and vibration	Operation of unit and plant and machinery	Noise management to form integral part of day to day management	Minor significance
	Traffic noise and vibration	Sensitive timings of vehicle deliveries, managing peak flows	Minor significance
Water resources	Construction and decommissioning – water quality (surface runoff-infiltration)	Use of appropriate bunding and storage, monitoring of operations and training staff in emergency procedures	Insignificant impacts – low risk
	Operations – pollution by oils, hydrocarbons and dirty water (runoff, direct infiltration)	Adequate dirty water storage and operations to take place in buildings and hard standing. Compliance with EA guidance and EP, use of bunded areas, storage of chemicals, oils etc in appropriate bunded areas and tanks etc	Insignificant impacts – low risk
	Flood Risk	Sustainable Drainage Systems (SuDS). Managed controlled system for surface water.	Minor significance
	Surface and groundwater pollution	Adherence to Nitrate Pollution Prevention regulations if applicable or Code of Good Agricultural and Environmental practices.	Not significant