FREETHS

MALTON – LAND ADJACENT TO EDEN CAMP

ENVIRONMENTAL STATEMENT MAIN TEXT

IN SUPPORT OF

MALTON FOOD ENTERPRISE ZONE
LOCAL DEVELOPMENT ORDER

ON BEHALF OF

COMMERCIAL DEVELOPMENT PROJECTS
AND
FITZWILLIAM TRUST CORPORATION
(IN PARTNERSHIP WITH RYEDALE DISTRICT COUNCIL)

20 OCTOBER 2016

FREETHS LLP

PLANNING AND ENVIRONMENT GROUP

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APPENDICES

TECHNCIAL APPENDICES (SEPARATELY BOUND)

1. INTRODUCTION

Overview

1.1. This Environmental Statement (ES) is prepared on behalf of Commercial Development Projects (CDP) and Fitzwilliam Trust Corporation (FTC) working in partnership with Ryedale District Council (RDC) and is submitted in support of a Local Development Order (LDO) that is being prepared by RDC for a Food Enterprise Zone (FEZ) to be located on land adjacent Eden Camp, Malton, North Yorkshire.

1.2. The site to which the LDO will relate benefits from Outline Planning Permission (OPP) Reference 14/00426/MOUTE which was granted on 24 March 2015. That OPP provided for the relocation of the Malton Livestock Market to the site along with the creation of an associated Agricultural Business Centre and new Business Park.

1.3. The development permitted by the OPP included employment uses such as light industrial (within Class B1), general industrial (within Class B2) and storage and distribution (within Class B8), retail uses (within Class A1), financial and professional services (within Class A2), cafe/restaurant (within Class A3), non residential institutions (within Class D1) and agricultural vehicle sales (sui generis).

1.4. The application in respect of the OPP was supported by an ES which dealt with Environmental Impact Assessment (EIA) issues relating to the land adjacent Eden Camp and also in respect of proposals for residential development at the Showfield site at Pasture Lane, Malton, land at Westgate, Old Malton and land at Rainbow Lane, Peasey Hills which now also benefit from planning permission.

1.5. The OPP has been implemented in so far as Local Enterprise Partnership (LEP) funding has been secured and utilised (along with a financial contribution secured by a Section 106 Agreement linked to the OPP) to deliver drainage infrastructure including a retention pond, road infrastructure within the site and a new roundabout junction to provide access to the site from A169. The latter benefits from a further planning permission (Reference: 16/00412/FUL) for a revised roundabout position slightly different to that provided for by the OPP.

1.6. RDC is now proposing to make a LDO for the Malton FEZ. That LDO will, in so far as the scope and general form of development and associated mix of uses are

concerned, reflect the OPP, albeit with the access from the A169 in accordance with the most recent planning permission rather than the OPP itself.

1.7. An LDO is intended to give a grant of planning permission to specific types of development within a defined area. They streamline the planning process by removing the need for developers to make a planning application to the local planning authority and simplify the post permission stages. They create certainty and save time and money for those involved in the planning process. In this instance it will obviate the need for the submission of reserved matters etc.

1.8. Specifically, the LDO process is intended to stimulate the development of the site, and the FEZ is intended to support agri-food and agri-tech sectors in line with the strategic objectives of the York, North Yorkshire and East Riding Local Enterprise Partnership. The FEZ will make it easier for existing businesses to expand and for new ones to set up, attracting investment and boosting the rural economy.

Requirement for EIA

1.9. The requirement for an EIA is defined under the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended 2015).

1.10. RDC adopted an EIA Screening Opinion (SO) on 6 September 2016 stating that an EIA would be required for the LDO due to the potential for significant environmental effects. A copy of that opinion is attached as **Technical Appendix 1**.

1.11. Pursuant to the SO Peter Brett Associates (PBA) prepared a EIA Scoping Report (SR) and that has been adopted by RDC. A copy is attached as **Technical Appendix 2**.

1.12. In summary the SO scoped out many of the issues which were originally considered as part of the ES prepared in support of the OPP. Accordingly, only Socio Economic, Transport, Air Quality and Landscape and Visual Impact are addressed in this ES.

Structure of the ES

1.13. The content and layout of the ES is based largely on the Scoping Report for the EIA. The ES comprises the following:

Environmental Statement Non Technical Summary (NTS)

This document provides a summary of the ES in “non-technical language” so as to be easily understood by a wide audience. The NTS is produced as a standalone document.

Environmental Statement – Main Text

This document presents the full ES text which provides a summary of the various separately bound technical appendices (see below) and is divided into sections as follows:

- Section 2 – outlines the background to the proposal, including the objectives and need for the proposals, planning history, design development and key environmental constraints considered in the design process.

- Section 3 – presents a description of the main alternatives considered by the applicant and the main reasons for the final choice.

- Section 4 – provides a detailed description of the site and its surroundings, the Masterplan and the scope of the LDO proposal.

- Section 5 – describes the Design Team and the EIA Team, presents the scope of the EIA, the consultations undertaken, the overall assessment approach, and the assumptions/limitations of the ES.

- Section 6 – provides a summary of the National and Local Planning and Policy context.

- Sections 7-10 – present a summary assessment of the key environmental effects of the proposed development on a topic by topic basis, including socio economics, transport, air quality and landscape and visual impact.

- Section 11 – provides a summary of mitigation and monitoring requirements.

- Section 12 – sets out residual impacts and conclusions of the EIA.

Environmental Statement – Technical Appendices

1.14. A set of Technical Appendices is presented as separately bound volumes which constitute the detailed technical analysis on which this ES is based.

1.15. These have been included separately from the main text to prevent the ES from becoming excessively long, whilst still being available for reference if required. The following form ES Technical Appendices 1-4:

1. EIA Screening Opinion (Ryedale District Council)
2. EIA Scoping Report (Ryedale District Council)
3. LDO Design Code (Clarity NS).
4. Transport Assessment (Connect Consultants)
5. Highways Technical Note (Connect Consultants)
6. Technical Appendices to Air Quality Assessment

Comments

1.16. Comments on the LDO and ES should be forwarded to Gary Housden (Head of Planning and Housing) at Ryedale District Council at the following address:
Ryedale House,
Old Malton Road,
Malton,
North Yorkshire,
YO17 7HH

Availability of Documents

1.17. This ES along with all EIA documents are available on the Council's website.

1.18. Paper copies of the ES and associated Technical Appendices, and NTS will also be available from Freeths LLP; albeit a charge will be made for reprographic costs.

2. BACKGROUND TO THE DEVELOPMENT

Objectives and Need

2.1. The twin towns of Malton and Norton are also identified within the Ryedale Local Plan Strategy (LPS) as the Principal Town for Ryedale and as such will be the focus for the development of the majority of new development and growth, including new housing, employment and retail space. Without specifying locations, the LPS sets out strategic policies for the delivery of a significant quantum of both employment and housing land over the plan period within Malton and Norton. The relocation of the Livestock Market has also been recognised by Ryedale District Council as a strategic objective of the LPS which identifies the current livestock market as an important use that should be retained within Ryedale.

2.2. The Employment Land Review recommends that between 37 and 45ha of employment land should be allocated in Ryedale. This is to enable a step change in the diversification of Ryedale's economy. The largest concentration of new employment land is to be directed to Malton and Norton as the Principal Town. It is also due to the availability of employment sites, the potential to attract inward investment and the ability to forge links with the York economy and to cater for sustainable expansion and relocation of existing businesses.

2.3. The above requirements are clearly related and the proposal which benefits from OPP and which is proposed to be the subject of the LDO represents a sustainable solution to meeting these objectives.

2.4. The LDO is intended to support the delivery of the Malton Fez. The objectives of the FEZ are to:

- Create a thriving agri-food park with a significant number of new employment opportunities;
- Support the growth of existing businesses and encourage new businesses within the agri-food sector;
- Encourage a greater range of employment opportunities in the sector, improve the skills of the local workforce and support wage growth;
- Develop closer ties between food and farming businesses to boost the rural economy;

- Deliver new high quality facilities for these sectors including a replacement for the existing livestock market in Malton town centre; and
- Complement the National Agri Food Innovation Campus at Sand Hutton and the wider bio-economy within the region.

Planning Background

2.5. Whilst full details of planning policies and guidance relating to the proposal are set out in Section 6 of this ES, it is the strategic objective of relocating the Livestock Market, in tandem with the provision of additional employment land in Malton, which provided the basis for the OPP and, in turn, now the LDO.

2.6. LPS Policy SP9 on The Land-Based and Rural Economy states that Ryedale's land-based economy with be sustained and diversified indirectly by supporting the retention of a Livestock Market within Ryedale on a site which is convenient to users, well related to the main road network and in a location which is close to a Market Town but will not harm its character, landscape setting or the amenities of nearby residents.

2.7. The York, North Yorkshire and East Riding Enterprise Partnership's Strategic Economic Plan (2016 Update) also identifies the Malton FEZ as a key asset. One of the five priorities of the Strategic Economic Plan is to become a global leader in agri-food and bio-economy, an objective that will be achieved by various measures including supporting interventions that connect agri-food and biorenewable/bioscience supply chains and attracting investment to the area by locating new businesses at key sites and establishing and retaining high value jobs.

2.8. Although the LPS has been adopted there are no specific policies relating to the allocation of land for objectives such as housing and employment land growth. However the document does address key strategic objectives for Ryedale District Council in respect of employment and housing growth.

2.9. Objective 2 of the LPS is to '*enhance the role of the Market Towns as accessible, attractive and vibrant service centres, offering a range of homes, jobs, shops, entertainment, leisure and recreational facilities within a high quality public realm. Emphasis the role and regeneration of Malton and Norton as the Districts Principal Town'.*

2.10. Under this strategy most forms of new development and growth will be directed to the most sustainable locations in the District, of which Malton and Norton, as the Principal Town in the District, is arguably the most sustainable location overall.

2.11. LPS Policy SP6 states that approximately 80% of the requirement for employment land should be positioned on sites within, adjacent to and on the outskirts of the built up areas of Malton and Norton. This equates to the delivery of approximately 29 to 36ha of employment Land in Malton and Norton over the plan period.

2.12. Proposals for new employment development and in particular Use Classes B2 (general industrial) and B8 (storage and distribution) on unallocated sites, will be supported in line with other requirements of LPS Policy SP6, if they are of an appropriate scale to their surroundings, are capable of achieving suitable highway and access arrangements commensurate with the nature of their use without an unacceptable impact, and satisfy the provisions of Policies SP12, SP17 and SP18.

2.13. The LPS also identifies that *'opportunities to provide new development within the current built up areas of the towns are limited and the relatively few Brownfield development sites which do exist at the towns are generally constrained for reasons such as flooding, access or contamination....Greenfield land will [therefore] be required to accommodate new housing and employment over the Plan-Period'.*

2.14. The LPS therefore clearly establishes the strategic importance of the retention of the Livestock Market in Malton and in broad terms the location and quantum of employment development required over the plan period. In this respect the proposed LDO is consistent with the LPS as was the OPP.

Design Development

2.15. From the outset of the design process for the OPP, consultation with RDC, the local community, statutory agencies and other key stakeholders has played an important role in the Masterplanning. That has continued with regard to the LDO process and the preparation of the LDO Design Code (**Technical Appendix 3**) which provides a greater level of detail on design and layout matters than the illustrative information submitted in support of the OPP.

3. ALTERNATIVES TO THE DEVELOPMENT

Introduction

3.1. The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (as amended 2015) require that the ES provides:

"an outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for the choice made, taking into account the environmental effects"

This section outlines the main alternatives considered by the applicant as part of the consultation, EIA and design process and the main reasons for selection of the proposed form of development. Clearly, with the LDO proposal being based on the proposal that benefits from OPP the scope of consideration is relatively narrow.

Do-Nothing Scenario

3.2. Following the grant of OPP and designation of the FEZ the "do nothing" scenario can be discounted entirely along with the possibility of an alternative site coming forward particularly given that work on site to implement the OPP has commenced utilising both Local Enterprise Partnership (LEP) funding and a financial contribution secured by the Section 106 Agreement linked to the OPP. Those works comprising provision of drainage infrastructure including retention pond, internal site access roads and site access via a new roundabout on the A169 are nearing completion.

Design Development and Alternatives

3.3. Schemes of the size and complexity of that which benefits from OPP and, as is, proposed by the LDO afford a range of possibilities in terms of layout and design.

3.4. The logic of locating the Livestock Market on this site accords with Policy SP9 of the LPS which seeks the retention of the Livestock Market in Ryedale on a site which is convenient to users, well related to the main road network and in a location which is close to a market town but which will not harm its character, landscape setting or the amenity of nearby residents.

3.5. The site is well positioned on the intersection between the A169 and the A64, providing good access to York, Scarborough and land surrounding the North York Moors National Park. The strength of the major road links to this site will also remove traffic and consequently congestion through Malton Town Centre on Market Days.

3.6. The evolution of the design at OPP stage had specific regard to the requirements of RDC, the local community and the results of environmental studies. In so far as the current proposed LDO is concerned a LDO Design Code has also been prepared through a collaborative process with key stakeholders.

3.7. Due to the character of the site the proposed development (as shown by the masterplan included as part of the LDO Design Code) has been designed to not impact significantly on the landscape setting. The northern edge of land adjacent to Eden Camp has established planting which provides a good level of screening and provides a natural enclosure to the site. Furthermore this planting marks a change in character from the land influenced by the buildings at Eden Camp and the A64, to the more rural character further to the North, and ensures that the essential characteristics of the wider landscape would be unaffected.

3.8. Views of the development would be greatest from the A169, which RDC has indicated is a key route into Malton. Representatives of Eden Camp Museum, which is a tourist attraction compiled of largely single-storey buildings previously used as a prisoner of war camp, have also identified that views to their tourist attraction from the A64 and A169 are important.

3.9. In order to maintain these open views it is being proposed – as per the OPP and the LDO – to preclude any form of built development from the southern of the three sites. This leaves this land as an ideal location for the siting of the largest surface water retention ponds, which has now been constructed and will, as part of the overall drainage strategy, avoid the proposed development putting any additional strain on the existing drainage infrastructure.

3.10. The design of the two remaining parts of the site also takes into consideration the need to provide an attractive gateway into the development and this is reflected in the LDO Design Code.

3.11. As set out above the drainage strategy for this site was highlighted at public consultation on the application for OPP as a key issue, especially for local residents in Old Malton. As such any development within the site needed to be designed

around a drainage strategy which meant there would be no additional strain on the existing drainage infrastructure. As such the layout of these areas will allow for a number of new balancing ponds for water retention. The main retention pond on the southern parcel of land will also enhance the views towards Eden Camp.

3.12. There are also a number of infrastructure constraints at Eden Camp which have impacted upon the masterplan design. A high pressure gas main runs across the south eastern corner of the western site and the north western corner of the eastern side, over which there is considerable abetment requirements. There are also two high voltage cables suspended between pylons which cross the northern and southern edges of the southern site, under which development it is not possible. As such the final design layout, as attached to the LDO Design Code at **Technical Appendix 3**, takes into account these considerations.

4. DESCRIPTION OF DEVELOPMENT

4.1. The following section provides both details of the site which is proposed to be subject to the LDO and its surroundings along with an overview of the proposed development scheme – based on the OPP – which the LDO will facilitate the delivery of.

The Development Site and Surrounding Area

4.2. Land adjacent Eden Camp is located to the north of the A64/A169 junction and is accessed via Edenhouse Road from A169. The proposed development site comprises three parcels of land which make up 19.93 hectares of land. The three parcels are all fields, albeit as referred to above works permitted by the OPP are now under construction. Good established hedges run along most of the boundaries of these sites and there are well established deep shelter belts containing mature trees along the northern edge of the site.

4.3. The surrounding area is made up of predominantly agricultural land, with the exception of the built development comprising Eden Camp Museum. The eastern boundary of this site is bound by the A169 with Edenhouse Road feeding off the A169 and through the centre of the proposed development site. Eden Camp, a Second World War Tourist Attraction which sites to the southwest of the sites and is made up of predominantly single story buildings which were previously used as a prisoner of war camp.

4.4. The site is outwith the identified development limits boundary for Malton.

4.5. A plan showing the location of the sites and their relationship to each other and the area as a whole is attached to the LDO Design Code at **Technical Appendix 3.**

Overview of the Proposed Development

4.6. The masterplan which benefits from OPP evolved over a considerable period of time, in conjunction with both representatives of the livestock market and RDC and its advisors. The final iteration which was the subject of a detailed ES was also extensively tested through a programme of public consultation.

4.7. The scheme design has been led by Clarity NS with input in respect of the Livestock Market design from Adrian Jones. More recently, in the context of the LDO, Clarity NS has produced an updated masterplan and a detailed LDO Design Code and a copy of that is attached at **Technical Appendix 3**.

4.8. The land uses for the LDO are derived from the OPP and noted at **Table 4.1** below.

USE	FLOORSPACE	DETAILS
B1 Offices	No more than 4,000sq m	(within the 27,900 sq m total permitted floorspace)
B1 Light Industrial, B1 Research and Development, B2 General Industrial and B8 Storage and Distribution	No more than 27,900 sq m	(within the 27,900 sq m total permitted floorspace)
Sui Generis Livestock Market	No more than 2,850 sq m	(within the 27,900 sq m total permitted floorspace)
Sui Generis Agricultural Vehicle or Machinery Sales	No more than 3,000 sq m	(within the 27,900 sq m total permitted floorspace)
A1 Retail Units	No more than 1,500 sq m	(within the 27,900 sq m total permitted floorspace)
A2 Financial and Professional Services	No more than 600 sq m	(within the 27,900 sq m total permitted floorspace)
A3 Restaurants and Cafes	No more than 600 sq m	(within the 27,900 sq m total permitted floorspace)
D1 Non Residential Institutions	No more than 3,000 sq m	(within the 27,900 sq m total permitted floorspace)

4.9. The OPP provides flexible planning permission for Class B1, B2 and B8 use. No limit is set on the Class B2 and Class B8 use but a maximum of 4,000sq m of office floorspace within Class B1 is provided for. That maximum has formed the basis of the **Transport Assessment** (at **Technical Appendix 4**) and **Air Quality Assessment** (at Section 9 below) which in turn form part of this ES.

4.10. The southern of the three sites at land adjacent to Eden Camp is not being proposed for development but as use for a large surface water retention pond, which will ensure that any development on the site will avoid placing a strain on the existing drainage infrastructure. This large retention pond is one of a number being proposed as part of development on land adjoining Eden Camp.

4.11. The new development will be accessed via a new roundabout junction on the A169 (in a slightly different location to that approved as part of the OPP) as per the most recent planning permission referenced above.

4.12. As per the LDO Design Code attached at **Technical Appendix 3** the maximum building height on Building Zone 1 will be 11 m to ridge and 13 m to ridge on Building Zones 2 and 3.

Scope of the LDO

4.13. The extent of illustrative information provided in support of the OPP was necessary to inform the completion of the EIA and established parameters as a basis for that assessment.

4.14. The LDO proposal is supported by a LDO Design Code (**Technical Appendix 3**) and that further updates the illustrative information provided in support of the OPP. Specifically, it provides detailed guidance on plots, buildings and design standards, roads, parking and access, landscaping, services, construction management and archaeology.

5. METHOD STATEMENT

The Applicant and Consultant Team

5.1. The EIA was jointly commissioned by Commercial Development Projects and Fitzwilliam Trust Corporation with Ryedale District Council. Freeths LLP were responsible for co-ordinating the EIA studies undertaken by specialist consultants and producing the ES. The roles of the EIA and design team are set out below:

- Clarity NS – Masterplanning and author of the LDO Design Code.
- Freeths LLP – planning consultants responsible for the preparation of the ES and socio economic assessment.
- Connect Consultants Limited – responsible for the preparation of the Transport Assessment.
- Air Quality Consultants – responsible for the preparation of the Air Quality Assessment.
- FPCR – responsible for the Ecology Landscape and Visual Appraisal

General EIA Approach

5.2. Design team meetings attended by representatives of RDC and key members of the project team were held regularly throughout the EIA process. These meetings ensured that the design team were made aware of any matters of potential environmental concern as and when they arose. Clearly, the existence of the OPP and associated ES assisted with this.

5.3. Due to the existence of the OPP and associated ES the main activity in the preparation of this ES has been the development of the LDO Design Code as set out above.

Scoping Report

'Scoping' is a fundamental component of the EIA process, and involves focussing the study (and hence the ES) onto those issues of greatest concern and potential

impact. The scope of this EIA was determined through a scoping process on both an informal basis through discussions with RDC and ultimately the adoption of a SR by RDC.

5.4. For completeness a copy of the RDC SO is attached at **Technical Appendix 1** and the adopted SR attached at **Technical Appendix 2.**

Key EIA Issues

5.5. The scoping process considered that the following environmental issues associated with the LDO should be addressed in detail by the ES:

- Socio Economics
- Transport
- Air Quality
- Landscape and Visual Impact Assessment

5.6. Ecology remains "scoped out" and validation of the conclusions of the ES prepared for the OPP following a recent site walk over is attached at **Appendix 1** thereby responding to Natural England comments on the SR.

Technical Assessment

5.7. The following section sets out the way in which the assessment of impacts for each of the technical studies are generally presented both within this document and the detailed Technical Appendices:

- **Introduction**

- **Assessment Methodology**: This section describes the method of approach employed in the assessment of impacts, the criteria by which the significance of impacts has been evaluated, the sources of information used and any technical difficulties encountered.

- **Baseline Conditions**: This section describes the baseline environmental conditions, i.e. the current situation and anticipated changes over time in the absence of the proposed development. This is a critical part of the EIA process

as it provides a measure against which potential environmental effects can be assessed.

- **Potential Impacts**: This section indicated the potential significant effects that the proposal may give rise to. There are identified though the scoping process and are expanded in areas in response to comments received from RDC and other statutory consultees, etc.

- **Mitigation**: One of the main aims of the EIA process is to develop mitigation measures to offset or reduce the significant adverse effects of a project. These measures can relate to site construction or the completed development. As such, this section describes the measures which would be implemented to avoid or eliminate potential adverse impacts. In many cases mitigation measures are inherent in the development proposals (either through design or operation) and it is therefore appropriate to describe these measures prior to the assessment of impacts.

- **Impact Assessment**: This section describes the impacts of the proposed development and their significance. In each case, the assessment is made with the proposed mitigation measures in place. In accordance with the EIA Regulations, the assessment of impact significance has involved consideration of the following:

  - Whether the impact of direct or indirect;
  - Whether the impact is reversible of irreversible;
  - Whether the duration of the impact is short, medium or long-term; and
  - Whether the impact occurs in isolation or is cumulative or interactive.

5.8. Consideration is also taken as to the sensitivity of the receptor or receptors affected and to relevant environmental quality standards or policies.

5.9. A consistent approach to assessing the significance and expressing the outcomes of the various studies undertaken as part of the EIA thereby facilitates comparison between impacts on different environmental components. Therefore, the following terminology has been used throughout the ES with impacts expressed as:

- **Adverse:** detrimental or negative impacts to an environmental resource or receptor.
- **Beneficial:** advantageous or positive impact to an environmental resource or receptor.

- **Negligible:** no significant impacts to an environmental resource or receptor.

5.10. Where adverse or beneficial impacts have been identified, these have also been assessed against the following scale (as shown above):

- **Minor:** Slight impact
- **Moderate:** Limited impact
- **Substantial:** Considerable impact.

5.11. In the context of the application proposals, short to medium term impacts are generally considered to be those associated with the construction phase of the development, whilst long-term impacts relate to the completed, occupied development.

5.12. Local impacts are those affecting receptors such as the local community and the occupants of the development site. Impacts upon receptors in the wider town area are considered to be at district level. Regional, national and international impacts are also considered where relevant.

- **Summary:** This final section provides a description of any impacts of the development which are unavoidable or will remain following the implementation of mitigation measures.

Assumptions/Limitation

5.13. There is often an inherent degree of uncertainty in certain matters of design. However the extent of illustrative information enables the completion of the EIA of the proposals, and establishes parameters as a basis for the assessment of the LDO.

5.14. In all other respects the ES is based on the principles of the design set out in the LDO Design Code. Where uncertainty exists, the principal of assessing impacts based on the worst case scenario have been applied to avoid the possibility of understanding the impacts.

6. PLANNING POLICY CONTEXT

6.1. The following documents and their policies were referenced in the ES prepared in support of the OPP and (to varying degrees) are relevant to this ES in support of the LDO:

- National planning policy set out in the National Planning Policy Framework (NPPF) 2012;
- Planning Practice Guidance (PPG) and Government Circulars (as relevant);
- The Development Plan comprising thereof of the adopted Local Plan Strategy (2013), Helmsley Plan (2015) (albeit not relevant to the LDO area) and saved policies of the Ryedale Local Plan (2002).
- Supplementary Planning and Guidance as relevant.
- The emerging documents as part of the Ryedale Local Plan and associated evidence base as relevant.

6.2. It should be recognised that National Planning Policy in the form of the National Planning Policy Framework provides extremely broad and strategic land use planning themes rather than site specific guidance on land use issues and, as such, only broad accordance with this higher level guidance is noted below.

6.3. Accordingly, the most important aspect of assessing land use planning impacts is an assessment of the Scheme's accordance with Ryedale District Council's Local Plan Strategy (2013).

6.4. The NPPF was published in March 2012. It sets out the Government's planning policies for England and how these are expected to be applied.

Achieving Sustainable Development

6.5. Paragraph 6 describes that the purpose of planning is to contribute to the achievement of sustainable development. The planning system needs 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 and 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 a high quality built environment, with accessible local services that reflect the community's needs and support its health, social and cultural wellbeing; and

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

The Presumption in Favour of Sustainable Development

6.6. Paragraph 14 states that at the heart of the Framework is a presumption in favour of sustainable development. For decision taking this means:

- Approving development proposals that accord with the development plan without delay; and

- Where the development plan is absent, silent or relevant policies are out of date, granting permission unless:

- Any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or

- Specific policies in this Framework indicate development should be restricted.

Core Planning Principles

6.7. The Framework sets out in Paragraph 17 the core planning principles which should underpin both plan-making and decision- marking. This includes the principles that planning should "proactively drive and support sustainable economic development to deliver homes, business and industrial units, infrastructure and thriving local

places that every country needs", “take account of the different roles and character of different areas, promoting the vitality of our main urban areas, recognising the intrinsic character and beauty of the countryside and supporting thriving rural communities within it” and "actively manage patterns of growth to make the fullest possible use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable".

Supporting a Prosperous Rural Economy

6.8. Chapter 28 of the Framework states that planning policies should support economic growth in rural areas in order to create jobs and prosperity by taking a positive approach to sustainable new development. To promote a strong rural economy, local and neighbourhood plans should:

- Support the sustainable growth and expansion of all types of business and enterprise in rural areas, both through the conversion of existing buildings and well designed new buildings;

- Promote the development and diversification of agricultural and other land-based rural businesses.

A detailed description of each of the 4 no. development sites and their surrounding areas is set out at **Section 4** above.

6.9. The NPPF also recognises the importance and value of the best and most versatile agricultural land and requires that local planning authorities take account of that value when considering the redevelopment of such land for other uses having particular regard to meeting development needs and wider sustainability issues.

6.10. The Planning Practice Guidance promotes the use of Local Development Orders noting that they give a grant of planning permission to specific types of development within a defined area. It notes the benefits include streamlining the planning process by removing the need for developers to make a planning application to a local planning authority; and that they create certainty and save time and money for those involved in the planning process.

6.11. Before the adoption of the Local Plan Sites Document, the Ryedale Local Plan proposals maps remain part of the Development Plan. Accordingly the following allocations exist on each of the sites:

- **Land adjacent to Eden Camp:** Sites proposed for both the Livestock Market and Agri-Business Centre and for the Business Park fall outside of any development limit designations. There are no allocations for land use on this site.

6.12. Whilst the Local Plan Strategy document does not identify or allocate land for development nor set out site specific policies, it does influence the location, amount and type of new development in certain places and sets out both a strategy and suite of strategic policies to achieve this.

6.13. Malton and Norton together from the largest settlement in the District and are Ryedale's Principal Town.

6.14. Paragraph 3.13 of the Local Plan Strategy (LPS) notes that as result of their strategic location between York and Scarborough, developing these towns offers the potential to harness significant economic benefits for the district.

6.15. The strategy summary on page 26 of the LPS furthers this by stating that Malton and Norton will be the focus for the majority of new development and growth, including new housing, employment and retail space.

6.16. Strategic Objective 3 of the Local Plan Strategy is to focus development at those settlements where it will enhance accessibility to local services, shops and jobs and which provide sustainable access to major services centre outside of the District by promoting the use of public transport, walking and cycling, while reducing the need to travel by private car.

6.17. In terms of economy it is acknowledged that within Ryedale a significant proportion of the workforce is employed in traditional manufacturing and agricultural sectors, the dominance of which means Ryedale has a low wage economy and the largest proportion of unskilled and low paid jobs in Yorkshire. (Paragraph 2.28/2.29 LPS).

6.18. Strategic Objective 8 of the Local Plan Strategy look to support new and existing businesses with the provision of a range of employment sites and premises, including higher quality purpose built sites.

6.19. The LPS looks to support staple sectors of the economy such as manufacturing, tourism and agriculture whilst seeking to provide a step change in diversifying and modernising the economy. Malton and Norton, due to their excellent transport links and close proximity to York and Scarborough, have been identified as having the greatest demand for new employment space.

6.20. The Employment Land Review recommends that between 37 and 45ha of employment land should be allocated in Ryedale. This is to enable a step change in the diversification of Ryedale's economy (paragraph 5.8 of LPS). The largest concentration of new employment land is to be directed to Malton and Norton as the Principal Town. It is also due to the availability of employment sites, the potential to attract inward investment and the ability to forge links with the York economy and to cater for sustainable expansion and relocation of existing businesses.

6.21. Policy SP6 of the LPS states that approximately 80% of the requirement for employment land should be positioned on site within, adjacent to and on the outskirts of the built up areas of Malton and Norton. This equates to the delivery of approximately 29 to 36ha of employment Land in Malton and Norton over the plan period.

6.22. Proposals for new employment development and in particular Use Classes B2 (general industrial) and B8 (storage and distribution) on unallocated sites, will be supported in line with other requirements of Policy SP6 and if they are of an appropriate scale to their surroundings, having regard to their visual impact, are capable of achieving suitable highway and access arrangements commensurate with the nature of their use, without an unacceptable impact and satisfy the provisions of Policies SP12, SP17 and SP18.

6.23. The Council have acknowledge that the current livestock market is an important use that should be retained in Ryedale and that following the granting of outline planning consent for redevelopment of the current Livestock Market site, it is very likely that the market will vacate its current location.

6.24. Whilst the LDO doesn't prescribe individual occupiers it is recognised that the site has the potential to accommodate a relocated livestock market which is considered within Policy SP9 The Land-Based and Rural Economy. This states that Ryedale's land-based economy with be sustained and diversified indirectly by supporting the retention of a livestock market within Ryedale on a site which is convenient to users,

well related to the main road network and in a location which is close to a Market Town but will not harm its character, landscape setting or the amenities of nearby residents. If the livestock market is relocated then the LDO site will meet this criteria as established with the ES to the OPP.

6.25. Ryedale District Council consulted on potential site allocations in October 2015 As part of the preparation of the Local Plan Sites Document. This recognises the LDO site as a commitment which will meet a significant element of the employment requirement for Malton due to the presence of the existing OPP.

6.26. Overall, the development proposals incorporate the principles of sustainable development (as set out in the National Planning Policy Framework) and with the relevant planning policy principles established by national, regional and local guidance and policy.

6.27. The above summary demonstrates that the scheme broadly respects the relevant planning framework and, as such, the proposals embody the strategic objectives of Ryedale District Council as set out in the Local Plan Strategy.

7. SOCIO ECONOMIC

Introduction

7.1. This section has been prepared by Freeths LLP and focuses on the direct effects on the population arising from the socio-economic changes as a result of the development of the LDO site.

Assessment Methodology

7.2. The assessment of the potential socio-economic effects is dependent on the identification of existing baseline conditions within Ryedale District and in specifically Malton, against which the proposed LDO may be assessed and impacts determined.

7.3. Baseline information on the social and economic conditions with Ryedale, and specifically Malton, has been obtained from a wide variety of statistical and other sources. These sources are referenced within the following sections where appropriate.

7.4. The significance of the predicted socio-economic impacts has been assessed using professional judgement.

Baseline Conditions

7.5. Set out in detail below are the areas in respect of which predicted socio-economic impacts will be assessed against that baseline information.

Employment and Local Economy

7.6. The main workforce employment sectors in Ryedale are firstly manufacturing (21.7% compared to 11.5% in Yorkshire and Humber and 8.3% nationally); secondly wholesale and retail trade (15.2% compared to 15.5% in Yorkshire and Humber and 15.8% nationally; thirdly accommodation and food services (10.9% compared to 6.5% in Yorkshire and Humber and 10.2% nationally). Based on 2015 ONS Business Register and Employment Survey.

7.7. Unemployment rates in Ryedale are low by comparison with national rates, as shown by the data for jobseekers allowance claimants in February 2016. The

unemployment rate for Ryedale at this point was 190 people, which equates to 0.6%. This compares to an unemployment rate of 2.0% in Yorkshire and the Humber and 1.5% in Great Britain.

7.8. Ryedale has however always experienced a low wage culture, due in part to the prevalence of 'primary industries'. The gross weekly pay for Ryedale in 2015 was £410.20, this compares with £486.40 in Yorkshire and Humber and £529.00 in Great Britain (ONS Annual Survey of Hours and Earnings). However in relative terms there is very little depravation. No wards in Ryedale are within the 'most deprived' 25% in England.

7.9. The increasingly ageing population, coupled with high housing prices, causes difficulties for businesses to recruit skilled workers locally. Many young people leave the area, particularly for higher education elsewhere, and therefore skills can be difficult to 'grow on' locally. (Ryedale Economic Action Plan).

Potential Impacts

7.10. The potential areas of socio-economic change and related potential impacts are set out below:

- The Local Economy – impact on labour supply and unemployment/employment levels, and the composition of the town's economy
- Social and community facilities
- Social cultural impacts

Mitigation Measures

7.11. As a result of the underused nature of these sites, the proposed LDO, as with the extant OPP, development proposal provides the opportunity for significant socio economic benefits. Any potential adverse impacts have been designed out or are dealt with in other sections of this ES.

7.12. The key elements of the proposal designed to provide socio-economic benefits are as follows

- The creation of a new agri-business park to help facilitate the relocation of existing businesses within Ryedale whose current premises are no longer suitable, the start up of new businesses within Ryedale, and potential inward investment from companies and organisations currently located outside of Ryedale;

- Significant job creation for both existing and future residents of Malton, Norton and Old Malton residents;

- An Agricultural Business Centre built around the Livestock Market to help support the market and provide use and activity on the site on non-market days;

- The opportunity for new specialist businesses to relocate within Malton and to strengthen its focus on becoming the Food Capital of Yorkshire;

- Potential to accommodate a relocated livestock market in, and the associated livelihoods this supports, within Malton and the wider region.

Impact Assessment

Employment and the Local Economy

7.13. The development on land adjacent to Eden Camp comprises 19.93 hectares of employment land which will equate to floorspace generation of 27,900 sq m gross.

7.14. In terms of estimating direct employment generation associated with the mix and quantum of uses proposed such figures have been derived based on advice set out in Employment Densities Guide 2010 (prepared by OffPAT and the Homes and Communities Agency).

7.15. The development on the site adjacent Eden Camp will generate circa 864 full time permanent jobs.

7.16. The LDO site will also potentially facilitate the retention of jobs associated with the livestock market which are currently at risk following the grating of planning permission to redevelop the town centre site which is currently leased by the market auctioneers.

7.17. In addition it is likely that there will be short-medium term jobs created as a result of on- site construction.

7.18. CDP estimate that the construction of the development at Eden Camp will equate to a project value of £23.96 million.

7.19. Freeths LLP have also calculated a multiplier impact of £68.05 million based on the October 2010 report by the UK Contractors Group in partnership with the Confederation of British Industry titled Construction in the UK Economy – The

Benefits of Investment who estimate that every £1 spent on construction leads to an increase in GDP of £2.84. This will benefit Malton and the wider Ryedale area.

7.20. In the first instance construction jobs followed by the creation of 864 (in respect of the development on land adjacent Eden Camp) will be available in the longer terms, represents a significant benefit to the local economy.

7.21. The introduction of this number of jobs into Ryedale, and specifically Malton, may also facilitate more employment opportunities for young people and reduce the out-migration of young skilled workers. In turn this may begin to combat against Ryedale's increasingly ageing population.

7.22. The parallel development of employment opportunities close to new housing in Malton and Norton also promotes a more sustainable pattern of living and encourages sustainable travel movements.

7.23. The baseline demographics also identify that there is a reliance in Ryedale on primary industries, which has resulted in a 'low wage' culture. The introduction of a greater range of businesses and industries into Malton will therefore diversify the economy and in doing so begin to increase the average weekly pay.

7.24. The increase in population arising from the development will also result in wider economic benefits by virtue of the generated spending which will be dispersed throughout Malton and the wider area.

7.25. As such this development will result in a **local/regional substantial beneficial impact** in respect of economic growth in the area.

Social and Community Facilities/Social Cultural Impacts

7.26. Clearly the increase in employment in Rydale and predicted increase in wages will result in a follow on impact on social community facilities arising from increase in disposable income thereby supporting existing facilities and encouraging investment in new facilities based on increased use.

7.27. In turn the potential for retention of existing jobs through the relocation of the livestock market will have an important socio cultural impact in supporting the existing agricultural industry in Rydedale.

7.28. As such this development will result in a **local moderate beneficial impact** in respect of social and community facilities and socio cultural aspects.

Summary

7.29. The development which will occur under the LDO, when assessed against baseline conditions, is likely to result in a variety of beneficial impacts following its completion.

7.30. These beneficial impacts are likely to be very similar to those approved under the OPP.

7.31. The project will facilitate the development of employment opportunities, in a more diverse range of sectors, and will help further the economic prosperity of Malton. The scheme also provides the opportunity for employment and jobs for young people and may begin to help the ageing population of Malton and the out-migration of young skilled workers.

7.32. Additionally the development provides the opportunity for the relocation of the livestock market to a site within Malton, keeping its ties and associated economic links with Malton.

8. TRANSPORT

Introduction

8.1. This section of the ES assesses the likely significant effects of the LDO proposal in terms of highway access and transportation considerations, and incorporates a summary of the Transport Assessment, which is included as **Technical Appendix 4**.

8.2. The Transport Assessment included as **Technical Appendix 4** was completed in respect of the planning application reference 14/00426/MOUT for development at Eden Camp (now approved). The Transport Assessment also assesses the developments under planning application references 14/00427/MOUT, 14/00428/MOUT and 14/00429/MOUT (all now approved). Planning application reference 14/00426/MOUT for development at Eden Camp mirrors the development which will be permitted by the proposed Local Development Order (LDO), save for access which has been changed as part of planning application reference 16/00412/FUL (now approved). The alterations to the access are a relocated roundabout on the A169 and different scope of works and function for Eden House Road.

8.3. In summary, the development to be permitted by the proposed LDO has already been accepted in planning terms, in the form of application references 14/00426/MOUT and 16/00412/FUL, both of which have been granted permission.

8.4. This section describes: the assessment methodology; the baseline conditions at the Assessment Site (Land west of Edenhouse Road and north of Freehold Lane; and Land east of Edenhouse Road and west the A169) and surroundings; the likely significant environmental effects of the proposed developments; the mitigation measures required to prevent, reduce or offset any significant adverse effects; and the likely residual effects after these measures have been employed. This chapter has been prepared by Connect Consultants Limited.

Assessment Methodology

Approach and Methods

8.5. Although not a Transport Assessment, this chapter has been prepared with due consideration of the advice contained in the publication titled 'Guidance on Transport Assessments' published by the Department of Transport in March 2007. It should be noted that although Guidance on Transport Assessments has now been withdrawn, it was pertinent to the production of the Transport Assessment dated April 2014, on which this chapter has been based. The document advises that:

"The TA should indicate the transport aspects of the proposals, how the proposals will help to deliver the aims of the development plan and how it responds to relevant government policy, guidance and statements".

8.6. The Transport Assessment included as **Technical Appendix 4** is dated April 2014, and contains data gathered in 2013 and 2014. The Transport Assessment was part of the basis on which planning permission has been granted for the Eden Camp development (14/00426/MOUT). The Technical Note included as Technical **Appendix 5** was part of the basis on which planning permission has been granted for relocation of the roundabout access (16/00412/FUL). As the proposed LDO development is, effectively, the same as the development for which planning permission has been granted (with reference to 14/00426/MOUT and 16/00412/FUL), this ES chapter re-iterates the effects of the development at Eden Camp, using the baseline(s) presented as part of the, now permitted, planning applications.

8.7. This chapter will analyse the potential transport effects having regard to the following considerations:

- The location of the Assessment Site in relation to its environs and the extent to which it is capable of being well served by rail, bus, cycle and pedestrian routes as well as the existing highway infrastructure.
- The potential for the scheme to result in changes to traffic flows on the local highway network and the effect that any such changes may have in relation to highway capacity and road safety.
- The identification of, where necessary, mitigation measures.
- Assessing the effect of the proposed mitigation measures.

8.8. The accessibility of the Assessment Site by public transport has been assessed by considering the location of public transport infrastructure relative to the Assessment Site, the frequency of services, and the areas served. This baseline data has been

used to establish whether the Assessment Site is suitably accessible by public transport. Should this test not be met, mitigation measures will be provided where required.

8.9. Accessibility by foot and cycle has been assessed by considering the likely distances that future users of the Proposed Development will be prepared to travel by these modes and the availability of existing infrastructure. Where deficiencies are identified, mitigation measures will be provided where required.

8.10. The road safety assessment has been undertaken by establishing the existing pattern of road accidents within the study area from the local authority records and then by considering whether there is an abnormally high incidence rate or pattern which might imply that the road layout is deficient. The development effects have been considered against this baseline and mitigation measures will be provided where required.

8.11. The assessment of traffic effects has been undertaken by establishing the baseline traffic conditions from survey data and by predicting the likely change in traffic flows that would arise from the Proposed Development. This data has been used to establish whether the development effects are significant; mitigation measures will be provided where required.

Assessment Criteria

8.12. Based on the above, the following table specifies the broad levels of magnitude to be considered when determining the effect that changes in traffic flow or travel habit will have upon the transport network.

Table 8.1: Significance Matrix

Sensitivity / Value of Receptor	Magnitude of Effect		
	High	Medium	Low
High (England/UK/International)	Major	Major/ Moderate	Moderate
Medium (County/Regional)	Major/ Moderate	Moderate	Moderate/ Minor
Low (Local/Borough)	Moderate	Moderate/ Minor	Minor

8.13. As the A64 is a Trunk Road, but is single carriageway for significant lengths in the vicinity of Malton, and ends at a seaside settlement with no significant port facility, the sensitivity has generally been assumed to be Medium (County/Regional) level.

Sources of Information

8.14. Traffic information relating to the existing traffic situation has been obtained via traffic counts commissioned specifically for this project, for the A169 / Edenhouse Road, the A169 / Wisehouse Lane, A169 / A64 and the B1257 / Westgate junctions.

8.15. Traffic information relating to the existing traffic situation has been obtained, for the Pasture Lane / Broughton Road and Newbiggin / Mount Crescent junctions, from the Transport Assessment prepared for the committed Taylor Wimpey residential development on land east of Broughton Road (Local Planning Authority references: 10/00899/MOUT and 13/01141/MFUL).

8.16. Traffic information relating to the existing traffic situation has been obtained, for the Old Malton Road / Highfield Road, Pasture Lane / Smithson Court, Newbiggin / Spital Street and Horsemarket Road / Yorkersgate junctions, from the Transport Assessment prepared for the previously proposed foodstore development on the Wentworth Street car park (Local Planning Authority reference: 11/00927/MOUT).

8.17. Trip rate information used to predict the traffic effects associated with the elements of the previously proposed development has been established using the TRICS trip rate database.

8.18. Census information, including journey to work mode share and population distributions, have been obtained from the Neighbourhood Statistics website (www.neighbourhood.statistics.gov.uk).

8.19. Mapping data has been obtained via the ProMap website (for the OS Detail Mastermap information).

8.20. Topographical survey data has been obtained via surveyors commissioned specifically for this project.

8.21. Public transport information has been obtained from the Traveline website, and information relating to cycle facilities has been obtained from the Sustrans website and site visits.

8.22. This reflects the information presented as part of the (now permitted) planning application for the development at Eden Camp (planning application reference 14/00426/MOUT).

Technical Difficulties

8.23. The traffic data extracted from the Transport Assessments for application numbers 10/00899/MOUT, 13/01141/MFUL and 11/00927/MOUT, did not contain information relating to the proportion of heavy vehicles to total vehicles.

Baseline Conditions

8.24. This section of the chapter outlines the current conditions at each site in terms of accessibility, road safety and highway capacity.

Walking:

8.25. Walking is an environmentally friendly and healthy method of travelling and travel by foot has the potential to replace car trips for journeys under 2km in length.

8.26. Paragraph 6.3.1 of the Department for Transport (DfT) document 'Manual for Streets' (2007) identifies that a 20 minute walk time (equivalent to a 1.6km walk distance) is acceptable subject to an attractive walking environment.

8.27. Table 3.2 of the Institute of Highways and Transportation (IHT) document 'Providing for Journeys on Foot' sets out acceptable maximum walk distances of, 2km for commuting and school journeys, 800m for Town Centres, and 1.2km for elsewhere.

8.28. The actual distance that people will be prepared to walk to access facilities will depend on a number of factors, including the purpose of their journey. Walking has the potential to replace car journeys for purposes such as employment and accessing local leisure facilities where the distance is up to 2km, beyond this distance, however, the likelihood of walking will diminish.

8.29. 2011 census data for the ward of Malton identifies the surveyed travel to work habits of the surrounding population of the sites. As set out at Graph 2.1 of the Transport Assessment at **Technical Appendix 4**, the census data indicates 21% of the local population travel to/from work by foot, therefore indicating that travel by foot for residents and employees of the sites is a potentially attractive mode of travel.

8.30. Inset 2.4 of the Transport Assessment at **Technical Appendix 4** identifies the walk catchments for the Assessment Site and identifies that Old Malton is within walking

distance. Walk journeys to the Assessment Site are likely to be primarily employees' journeys to/from work.

8.31. A footway exists along the western side of the B1257 between Old Malton and the A64 junction, the footway continues around the western side of the A64 / A169 roundabout, and along the western side of the A169 to the site access.

8.32. Based on this, the Assessment Site is accessible by foot.

Cycling:

8.33. Sustrans indicate in their 'Travel Behaviour Research Baseline Survey - 2004' under the subheading 'measuring the potential for change' that cycling offers an alternative to car travel, and particularly for trips of less than 5 kilometres. This research is supported by the 2015 National Travel Survey, which specified average journey lengths, by cycle, of 4.9km.

8.34. Assuming a 5km maximum acceptable cycle distance, the catchment area of the site by cycle is shown at Inset 2.8 of the Transport Assessment at **Technical Appendix 4**.

8.35. The cycle insets identify that the vast majority of Malton and Norton is within cycle distance of the site, as is their immediate surrounding area. The majority of cycle journeys to/from the site are likely to be mainly limited to the built up area of Malton and Norton.

8.36. The sites will be designed to be permeable to cyclists with access provided via the main vehicular accesses.

8.37. Based on this, the Assessment Site is accessible by cycle.

Public Transport:

8.38. The guidance contained within the IHT Guidelines entitled 'Planning for Public Transport in Developments' suggests a catchment area of 400m to bus stops.

8.39. The bus contexts for the sites have been set out at Inset 2.11 of the Transport Assessment at **Technical Appendix 4**.

8.40. For the site, the Edenhouse Road bus stops are on the A169 immediately east of the site.

8.41. Table 8.2 below indicates the route destinations and frequencies of the buses that serve the identified bus stops.

Table 8.2 - Bus Service Details, Residential Sites

Service Number	Bus Stops	Destination	Monday - Friday	Saturday	Sunday
840	Edenhouse Road	Leeds - York - Malton - Pickering - Whitby	Hourly	Hourly	Three Services

8.42. The bus routes identified above connect the sites with the surrounding area as well as Malton Bus Station which is adjacent to the Malton Railway Station.

8.43. Malton Railway Station is on the railway line between Scarborough and York, offering wider connections for occupants of the proposed development sites who travel by rail.

8.44. Considering the above, the Assessment Site is accessible by public transport.

Committed Developments:

8.45. The following developments have been previously identified by the Highway Authorities as being appropriate to include in the future baseline scenarios of this assessment:

- Taylor Wimpey residential development on Land at Broughton Road (local planning authority reference: 10/00899/MOUT)
- Taylor Wimpey residential development on 'former allotment land' (LPA ref: 13/01141/MFUL), accessed via the larger development listed above
- The redevelopment of the Livestock Market site, permitted at appeal (LPA ref: 11/00412/MOUT, Appeal Ref: APP/Y2736/A/12/2174677)

8.46. The following developments were included within the Transport Assessment but have since been granted planning permission and, as such, are now included as committed developments:

- Residential development on Land at The Showfield, Pasture Lane (LPA ref: 14/00427/MOUTE)

- Residential development on Land South of Westgate, Old Malton (LPA ref: 14/00428/MOUTE)
- Residential development on Land on Land at Rainbow Lane (Peasey Hills) (LPA ref: 14/00429/MOUTE)

8.47. It should be noted that the Eden Camp development is, in effect, a commitment because it benefits from planning permission references 14/00426/MOUT and 16/00412/FUL. However, for the purposes of assessing the LDO proposal, this ES chapter re-iterates the effects of the development at Eden Camp, although these effects have already been accepted in planning terms by way of planning permission references 14/00426/MOUT and 16/00412/FUL.

8.48. In addition to the above, the Highway Authority have previously requested that the following development is included in a set of 'sensitivity' scenarios; although this is not committed:

- Proposed foodstore development, Wentworth Street car park (LPA ref: 11/00927/MOUT)

8.49. Planning application 11/00927/MOUT was granted permission by the LPA, however this permission was quashed following judicial review, and the application reverted back to the LPA and was ultimately disposed off. Accordingly, it is no longer a commitment, therefore the volume of traffic assessed in this chapter, which includes the traffic associated with planning application 11/00927/MOUT, is higher than it would be without this development. Therefore, the results of the capacity analysis in this section present a worse scenario than is necessarily committed.

8.50. The traffic effects calculated for these developments have been extracted from the Transport Assessments (TAs) submitted to the Local Planning Authority in support of the various planning applications.

8.51. Where the networks assessed in the committed development TAs do not cover the same junctions as in this assessment, the traffic is assumed to continue through the network; where possible using the distribution assumptions within the TAs. Appendix 7 of the Transport Assessment at **Technical Appendix 4** contains diagrams showing the committed development traffic assumed in this assessment.

8.52. There is the potential for double counting when including specific committed development sites and TEMPRO growth, as a proportion of growth assumed within TEMPRO is increase in numbers of dwellings and increase in numbers of jobs.

8.53. Furthermore, whilst the traffic presented in the Livestock Market site TA and the Wentworth Street car park TA may be applicable for the scenario when either foodstore is in place, summing the two traffic effects, as in the sensitivity scenarios, is likely to be an over-estimation of the combined traffic effects.

Personal Injury Accidents:

8.54. The road safety assessment focuses on the junctions, including the interconnecting links and closely associated junctions, in the area bounded by the locations identified below and shown at Inset 4.1 of the Transport Assessment at **Technical Appendix 4**.

- A169, for c150m north of Edenhouse Road
- Edenhouse Road for c300m west of A169
- Wisehouse Lane, for c300m east of A169
- A64 for c500m east of A169
- A64 for c2.5km to the west of A169
- Broughton Road from A64 to Mount Crescent
- Mount Crescent and The Mount from Broughton Road to Yorkersgate
- Castle Howard Road for c50m from Yorkersgate
- York Road for c50m from Castle Howard Road
- Yorkersgate from Castle Howard Road to Castlegate
- Castlegate (later Church Street) from Yorkersgate to Langton Road
- Langton Road for c50m from Church Street
- Welham Road for c50m from Church Street
- Old Maltongate and Old Malton Road from Castlegate to the A64

8.55. Accident data has been obtained from North Yorkshire County Council for a five year period between the 8th November 2008 and the 7th November 2013.There has been no material change in this data.

8.56. There were a total of 70 road accidents of which none have been fatal, and thirteen have been categorised as ‘serious’ in severity, with the remainder categorised as ‘slight’.

8.57. A plan showing the location of the recorded personal injury road accidents in the study area is provided at Appendix 3 of the Transport Assessment at **Technical Appendix 4**.

8.58. Of the road accidents involving personal injury included within the study area, further review has been undertaken below of those junctions where three or more accidents have been recorded.

A64 / A169 / B1257 roundabout junction

8.59. Ten accidents have been recorded at the junction. Of the ten accidents, one has been categorised with a severity of serious with the remaining nine categorised as slight.

8.60. Three of the accidents involved rear shunts with vehicles exiting the A64 on the west bound off-slip road.

8.61. Four of the accidents involved rear shunts with vehicles exiting the A64 on the east bound off-slip road.

8.62. Three of the accidents involved vehicles losing control when leaving the roundabout to travel northbound along the A169. Of these accidents, one had a noted causation factor ‘impaired by alcohol’ with confidence of ‘very likely’; and one had a ‘very likely’ causation factor of ‘deposit on road’.

8.63. Given the differing circumstances and recorded likely causation factors, the accident records do not appear to indicate a trend caused by the layout or construction of the highway.

B1257 Wheelgate / Finkle Street junction

8.64. Four accidents have been recorded at the junction, all of which have been categorised as slight in severity.

8.65. One of the accidents involved the handbrake on a parked car failing and it rolling down the hill, and one involved a child falling into the carriageway.

8.66. The two remaining accidents involved vehicles exiting Finkle Street in front of motorcycles leading to a collision in one instance, and sharp braking causing the rider to fall off in the other.

8.67. Given the differing circumstances, the accident records do not appear to indicate a trend caused by the layout or construction of the highway.

B1257 Old Maltongate / B1248 Castlegate signal junction

8.68. Three accidents have been recorded at the junction, all of which have been categorised with a severity of slight.

8.69. Of the three accidents, one involved a turning manoeuvre, one involved a pedestrian entering the carriageway and one involved a driver contravening a red light.

8.70. Given the differing circumstances, the accident records do not appear to indicate a trend caused by the layout or construction of the highway.

B1248 Castlegate / Norton Road junction

8.71. One of the accidents involved a car colliding with a motorcycle during a turning manoeuvre.

8.72. One of the accidents involved a cyclist who was impaired by alcohol.

8.73. Two of the accidents involved pedestrians crossing the Norton Road arm of the junction and colliding with a vehicle turning from the main road in to Norton Road.

8.74. The remaining three accidents all involved cyclists, with two involving cyclists crossing the Norton Road arm of the junction and colliding with vehicles turning in or out of Norton Road, and the other involving a vehicle exiting Norton Road and colliding with a cycle travelling along the B1248.

8.75. As set out below, the net traffic effect at this junction is unlikely to have a significant bearing on the collision characteristics at this location.

Summary of Road Safety Assessment

8.76. On the basis of the above, the safety the existing highway network is considered to be of medium sensitivity, because of the significant implications of road accidents and the volume that have been recorded at the points on the network which are subject to high traffic demand.

Traffic Flows and Junction Capacity

8.77. The study area comprises the following junctions for consideration within the traffic assessment.

1) A169 / Edenhouse Road
2) A169 / Wisehouse Lane
3) A169 / A64
4) B1257 Town Street / Westgate
5) Old Malton Road / Highfield Road
6) Highfield Road / Peasey Hills Road
7) Pasture Lane / Showfield Access
8) Pasture Lane / Smithson Court
9) Pasture Lane / Broughton Road / Taylor Wimpey Access
10) Newbiggin / Mount Crescent
11) Newbiggin / Spital Street
12) Butcher Corner
13) Horsemarket Road / Yorkersgate
14) York Road / Castle Howard Road
15) A64 Musley Bank
16) Castlegate / Welham Road

8.78. Details of the existing traffic flows at the following junctions have been obtained from surveys undertaken on Thursday 12th December 2013:

1) A169 / Edenhouse Road
2) A169 / Wisehouse Lane
3) A169 / A64
4) B1257 Town Street / Westgate

8.79. Details of the existing traffic flows at the following junctions have been obtained from the Transport Assessment prepared for the Taylor Wimpey residential development (the TW TA). The TW TA contains traffic counts undertaken on 11th (PM peak) and 12th (AM peak) September 2013:

9) Pasture Lane / Broughton Road / Taylor Wimpey Access
10) Newbiggin / Mount Crescent

8.80. Details of the existing traffic flows at the following junctions have been obtained from the Transport Assessment prepared for the Wentworth Street foodstore development (the Wentworth TA). The Wentworth TA contains traffic counts undertaken on Thursday 9th June 2011:

5) Old Malton Road / Highfield Road

8) Pasture Lane / Smithson Court

11) Newbiggin / Spital Street

13) Horsemarket Road / Yorkersgate

8.81. At junctions where traffic data has not been collected, either they are proposed site accesses (and data has been available for the adjacent junction(s)), or the traffic effects of the proposal sites have been calculated and found to not be of significant absolute magnitude.

8.82. The surveyed traffic movements have been utilised to establish the weekday AM and PM network peak hours for the study area junctions as 0800hrs-0900hrs and 1630hrs-1730hrs. The data from each of the separate surveys has been amalgamated to provide an overall network base which is shown at Appendix 4 of the Transport Assessment at Technical Appendix 3.

8.83. This assessment considers a year of opening of 2019 (also the assessment year for non-Trunk Road junctions) and a 10 year horizon of 2024 (the assessment year for Trunk Road junctions), in line with the guidance contained in the Department for Transport Circular 02/2013 'The Strategic Road Network and the Delivery of Sustainable Development' and the DfT's 'Guidance on Transport Assessment'.

8.84. Local traffic growth factors have been derived through a TEMPRO (NTEM) adjustment of the NTM (National Transport Model) factors up to 2019, and 2024. This has been adjusted based on the TEMPRO output for car drivers for the geographical area of Malton and Norton (36UF1).

8.85. The Transport Assessment at Technical Appendix 3 contains diagrams indicating the future baseline traffic flows, as well as the future baseline with committed development traffic flows.

8.86. Detailed junction capacity analysis has been undertaken at the junctions where, broadly, the development has been calculated to increase turning movements by c30 vehicles or more, except at the Castlegate/Yorkersgate junction (also known as Butcher Corner), where a mechanism exists for determining a financial contribution based on calculated traffic effects.

8.87. Based on the net development traffic effects, detailed later in this chapter, capacity analysis has been undertaken at the following junctions:

1) A169 / Edenhouse Road (existing and proposed layouts)
3) A169 / A64 (existing layout)
5) Old Malton Road / Highfield Road (existing and committed layout)
7) Pasture Lane / Showfield Access (proposed layout)
8) Pasture Lane / Smithson Court (existing and committed layout)
9) Pasture Lane / Broughton Road / Taylor Wimpey Access (committed layout)
10) Newbiggin / Mount Crescent (committed layout)

8.88. The TRL computer program PICADY has been used to assess the operation of the priority junctions in the network being analysed for capacity. PICADY is used to assess the operation of a priority junction based on its geometric properties combined with traffic flow data. The software provides a number of results in its output, one of the most useful of which is the Ratio of Flow to Capacity (RFC) where a result of 1.0 indicates that the demand and theoretical capacity are equal.

8.89. The TRL computer program ARCADY has been used to assess the operation of the roundabouts in the network being analysed for capacity. ARCADY is used to assess the operation of a roundabout junction based on its geometric properties combined with traffic flow data. The software provides a number of results in its output, one of the most useful of which is the Ratio of Flow to Capacity (RFC) where a result of 1.0 indicates that the demand and theoretical capacity are equal.

8.90. For the capacity assessments using PICADY and ARCADY, the JUNCTIONS 8 program has been used with the synthesised demand profile in the ‘ONE HOUR’ mode.

8.91. The JCT computer program LINSIG has been used to assess the operation of the signal junctions in the network being analysed for capacity. LINSIG relates the geometry of the signal junction combined with traffic flow and timing information to model capacity. The software provides a number of results in its output, one of the most useful of which is the degree of saturation (DoS) of links. A DoS of 100% indicates that demand and theoretical capacity are equal.

8.92. The capacity tests results for the 2013, 2019 (for non trunk road junctions) and 2024 (for trunk road junctions) baseline scenarios for all peak periods without development traffic are provided below.

1) A169 / Edenhouse Road (existing layout)

TABLE 8.3 - MODELLING RESULTS - A169 / EDENHOUSE ROAD

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2013 Baseline (priority)			
Edenhouse Rd - L	0.04	0.05	0.04	0.05
Edenhouse Rd - R	0.08	0.09	0.06	0.07
A169 N - R	0.03	0.05	0.01	0.02
Arm	2024 Base plus Cttd (priority)			
Edenhouse Rd - L	0.05	0.06	0.05	0.06
Edenhouse Rd - R	0.10	0.12	0.09	0.10
A169 N - R	0.05	0.07	0.02	0.02

3) A169 / A64 Roundabout

Table 8.4 - Modelling Results - A169 / A64

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2013 Baseline			
A169 North	0.31	0.49	0.28	0.40
A64 East	0.27	0.38	0.13	0.17
B1257 South	0.19	0.26	0.29	0.41
A64 West	0.12	0.16	0.15	0.18
Arm	2024 Base plus Cttd			
A169 North	0.36	0.60	0.36	0.58
A64 East	0.31	0.47	0.16	0.20
B1257 South	0.24	0.35	0.36	0.57
A64 West	0.14	0.19	0.18	0.22

4) B1257 Town Street / Westgate

Table 8.5 - Modelling Results - B1257 Town Street / Westgate

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2013 Baseline			
Westgate - L, R	0.08	0.09	0.05	0.06
B1257 North - R	0.04	0.06	0.02	0.02
Arm	2019 Base plus Cttd			
Westgate - L, R	0.09	0.11	0.06	0.07
B1257 North - R	0.05	0.08	0.02	0.02

5) Old Malton Road / Highfield Road Mini Roundabout

Table 8.6 - Modelling Results - Old Malton Road / Highfield Road

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2013 Baseline			
B1257 South	0.32	0.52	0.53	1.15
Highfield Road	0.28	0.43	0.57	1.30
B1257 North	0.77	3.45	0.56	1.32
Arm	2019 Base plus Cttd			
B1257 South	0.37	0.66	0.65	2.00
Highfield Road	0.32	0.52	0.67	2.15
B1257 North	0.83	4.83	0.68	2.79

8) Pasture Lane / Smithson Court Priority Junction

Table 8.7 - Modelling Results - Pasture Lane / Smithson Court

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2019 Base plus Cttd			
Smithson Court - L	0.02	0.02	0.02	0.03
Smithson Court - R	0.04	0.05	0.03	0.04
Pasture Lane W - R	0.03	0.03	0.02	0.02

9) Pasture Lane / Broughton Road / Taylor Wimpey Access Roundabout

Table 8.8 - Modelling Results - Pasture Lane / Broughton Road / TW Access

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2019 Base plus Cttd			
Broughton Road	0.29	0.44	0.32	0.52
TW Access	0.18	0.25	0.11	0.14
Pasture Lane	0.20	0.28	0.16	0.22
Newbiggin	0.43	0.84	0.49	1.05

10) Newbiggin / Mount Crescent Signal Junction

Table 8.9 - Modelling Results - Newbiggin / Mount Crescent

Arm	AM		PM	
	DoS	Queue (Veh)	DoS	Queue (Veh)
	2019 Base plus Cttd			
Newbiggin North	62.5%	13.9	60.9%	11.9
Newbiggin South	62.3%	9.5	61.1%	8.9
Mount Crescent	62.4%	7.8	60.7%	9.2

8.93. The results show that the all of the existing and committed junction arrangements operate within capacity in all scenarios considered in this assessment.

8.94. The junction capacity modelling presented above is consistent with Connect's site observations.

8.95. On the above basis, traffic flows and junction capacity is judged to be of Medium sensitivity, as the A64/A169 junction forms part of the Strategic Road Network, although it is not predicted to operate above theoretical capacity in the future year scenarios.

Potential Impacts

Construction:

8.96. Traffic during the construction period may have an effect which is likely to manifest itself in the following two ways:

- Construction staff travelling to the Proposed Development in private cars; and,
- HGVs delivering and removing materials and equipment.

8.97. The precise number of construction vehicles per day and the duration of construction will depend on both the preferred operation of the developer that takes each site forward and the prevailing market conditions.

8.98. It could be that the majority of units are constructed in a short period of time, this would have a higher rate of vehicles per day, but a shorter duration; or it could be that the construction is over a longer period of time, which would result in a lower number of vehicles per day.

8.99. Even with the higher number of vehicles per day (for shorter periods), the expected number of construction related vehicles during the weekday AM and PM peak hours is likely to be lower than the traffic effect of each development site when fully occupied.

8.100. Therefore, the overall effect during construction is predicted to be temporary, minor/negligible, and at County level (there is likely to be a minor/moderate, short term increase in traffic volumes but no adverse effect on junction safety or capacity).

Operation

Non-Car Accessibility:

8.101. Pedestrian access to the Assessment Site will be provided directly from the footway on the western side of the A169 and the proposed footway along the northern side

of Edenhouse Road. New footways within the site will ensure safe and easy internal pedestrian movement. The overall effect of the Proposed Development on the Assessment Site in terms of accessibility by foot is judged to be negligible, long term direct and at a borough level.

8.102. Cycle access to the Assessment Site will be provided from the A169 and Edenhouse Road, via the proposed vehicular accesses. The baseline conditions establish that the Assessment Site benefits from a good level of access by cycle, with the whole of Malton and the majority of Norton being within cycling distance. The overall effect of the Proposed Development on the Assessment Site in terms of accessibility by cycle is judged to be beneficial, minor, long term direct and at a borough level.

8.103. Bus access to the proposed development will be provided from the existing (recently relocated) bus stops located on the A169 immediately east of the Assessment Site. Based on this, the Assessment Site is readily accessible by bus. The site layout shown on the LDO masterplan will ensure that the development is permeable for pedestrians. Thus, the likely effect on public transport accessibility is judged to be negligible, long term, direct, and at borough level.

8.104. The Proposed Development collectively represents a sustainable scheme that provides accessible local services for future residents, as well as readily accessible employment for existing and future residents, and is likely to reduce the need to travel by single occupancy car modes, providing the opportunity to walk, cycle and use public transport in accordance with local, regional and national planning policy and guidance.

Road Safety:

8.105. The baseline conditions have established that there is no clearly identifiable pattern of accidents within the study area. The increased volumes of traffic associated with the proposed development in terms of road safety are therefore assessed to be adverse, minor, long term, and at County level.

Junction / Highway Capacity:

8.106. The effects of traffic associated with the Proposed Development have been assessed in full in the Transport Assessment at Technical Appendix 3.

8.107. Traffic associated with the operation of the relocated Livestock Market will only have an effect on the days that the market is in operation (currently Tuesdays and Fridays). Furthermore, the proposals are to relocate an intermittent event which currently occurs in Malton town centre, to a location readily accessible to vehicular traffic from the A169 and A64.

8.108. In the current situation, traffic attracted to the Livestock Market is likely to arrive from all directions, with a higher weighting towards the A64 and, to a lesser extent the A169, compared to trips arriving from the south via other, smaller roads.

8.109. Therefore, the majority of the traffic effect of the relocation of the Livestock Market is for a significant proportion of the associated trips to, beneficially, no longer travel through Malton town centre, with the effect on the A169 and A64 being broadly neutral.

8.110. Trips that originate from the south of Malton/Norton and do not utilise the A64 will still travel through Malton town centre, but these are understood to make up a small proportion of total trips, the majority of which will be able to utilise the A roads.

8.111. Based on the intermittent, beneficial or neutral traffic effects of the relocation of the Livestock Market, as reasoned above, no further numerical assessment of traffic associated with the Livestock Market has been undertaken.

8.112. As a summary, the tables below set out the peak hour vehicle trips calculated to be attracted to the various elements of Proposed Development.

Table 8.10: Employment Traffic Attraction

Peak Hour	19,040 sq.m mixed employment		
	Arrivals	Departures	Total
AM Peak (0800-0900)	154	39	193
PM Peak (1630-1730)	37	153	190

Table 8.11: Agri-Business Traffic Attraction

Peak Hour	6,010 sq.m mixed uses		
	Arrivals	Departures	Total
AM Peak (0800-0900)	53	11	64
PM Peak (1630-1730)	31	70	101

8.113. The vehicle trips associated with the employment an agricultural business uses have been calculated directly using the TRICS database, with trips being distributed on the network based on the approximate distribution of working population within the Super Output Area Middle Layers: Ryedale 002, Ryedale 003, Ryedale 004, Ryedale 007 and Ryedale 008.

8.114. Appendix 9 of the Transport Assessment at **Technical Appendix 4** contain diagrams indicating the traffic effects of the individual components of the on the study network, and the combined cumulative effect, assuming no reduction in vehicle trips due to cross visitation between various components of the sites (i.e. that none of the trips to the employment are by the residents of the committed residential developments).

8.115. Appendix 10 of the Transport Assessment at **Technical Appendix 4** contains diagrams indicating the overall traffic effects of the Proposed Development in addition to the 2019 and 2024 baseline traffic, during the peak hours assessed.

8.116. The capacity tests results for the 2019 (for local road junctions) and 2024 (for trunk road junctions) base with development traffic scenarios for all peak periods are provided below for the junctions where, broadly, the development has been calculated to increase turning movements by c30 vehicles or more, except at the Castlegate/Yorkersgate junction (also known as Butcher Corner), where a mechanism exists for determining a financial contribution based on calculated traffic effects.

8.117. Table 3.12 provides the capacity results for the A169 / Agricultural Business Access Road junction, permitted as part of planning application 16/00412/FUL. The remainder of the tables provide the capacity results presented in the Transport Assessment at **Technical Appendix 4**.

1) A169 / Agri-Business Access Road (as presented in the Technical Note included as Technical Appendix 4)

Table 8.12 - Modelling Results - A169 / Agri-Business Access Road

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2024 Base plus Cttd plus Residential and Employment Development (roundabout)			
A169 South	0.50	1.07	0.49	0.97
Agri-Business Access	0.07	0.07	0.26	0.37
A169 North	0.52	1.13	0.57	1.37

3) **A169 / A64 Roundabout**

Table 8.13 - Modelling Results - A169 / A64

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2024 Base plus Cttd plus Residential and Employment Development			
A169 North	0.39	0.68	0.49	0.97
A64 East	0.35	0.57	0.19	0.26
B1257 South	0.32	0.52	0.40	0.67
A64 West	0.17	0.23	0.19	0.24

4) **B1257 Town Street / Westgate**

Table 8.14 - Modelling Results - B1257 Town Street / Westgate

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2019 Base plus Cttd plus Residential and Employment Development			
Westgate - L, R	0.13	0.16	0.08	0.09
B1257 North - R	0.06	0.10	0.04	0.06

5) Old Malton Road / Highfield Road Mini Roundabout

Table 8.15 - Modelling Results - Old Malton Road / Highfield Road

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2019 Base plus Cttd plus Residential and Employment Development			
B1257 South	0.45	0.89	0.72	2.55
Highfield Road	0.48	0.98	0.76	3.02
B1257 North	0.88	6.62	0.85	5.39

6) Pasture Lane / Showfield Access Roundabout

Table 8.16 - Modelling Results - Pasture Lane / Showfield Access

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2019 Base plus Cttd plus Residential and Employment Development			
Showfield Access	0.05	0.06	0.03	0.03
Pasture Lane East	0.16	0.19	0.26	0.36
Pasture Lane West	0.15	0.18	0.17	0.21

7) Pasture Lane / Smithson Court Priority Junction

Table 8.17 - Modelling Results - Pasture Lane / Smithson Court

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2019 Base plus Cttd plus Residential and Employment Development			
Smithson Court - L	0.02	0.02	0.03	0.03
Smithson Court - R	0.05	0.06	0.05	0.06
Pasture Lane W - R	0.03	0.03	0.03	0.03

8) Pasture Lane / Broughton Road / Taylor Wimpey Access Roundabout

Table 8.18 - Modelling Results - Pasture Lane / Broughton Road / TW Access

Arm	AM		PM	
	RFC	Queue (Veh)	RFC	Queue (Veh)
	2019 Base plus Cttd plus Residential and Employment Development			
Broughton Road	0.29	0.45	0.33	0.55
TW Access	0.19	0.25	0.11	0.14
Pasture Lane	0.24	0.35	0.19	0.26
Newbiggin	0.45	0.88	0.53	1.21

9) Newbiggin / Mount Crescent Signal Junction

Table 8.19 - Modelling Results - Newbiggin / Mount Crescent

Arm	AM		PM	
	DoS	Queue (Veh)	DoS	Queue (Veh)
	2019 Base plus Cttd plus Residential and Employment Development			
Newbiggin North	65.6%	14.8	64.6%	13.0
Newbiggin South	65.7%	10.1	65.0%	9.7
Mount Crescent	65.5%	8.2	64.7%	10.3

8.118. The results indicate that all junctions in this assessment are predicted to operate within theoretical capacity in the respective design years with the proposed development in place.

8.119. The traffic effects of the Proposed Development at the junctions assessed above are assessed to be negligible, long term, and at County level.

Mitigation

Construction

8.120. While no adverse effects have been identified that require mitigation, construction traffic management issues and site access arrangements during the construction phase are addressed by the Construction Management Plan that forms part of the LDO Design Code.

Operation

8.121. No adverse effects have been identified that require mitigation. However Staff Travel Plans will be secured by condition.

Residual Effects

Construction

Non-Car Access, Road Safety and Junction / Highway Capacity

8.122. The residual effects of the construction of the Proposed Development have been assessed to be temporary, negligible, and at County level.

Operation

Non-Car Accessibility

8.123. The overall effect of the Proposed Development in terms of accessibility by non-car modes is judged to be beneficial, minor, long term, and at a borough level.

Road Safety

8.124. The overall effect of the Proposed Development in term of road safety is judged to be negligible, long term, and at County level.

Junction / Highway Capacity

8.125. The traffic effects of the Proposed Development at the junctions assessed for capacity in this chapter are assessed to be negligible, long term, and at County level.

Summary and Conclusions

8.126. In terms of transport considerations, the overall conclusions of this ES chapter are summarised as follows:

- The Assessment Site is accessible by a choice of travel modes including foot, cycle, public transport, private motorised modes and heavy goods vehicles. The development is likely assist to reduce vehicle mileage and to reduce reliance on the private car in accordance with planning policy.
- The Assessment Site is within easy walking distance of local catchment areas and nearby amenities. Overall, in terms of non-car accessibility, the Proposed Development is judged to be beneficial, minor, long term and at a borough level.
- The overall effect of the Proposed Development in terms of Road Safety is judged to be negligible, long term, and at a County level.
- The traffic effects of the Proposed Development on the operation of the junctions assessed in this chapter are judged to be negligible, long term and at a County level.

8.127. On the basis of the above, it is concluded that the Proposed Development is acceptable from a transport perspective.

9. AIR QUALITY

Introduction

9.1. This section has been prepared by Air Quality Consultants Ltd on behalf of Commercial Development Projects. Ryedale District Council are progressing a Local Development Order (LDO) for a Food Enterprise Zone (FEZ) at land at Edenhouse Road, Malton. Outline Planning Permission was granted in 2015 for a livestock market and business park on the same site. The development has previously been assessed, with the air quality impacts accepted by the Local Planning Authority before planning permission was granted.

9.2. The range of uses of the LDO mirrors those of the OP, albeit the LDO contains a definition of the controlling the types of occupiers at the site. Whilst development of the LDO site is already a planning commitment, this assessment nevertheless describes the potential air quality impacts associated with the FEZ LDO. The difference between the committed development through the OPP and the LDO proposal are not significant.

9.3. The proposed developments lie close to an Air Quality Management Area (AQMA) declared by Ryedale District Council for exceedences of the annual mean nitrogen dioxide objective. The proposed development will lead to a change in traffic on local roads, therefore the impact on air quality at existing residential properties has been considered. The main air pollutants of concern related to traffic emissions are nitrogen dioxide and fine particulate matter (PM_{10} and $PM_{2.5}$).

9.4. There is also the potential for the construction activities to impact upon existing properties. The main pollutants of concern related to construction activities are dust and PM_{10}.

9.5. This report describes baseline local air quality conditions (2012), and the predicted air quality in the future assuming that the proposed development does, or does not proceed. The assessment of traffic-related impacts focuses on 2019, which is the anticipated year of opening. The assessment of construction dust impacts focuses on the anticipated duration of the construction works.

9.6. This assessment has been prepared taking into account all relevant local and national guidance and regulations, and follows a methodology previously agreed with Ryedale District Council.

Assessment Methodology

9.7. The air quality assessment follows the same methodology used in the air quality chapter of the Environmental Statement for the permitted development at the Eden Camp site (Application reference: 14/00427/MOUTE), which was agreed with Ryedale District Council via telephone discussions between Paul Hunt (Air Quality Officer at Ryedale District Council) and Dr Austin Cogan (Air Quality Consultants) held on the 6th February 2014, and between Don Davies (Countryside Officer at Ryedale District Council) and Dr Austin Cogan held on the 10th February 2014.

9.8. The River Derwent Site of Special Scientific Interest (SSSI) and Special Area of Conservation (SAC) is located to the south of the proposed development site. Ryedale District Council's Countryside Officer previously confirmed in the above consultation that the potential air quality impacts on this ecological area would not need to be included in the assessment. On this basis, the air quality impacts on this area have not been included within this assessment.

9.9. Existing sources of emissions within the study area have been defined using a number of approaches. Industrial and waste management sources that may affect the area have been identified using Defra's Pollutant Release and Transfer Register[1] and the Environment Agency's website 'what's in your backyard'[2]. Local sources have also been identified through discussion with Ryedale District Council's Health and Environment Department, as well as through examination of the Council's Air Quality Review and Assessment reports.

9.10. Information on existing air quality has been obtained by collating the results of monitoring carried out by the local authority. This covers both the study area and nearby sites, the latter being used to provide context for the assessment. The background concentrations across the study area have been defined using the national pollution maps published by Defra[3]. These cover the whole country on a 1x1 km grid.

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1 Defra (2016) UK Pollutant Release and Transfer Register, [Online], Available: prtr.defra.gov.uk.

2 Environment Agency (2016) 'what's in your backyard', [Online], Available: http://www.environment-agency.gov.uk/homeandleisure/37793.aspx.

3 Defra (2016) Defra Air Quality Website, [Online], Available: http://www.defra.gov.uk/environment/quality/air/airquality/.

Construction Impacts

9.11. The construction dust assessment considers the potential for impacts within 350 m of the site boundary; or within 50 m of roads used by construction vehicles. The assessment methodology that has been used is that published by the Institute of Air Quality Management (IAQM[4])[5]. This approach is based around a sequence of steps: Step 1 is a basic screening stage, to determine whether the more detailed assessment provided in Step 2 is required; Step 2a determines the potential for dust to be raised from on-site works and by vehicles leaving the site; Step 2b defines the sensitivity of the area to any dust that may be raised; and Step 2c combines the information from Steps 2a and 2b to determine the appropriate level of mitigation required to ensure that there should be no significant impacts. Technical Appendix 8.1 (attached as **Technical Appendix 6** to this ES) explains the approach in more detail.

Road Traffic Impacts

Sensitive Locations

9.12. Concentrations of nitrogen dioxide, PM_{10} and $PM_{2.5}$ have been predicted at a number of receptors representing sensitive locations close to the proposed development. The receptors have been located on the façades of the properties and represent worst-case locations closest to the roads. These locations are described in Technical Appendix 8.4 (attached as **Technical Appendix 6** to this ES) and shown in Figure 1. In addition, concentrations have been modelled at the diffusion tube monitoring sites located within the AQMA and at Pasture Lane, in order to verify the modelled results (see Appendix 8.5 (attached as **Technical Appendix 6** to this ES) for verification method).

[4] The IAQM is the professional body for air quality practitioners in the UK.

[5] Institute of Air Quality Management (2016) Guidance on the Assessment of Dust from Demolition and Construction v1.1.

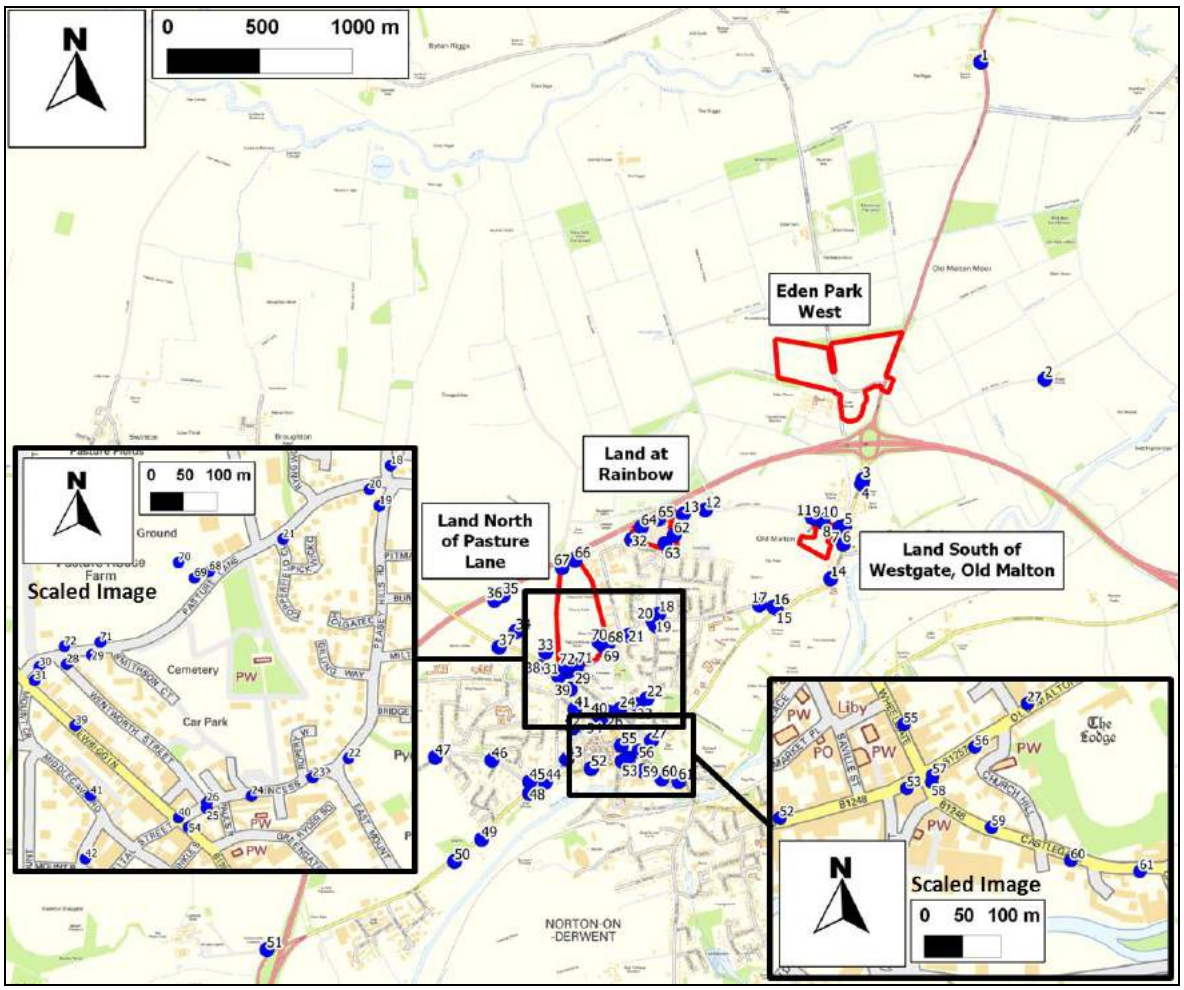

Figure 9.1: Permitted and Proposed Development Sites, and Receptor Locations

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Assessment Scenarios

9.13. Predictions of nitrogen dioxide, PM_{10} and $PM_{2.5}$ concentrations have been carried out for a base year (2012), and the proposed year of opening (2019). For 2019, predictions have been made assuming both that the development does proceed (With Scheme), and does not proceed (Without Scheme). A further 2019 sensitivity test has been carried out for nitrogen dioxide that involves assuming no reduction in emission factors for road traffic from the baseline year. This is to address the issue identified by Defra6 that road traffic emissions have not been declining as expected (see later section on uncertainty). Nitrogen dioxide concentrations in 2019 with and without the scheme are thus presented for two scenarios: 'With Emissions Reduction' and 'Without Emissions Reduction'.

6 Carslaw, D., Beevers, S., Westmoreland, E. and Williams, M. (2011) Trends in NOx and NO2 emissions and ambient measurements in the UK, [Online], Available: uk-air.defra.gov.uk/reports/cat05/1108251149_110718_AQ0724_Final_report.pdf.

Modelling Methodology

9.14. Concentrations have been predicted for the baseline and future years using the ADMS-Roads dispersion model (v3.2). Details of the model inputs and the model verification are provided in Technical Appendix 8.5 (attached as **Technical Appendix 6** to this ES), together with the method used to derive current and future year background nitrogen dioxide concentrations.

9.15. Traffic data from the permitted development at Eden Camp (Application reference: 14/00427/MOUTE) have been used for the assessment. This also includes traffic generated by:

- a Taylor Wimpey residential development at Boughton Road;
- a food store development at the former livestock market;
- a food store development at the Wentworth Street car park;
- a residential development of up to 227 residential dwellings on land to the north of Pasture Lane;
- a residential development of up to 35 residential dwellings on land to the south of Westgate, Old Malton; and
- a residential development of up to 45 residential dwellings on land at Rainbow Lane.

9.16. Although the proposed FEZ development may lead to a small increase in traffic on local roads compared with the permitted use, the traffic data include a significant volume of traffic associated with the food store development at Wentworth Street car park. That planning permission was however quashed by the High Court in 2015 and has subsequently been disposed of by the local planning authority. It cannot therefore be considered as a commitment. Consequently, the overall volume of traffic that will travel on local roads will thus be significantly less than that which has been modelled. The results of the assessment will therefore be largely overstated. Further details of the traffic data used in this assessment are provided in Appendix 8.5 (attached as **Technical Appendix 6** to this ES).

Policy Context and Assessment Criteria

Air Quality Strategy

9.17. The Air Quality Strategy published by the Department for Environment, Food, and Rural Affairs (Defra) provides the policy framework[7] for air quality management and assessment in the UK. It provides air quality standards and objectives for key air pollutants, which are designed to protect human health and the environment. It also

sets out how the different sectors: industry, transport and local government, can contribute to achieving the air quality objectives. Local authorities are seen to play a particularly important role. The strategy describes the Local Air Quality Management (LAQM) regime that has been established, whereby every authority has to carry out regular reviews and assessments of air quality in its area to identify whether the objectives have been, or will be, achieved at relevant locations, by the applicable date. If this is not the case, the authority must declare an AQMA, and prepare an action plan which identifies appropriate measures that will be introduced in pursuit of the objectives.

Planning Policy

National Policies

9.18. The National Planning Policy Framework (NPPF)[8] sets out planning policy for England in one place. It places a general presumption in favour of sustainable development, stressing the importance of local development plans, and states that the planning system should perform an environmental role to minimise pollution. One of the twelve core planning principles notes that planning should "contribute to…reducing pollution". To prevent unacceptable risks from air pollution, planning decisions should ensure that new development is appropriate for its location. The NPPF states that the "effects (including cumulative effects) 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".

9.19. More specifically the NPPF makes clear that:

"Planning policies should sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Planning decisions should ensure that any new development in Air Quality Management Areas is consistent with the local air quality action plan".

9.20. The NPPF is now supported by Planning Practice Guidance (PPG)[9], which includes guiding principles on how planning can take account of the impacts of new development on air quality. The PPG states that "Defra carries out an annual

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7 Defra (2007) The Air Quality Strategy for England, Scotland, Wales and Northern Ireland, Defra.

8 National Planning Policy Framework (2012), DCLG.

9 DCLG (2014) *National Planning Practice Guidance*, [Online], Available: http://planningguidance.planningportal.gov.uk/blog/guidance/.

national assessment of air quality using modelling and monitoring to determine compliance with EU Limit Values" and "It is important that the potential impact of new development on air quality is taken into account … where the national assessment indicates that relevant limits have been exceeded or are near the limit". The role of the local authorities is covered by the LAQM regime, with the PPG stating that local authority Air Quality Action Plans "identify measures that will be introduced in pursuit of the objectives". The PPG makes clear that "dust can also be a planning concern, for example, because of the effect on local amenity".

9.21. The PPG states that:

"Whether or not air quality is relevant to a planning decision will depend on the proposed development and its location. Concerns could arise if the development is likely to generate air quality impact in an area where air quality is known to be poor. They could also arise where the development is likely to adversely impact upon the implementation of air quality strategies and action plans and/or, in particular, lead to a breach of EU legislation (including that applicable to wildlife)".

9.22. The PPG sets out the information that may be required in an air quality assessment, making clear that "Assessments should be proportional to the nature and scale of development proposed and the level of concern about air quality". It also provides guidance on options for mitigating air quality impacts, as well as examples of the types of measures to be considered. It makes clear that "Mitigation options where necessary, will depend on the proposed development and should be proportionate to the likely impact".

Local Transport Plan

9.23. The North Yorkshire Local Transport Plan[10] includes transport with the district of Ryedale. The reduction of transport related air quality problems is mentioned as one of the purposes of the Environment and Climate Change Objective.

Local Policies

9.24. The Ryedale Local Plan[11] was adopted in September 2013. Policy SP17 Managing Air Quality, Land and Water Resources states that:
"Air Quality will be protected and improved by:

[10] North Yorkshire County Council (2014) North Yorkshire Local Transport Plan.
[11] Ryedale District Council (2013) *Ryedale Plan - Local Plan Strategy*.

- Locating and managing development to reduce traffic congestion and air pollution and promote the use of alternative forms to the private car
- Supporting measures to encourage non-car based means of travel or the use of low emission vehicles
- Reducing air quality emissions from buildings through renewable energy provision and sustainable building standards in line with Policy SP18
- Requiring development proposals within or adjoining the Malton Air Quality Management Area to demonstrate how effects on air quality will be mitigated and further human exposure to poor air quality reduced. All development proposals within or near to the Air Quality Management Area which are likely to impact upon air quality; which are sensitive to poor air quality or which would conflict with any Air Quality Action Plan will be accompanied by an Air Quality Assessment
- Only permitting development is the individual or cumulative impact on air quality is acceptable and appropriate mitigation measures are secured."

Air Quality Action Plan

National Air Quality Plans

9.25. Defra has produced Air Quality Plans to reduce nitrogen dioxide concentrations in major cities throughout the UK[12]. Along with a suite of national measures, the Air Quality Plans identify the need to establish Clean Air Zones within five urban areas (Birmingham, Leeds, Southampton, Nottingham and Derby) where exceedences of the EU limit values for nitrogen dioxide have been forecast in 2020 and beyond. Within these Zones, lower-emission vehicles will be encouraged. The precise nature of these Clean Air Zones is still to be decided. In Greater London, Defra will continue to support and monitor the delivery of the Mayor's plans for improving air quality to meet the EU limit value for nitrogen dioxide by 2025. The study area is not in an affected Zone.

9.26. There is currently no practical way to take account of the effects of these Air Quality Plans on the modelling presented in this chapter, which is for assessment against the air quality objectives rather than the EU limit values.

Local Air Quality Action Plan

9.27. Ryedale District Council has declared an AQMA for nitrogen dioxide that covers properties adjacent to a number of roads in the centre of Malton (Figure 2). The

12 Defra (2015) Air quality in the UK: Plan to reduce nitrogen dioxide emissions, [Online], Available: https://www.gov.uk/government/publications/air-quality-in-the-uk-plan-to-reduce-nitrogen-dioxide-emissions

Council has since developed an Air Quality Action Plan[13]. This sets out measures such as reducing traffic volumes within the AQMA, diverting heavy duty traffic away from Malton town centre, introduction of a 20 mph zone within the town centre, promoting the use of more sustainable forms of transport through travel plans and awareness, and raising public awareness of air quality issues.

Assessment Criteria

Human Health

9.28. The Government has established a set of air quality standards and objectives to protect human health. The 'standards' are set as concentrations below which effects are unlikely even in sensitive population groups, or below which risks to public health would be exceedingly small. They are based purely upon the scientific and medical evidence of the effects of an individual pollutant. The 'objectives' set out the extent to which the Government expects the standards to be achieved by a certain date. They take account of economic efficiency, practicability, technical feasibility and timescale. The objectives for use by local authorities are prescribed within the Air Quality (England) Regulations, 2000, Statutory Instrument 92814 and the Air Quality (England) (Amendment) Regulations 2002, Statutory Instrument 3043[15].

9.29. The objectives for nitrogen dioxide and PM_{10} were to have been achieved by 2005 and 2004 respectively, and continue to apply in all future years thereafter. The $PM_{2.5}$ objective is to be achieved by 2020. Measurements across the UK have shown that the 1-hour nitrogen dioxide objective is unlikely to be exceeded where the annual mean concentration is below 60 $\mu g/m^3$ [16]. Therefore, 1-hour nitrogen dioxide concentrations will only be considered if the annual mean concentration is above this level. Measurements have also shown that the 24-hour PM_{10} objective could be exceeded where the annual mean concentration is above 32 $\mu g/m^3$ [16]. The predicted annual mean PM_{10} concentrations are thus used as a proxy to determine the likelihood of an exceedence of the 24-hour mean PM_{10} objective. Where predicted annual mean concentrations are below 32 $\mu g/m^3$ it is unlikely that the 24-hour mean objective will be exceeded.

9.30. The objectives apply at locations where members of the public are likely to be regularly present and are likely to be exposed over the averaging period of the

[13] Ryedale District Council (2012) 2012 Malton Air Quality Action Plan for Ryedale District Council.

[14] The Air Quality (England) Regulations, 2000, Statutory Instrument 928 (2000), HMSO.

[15] The Air Quality (England) (Amendment) Regulations, 2002, Statutory Instrument 3043 (2002), HMSO.

[16] Defra (2016) Review & Assessment: Technical Guidance LAQM.TG16, Defra.

objective. Defra explains where these objectives will apply in its Local Air Quality Management Technical Guidance[16]. The annual mean objectives for nitrogen dioxide and PM_{10} are considered to apply at the façades of residential properties, schools, hospitals etc.; they do not apply at hotels. The 24-hour objective for PM_{10} is considered to apply at the same locations as the annual mean objective, as well as in gardens of residential properties and at hotels. The 1-hour mean objective for nitrogen dioxide applies wherever members of the public might regularly spend 1-hour or more, including outdoor eating locations and pavements of busy shopping streets.

9.31. The European Union has also set limit values for nitrogen dioxide, PM_{10} and $PM_{2.5}$. The limit values for nitrogen dioxide are the same numerical concentrations as the UK objectives, but achievement of these values is a national obligation rather than a local one[17]. In the UK, only monitoring and modelling carried out by UK Central Government meets the specification required to assess compliance with the limit values. Central Government does not recognise local authority monitoring or local modelling studies when determining the likelihood of the limit values being exceeded.

9.32. The relevant air quality criteria for this assessment are provided in Table 1.

Table 9.1: Air Quality Criteria for Nitrogen Dioxide, PM_{10} and $PM_{2.5}$

Pollutant	Time Period	Objective
Nitrogen Dioxide	1-hour Mean	200 $\mu g/m^3$ not to be exceeded more than 18 times a year
	Annual Mean	40 $\mu g/m^3$
Fine Particles (PM_{10})	24-hour Mean	50 $\mu g/m^3$ not to be exceeded more than 35 times a year
	Annual Mean	40 $\mu g/m^3$ [a]
Fine Particles ($PM_{2.5}$) [b]	Annual Mean	25 $\mu g/m^3$

[a] A proxy value of 32 $\mu g/m^3$ as an annual mean is used in this assessment to assess the likelihood of the 24-hour mean PM_{10} objective being exceeded. Measurements have shown that, above this concentration, exceedences of the 24-hour mean PM_{10} objective are possible[16].

17 Directive 2008/50/EC of the European Parliament and of the Council (2008).

[b] The $PM_{2.5}$ objective, which is to be met by 2020, is not in Regulations and there is no requirement for local authorities to meet it.

Construction Dust Criteria

9.33. There are no formal assessment criteria for dust. In the absence of formal criteria, the approach developed by the IAQM[5] has therefore been used. Full details of this approach are provided in Technical Appendix 8.1 (attached as **Technical Appendix 5** to this ES).

<u>Descriptions for Air Quality Impacts and Assessment of Significance</u>

Construction Dust Significance

9.34. Guidance from the IAQM[5] is that, with appropriate mitigation in place, the impacts of construction dust will not be significant. The assessment thus focuses on determining the appropriate level of mitigation so as to ensure that impacts will normally be 'not significant'.

Operational Significance

9.35. There is no official guidance in the UK in relation to development control on how to describe air quality impacts, nor how to assess their significance. The approach developed jointly by Environmental Protection UK (EPUK) and the IAQM[18] has therefore been used. This includes defining descriptors of the impacts at individual receptors, which take account of the percentage change in concentrations relative to the relevant air quality objective, rounded to the nearest whole number, and the absolute concentration relative to the objective. The overall significance of the air quality impacts is determined using professional judgement, taking account of the impact descriptors. Full details of the EPUK/IAQM approach are provided in Appendix 8.2 (attached as **Technical Appendix 5** to this ES). The approach includes elements of professional judgement, and the experience of the consultants preparing this analysis is set out in Appendix 8.3 (attached as **Technical Appendix 5** to this ES).

9.36. It is important to differentiate between the terms impact and effect with respect to the assessment of air quality. The term impact is used to describe a change in pollutant concentration at a specific location. The term effect is used to describe an environmental response resulting from an impact, or series of impacts. Within this chapter, the air quality assessment has used published guidance and criteria described in the following sections to determine the likely air quality impacts at a number of sensitive locations. The potential significance of effects has then been

18 EPUK & IAQM (2015) Land-Use Planning & Development Control: Planning For Air Quality, IAQM.

determined by professional judgement, based on the frequency, duration and magnitude of predicted impacts and their relationship to appropriate air quality objectives.

Baseline Conditions

9.37. The proposed Eden Camp development site is located approximately 2 km to the north east of Malton town centre. The site is bounded by the A169 to the east, agricultural land to the north and west, and Russell's Farm Machinery and Eden Camp Modern History Theme Museum to the south. The site is currently agricultural land. The closest existing residential properties are located approximately 400 m to the south of the proposed development site. The location of the proposed development site is shown in Figure 1.

Industrial Sources

9.38. A search of the UK Pollutant Release and Transfer Register[1] and Environment Agency's 'what's in your backyard'[19] websites has not identified any significant industrial or waste management sources that are likely to affect the proposed development, in terms of air quality.

Air Quality Review and Assessment

9.39. Ryedale District Council has investigated air quality within its area as part of its responsibilities under the LAQM regime. In December 2009 an AQMA was declared within Malton for exceedences of the annual mean nitrogen dioxide objective, which includes Castlegate (B1248), Yorkersgate (B1248), Wheelgate (B1257), Old Maltongate (B1257) and Church Hill. The extent of the Malton AQMA is shown in Figure 2.

9.40. In terms of PM_{10}, Ryedale District Council concluded that it is unlikely levels will exceed the objectives at any location with relevant exposure[20].

[19] Environment Agency (2016) 'what's in your backyard', [Online], Available: http://www.environment-agency.gov.uk/homeandleisure/37793.aspx.

[20] Ryedale District Council (2012) 2012 Air Quality Updating and Screening Assessment for Ryedale District Council.

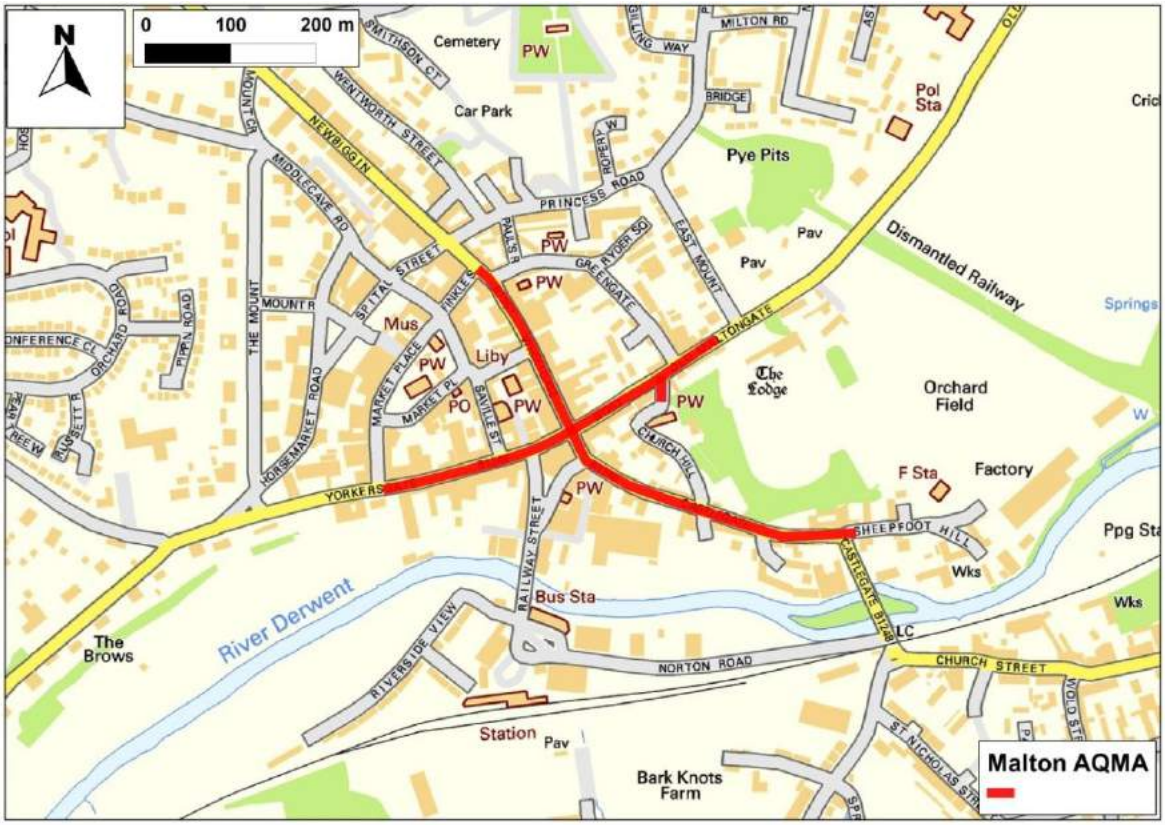

Figure 9.2: Declared Malton AQMA

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Local Air Quality Modelling

9.41. Ryedale District Council does not operate any automatic monitoring stations within its area. The Council does, however, operate a number of nitrogen dioxide monitoring sites using diffusion tubes prepared and analysed by Environmental Scientifics Group (using the 50% TEA in acetone method). These include thirteen monitoring sites within 1.5 km of the proposed developments as shown in Figure 3. Nitrogen dioxide monitoring results for the years 2010 to 2015 are summarised in Table 9.2.

Table 9.2: Summary of Nitrogen Dioxide (NO_2) Diffusion Tube Monitoring between 2010 and 2015 (µg/m^3) [a,b]

Site No.	Site Type	Location	2010	2011	2012	2013	2014	2015
1	Roadside	Yorkersgate – Castlegate, Butcher Corner, Malton	**45**	**42**	**41**	39	37	37
2	Roadside	Wheelgate (1), Malton	**45**	**44**	**42**	38	37	37
3	Roadside	Wheelgate (2), Malton	33	28	30	27	25	25
4	Kerbside	Old Malton Gate (1), Malton	39	38	**41**	39	-	31
5	Roadside	Old Malton Gate (2), Malton	39	**41**	**41**	36	36	34
6	Roadside	Castlegate (1), Malton	35	35	35	32	31	28
7	Roadside	Castlegate (2), Malton	**47**	**49**	**48**	**41**	40	38
8	Roadside	Castlegate (3), Malton	**44**	**41**	**47**	**41**	39	39
9	Kerbside	Yorkersgate (1), Malton	**45**	**46**	**46**	**43**	**43**	**44**
10	Roadside	Yorkersgate (2), Malton	36	31	34	35	30	28
11	Roadside	Newbiggin, Malton	**-**	24	24	22	20	20
12	Kerbside	Church Street, Norton	**-**	24	23	23	24	22
13	Roadside	Scarborough Road, Norton	29	25	26	26	27	25
Objective			**40**					

[a] Exceedences of the objectives are shown in bold.

[b] 2010 data have been taken from the 2013 Progress Report[21]. 2011 to 2015 data have been taken from the 2016 Annual Status Report[22].

9.42. Measured concentrations have exceeded the annual mean objective close to the main junction of the B1257 and B1248 within the centre of Malton (sites 1, 4, 5, 7, 8 and 9) in 2012. Away from the village centre concentrations fall well below the annual mean objective, with measured roadside concentrations in the range of 23-29 µg/m³. Measured concentrations at those diffusion tube sites away from the centre (sites 11, 12 and 13) are considered to be the most representative of concentrations within suburban areas of Malton. Concentrations at Eden Camp are likely to be significantly lower.

9.43. In 2015, measured concentrations are significantly lower than those in 2012 at most monitoring sites. Concentrations do, however, remain above the objective at the kerbside diffusion tube monitoring site at Yorkersgate.

21 Ryedale District Council (2013) Air Quality Action Plan Progress Report for Ryedale District Council.

22 Ryedale District Council (2016) 2016 Air Quality Annual Status Report (ASR).

9.44. There is a slight downwards trend in the monitoring results for the past six years (see Figure 4). This agrees with the expected decline due to the progressive introduction of new vehicles operating to more stringent standards.

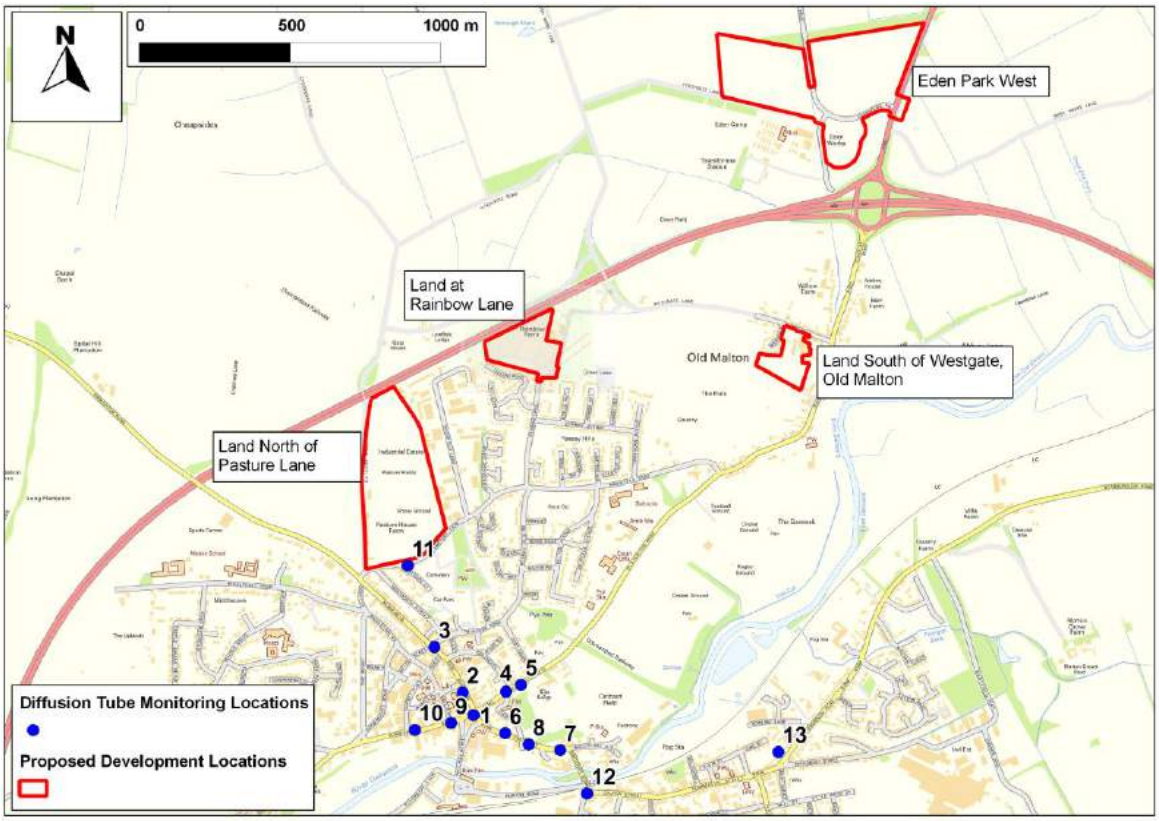

Figure 9.3: Permitted and Proposed Development Locations and Monitoring Locations

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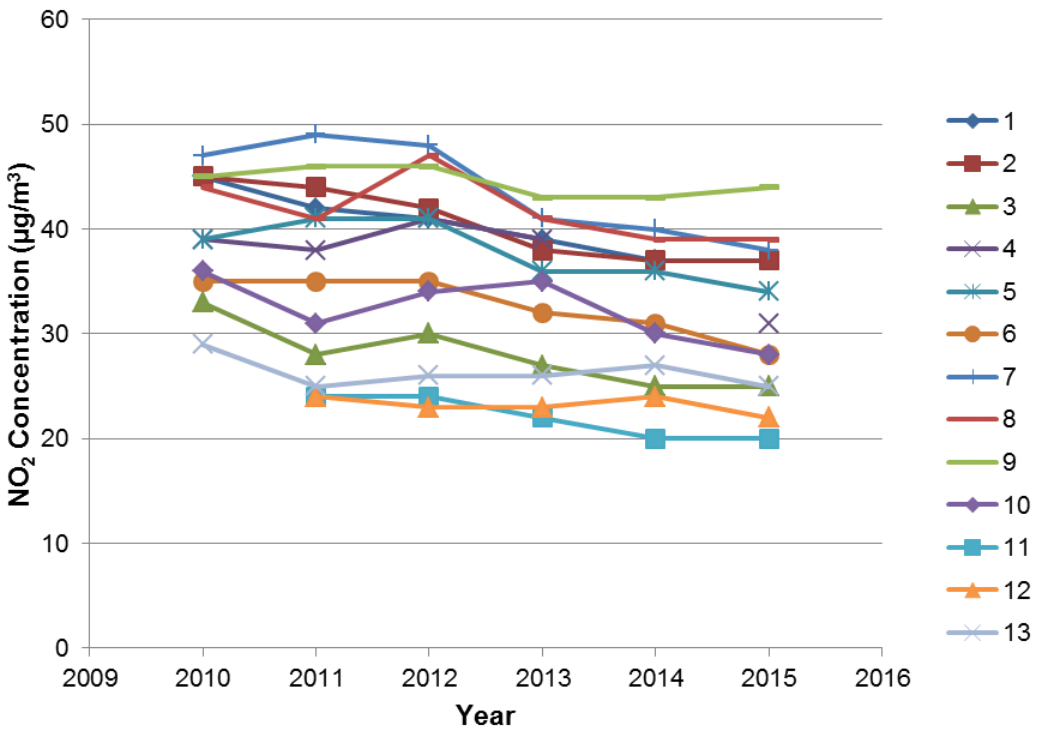


Figure 9.4: Measured Nitrogen Dioxide Concentrations between 2010 and 2015

9.45. There are no monitors measuring PM_{10} or $PM_{2.5}$ concentrations with the Ryedale District.

Eceedences of EU Limit Value

9.46. There are no AURN monitoring sites within the study area with which to identify exceedences of the annual mean nitrogen dioxide limit value. The national maps of roadside annual mean nitrogen dioxide concentrations[23], used to report exceedences of the limit value to the EU, do not identify any exceedences within the study area. Defra's mapping for 2020, which takes account of the measures contained in its 2015 Air Quality Plan (Defra, 2015), does not identify any exceedences within the study area.

Background Concentrations

9.47. In addition to these locally measured concentrations, estimated background concentrations in the study area have been determined for 2012 and the opening year 2019 (Table 9.3). In the case of nitrogen oxides and nitrogen dioxide, two sets of future-year backgrounds are presented to take into account uncertainty in future year vehicle emission factors. The derivation of background concentrations is

23 Defra (2016) UK Ambient Air Quality Interactive Map, [Online], Available: http://uk-air.defra.gov.uk/data/gis-mapping.

described in Technical Appendix 8.5 (attached as **Technical Appendix 5** to this ES). The background concentrations are all well below the objectives.

Table 9.3: Estimated Annual Mean Background Pollutant Concentrations in 2012 and 2019 (µg/m^3) [a]

Year	NO_2	PM_{10}	$PM_{2.5}$
2012 [b]	6.3 – 12.3 µg/m^3	14.1 – 15.9 µg/m^3	8.7 – 9.5 µg/m^3
2019 – Without Reductions in Traffic Emissions [b]	5.0 – 10.2 µg/m^3	n/a	n/a
2019 – With Reductions in Traffic Emissions [d]	4.8 – 9.8 µg/m^3	13.3 – 15.2 µg/m^3	8.1 – 8.7 µg/m^3
Objectives	**40**	**40**	**25**

n/a = not applicable

[a] This assumes that road vehicle emission factors in 2012 remain the same as in 2010 (See Technical Appendix 8.5).

[b] This assumes that road vehicle emission factors in 2019 remain the same as in 2010.

[c] This assumes that road vehicle emission factors reduce between 2012 and 2019 at the current 'official' rates.

Baseline Dispersion Model Results

9.48. Baseline concentrations of nitrogen dioxide, PM_{10} and $PM_{2.5}$ have been modelled at each of the existing receptor locations (see Technical Appendix 8.4 (attached as **Technical Appendix 5** to this ES) and Figure 9.1). The results, which cover both a 2012 baseline and future year (2019) baseline (Without Scheme), are set out in Table 9.4 and Table 9.5. The future baseline for nitrogen dioxide covers the two scenarios: with the official reductions in vehicle emission factors and without these reductions. The model has been verified against measured nitrogen dioxide concentrations in Malton to account for the uncertainty in model predictions (see Appendix 8.5 (attached as **Technical Appendix 5** to this ES) for details of the model verification).

Table 9.4: Modelled Annual Mean Baseline Concentrations of Nitrogen Dioxide (µg/m^3) at Existing Receptors [a]

Receptor	2012	2019 Without Scheme	
		With 'Official' Emissions Reduction [b]	Without Emissions Reduction [c]
1	15.0	9.2	14.7
2	7.7	5.6	6.4
3	21.3	13.0	21.3
4	20.6	12.6	20.6
5	17.9	11.7	17.3
6	20.6	13.2	20.3
7	13.6	9.3	12.5
10	11.7	8.2	10.3
11	11.4	8.1	10.0
12	15.0	10.6	14.8
13	17.7	12.4	18.2
14	24.7	15.6	24.8
15	32.5	20.5	33.1
16	25.9	16.4	25.9
17	18.5	12.0	17.8
18	16.6	11.6	16.9
19	16.7	11.4	16.7
20	17.0	11.2	16.5
21	16.3	10.7	15.6
22	17.7	12.4	18.0
23	19.3	13.4	20.1
24	19.5	13.6	20.3
25	27.2	18.8	29.7
26	26.5	18.2	28.7
27	**43.7**	31.3	**48.8**
28	17.0	10.9	15.9
29	17.4	11.4	16.8
30	21.7	11.6	17.3
31	22.4	13.3	20.5
32	12.9	8.9	11.7
33	12.0	11.0	16.3
34	11.5	10.7	15.1

Receptor	2012	2019 Without Scheme	
		With 'Official' Emissions Reduction [b]	Without Emissions Reduction [c]
35	17.6	11.7	17.0
36	17.2	11.4	16.5
37	13.5	8.9	11.8
38	14.5	10.6	15.4
39	18.6	12.8	19.6
40	**43.5**	31.0	**49.2**
41	20.5	13.9	20.9
42	21.8	14.7	22.5
43	21.6	14.2	21.6
44	23.5	14.8	23.0
45	17.5	11.6	16.0
46	15.8	10.8	13.9
47	12.0	8.1	10.4
48	20.6	13.0	20.3
49	18.7	11.3	18.7
50	19.1	11.5	19.1
51	11.2	7.4	10.4
52	37.6	26.2	38.7
53	29.5	20.7	30.3
54	34.1	24.3	37.3
55	33.0	23.7	35.5
56	**46.1**	33.3	**51.3**
57	**52.8**	38.3	**57.3**
58	**53.6**	38.7	**57.3**
59	**61.7**	**44.9**	**65.4**
60	37.0	26.8	**40.1**
61	**45.6**	33.9	**49.2**
Objective	**40**		

[a] Exceedences of the objective are shown in bold.

[b] This assumes that road vehicle emission factors reduce between 2012 and 2019 at the current 'official' rates.

[c] This assumes that road vehicle emission factors in 2019 remain the same as in 2012.

Table 9.5: Modelled Baseline Concentrations of PM_{10} and $PM_{2.5}$ at Existing Receptors

Receptor	PM_{10} [a]		$PM_{2.5}$	
	Annual Mean (µg/m^3)		Annual Mean (µg/m^3)	
	2012	2019 Without Scheme	2012	2019 Without Scheme
1	16.5	15.7	9.5	8.7
2	15.5	14.8	8.9	8.2
3	17.6	16.6	10.3	9.3
4	17.6	16.6	10.2	9.3
5	15.4	14.5	9.7	8.8
6	15.8	14.8	9.9	8.9
7	14.9	14.0	9.3	8.5
10	14.7	13.8	9.1	8.4
11	14.7	13.8	9.1	8.3
12	15.1	14.3	9.5	8.6
13	15.5	14.6	9.7	8.8
14	16.3	15.3	10.3	9.2
15	16.7	15.4	10.6	9.3
16	16.1	15.0	10.2	9.0
17	15.5	14.6	9.7	8.8
18	15.6	14.7	9.8	8.9
19	15.5	14.6	9.7	8.8
20	15.6	14.7	9.8	8.9
21	15.6	14.6	9.7	8.8
22	15.0	14.1	9.6	8.7
23	15.2	14.3	9.7	8.8
24	15.2	14.3	9.7	8.8
25	15.9	14.8	10.2	9.1
26	15.8	14.7	10.2	9.1
27	18.0	16.1	11.9	10.0
28	15.5	14.5	9.7	8.8
29	15.6	14.6	9.8	8.9
30	15.9	14.7	10.0	8.9
31	16.0	14.9	10.1	9.0
32	15.2	14.2	9.5	8.6
33	15.0	14.7	9.4	8.9

Receptor	PM_{10} [a]		$PM_{2.5}$	
	Annual Mean (µg/m^3)		Annual Mean (µg/m^3)	
	2012	2019 Without Scheme	2012	2019 Without Scheme
34	15.0	14.5	9.4	8.7
35	15.8	14.7	9.9	8.9
36	15.7	14.7	9.9	8.9
37	15.2	14.3	9.5	8.6
38	15.3	14.6	9.6	8.8
39	15.7	14.8	9.9	9.0
40	18.4	16.4	12.3	10.2
41	15.3	14.4	9.8	8.8
42	15.4	14.5	9.9	8.9
43	15.4	14.3	9.9	8.8
44	15.8	14.7	10.1	9.1
45	15.1	14.1	9.6	8.7
46	14.9	13.9	9.5	8.6
47	15.4	14.6	9.4	8.5
48	15.5	14.5	9.9	8.9
49	16.3	15.4	10.0	9.0
50	16.4	15.4	10.0	9.1
51	15.7	14.8	9.3	8.5
52	17.5	15.9	11.4	9.8
53	17.0	15.1	11.2	9.4
54	16.8	15.4	11.0	9.5
55	16.8	15.3	11.0	9.5
56	18.4	16.3	12.3	10.2
57	21.1	17.6	14.6	11.1
58	21.3	17.7	14.8	11.2
59	21.2	18.2	14.4	11.4
60	17.6	16.4	11.4	10.1
61	19.0	17.7	12.7	11.2
Objective/Criterion	**32 [a]**		**25 [b]**	

[a] While the annual mean PM_{10} objective is 40 µg/m^3, 32 µg/m^3 is the annual mean concentration above which an exceedence of the 24-hour mean PM_{10} objective is

possible, as outlined in LAQM.TG16[16]. A value of 32 µg/m^3 is thus used as a proxy to determine the likelihood of exceedence of the 24-hour mean PM_{10} objective, as recommended in EPUK & IAQM guidance[18].

[b] The $PM_{2.5}$ objective, which is to be met by 2020, is not in Regulations and there is no requirement for local authorities to meet it.

2012 Baseline

9.49. The predicted annual mean concentrations of nitrogen dioxide exceed the objective level at seven receptor locations (27, 40, 56, 57, 58, 59 and 61). All of the predictions for PM_{10} and $PM_{2.5}$ are well below the objectives.

2019 Baseline With 'Official' Emission Reduction

9.50. The predicted annual mean concentrations of nitrogen dioxide exceed the objective level at one receptor location (59). All of the predictions for PM_{10} and $PM_{2.5}$ are well below the objectives.

2019 Baseline Without Emission Reduction

9.51. The predicted annual mean concentrations of nitrogen dioxide exceed the objective level at eight receptor locations (27, 40, 56, 57, 58, 59, 60 and 61).

9.52. These results are consistent with the conclusions of Ryedale District Council in the outcome of its air quality review and assessment work.

<u>Potential Impacts</u>

Odour Impacts

9.53. As noted there is the potential for the current Malton livestock market to be relocated to the LDO site. This has the potential to create unpleasant odours. Discussions with Ryedale Council confirmed that the only complaints that were received from the existing livestock market were from local residents affected by odours due to the presence of waste on the surrounding streets when vehicles were washed down. Waste from the proposed market will be treated in an effluent treatment plant. The new market will be located over 600 m away from any residential property. The location of the proposed livestock will mean that it is unlikely that there will be any complaints during its operation and the market will typically only operate twice a week, limiting the potential for odour impacts. The potential impacts of odours from the operation of the market have therefore been screened out of the assessment and will not be considered any further.

Construction Impacts

9.54. The construction works will give rise to a risk of dust impacts during earthworks and construction, as well as from trackout of dust and dirt by vehicles onto the public highway. In particular, large attenuation ponds will be created which will involve a significant amount of soil being moved. Step 1 of the assessment procedure is to screen the need for a detailed assessment. There are receptors within the distances set out in the guidance (see Technical Appendix 8.1), thus a detailed assessment is required. The following section sets out Step 2 of the assessment procedure.

Potential Dust Emission Magnitude

9.55. There is no requirement for demolition on site.

9.56. The characteristics of the soil at the development site have been defined using the British Geological Survey's UK Soil Observatory website[24], as set out in Table 6. Overall, it is considered that, when dry, this soil has the potential to be moderately dusty.

Table 9.6: Summary of Soil Characteristics

Category	Record
Soil Layer Thickness	Deep
Soil Parent Material Grain Size	Mixed (Argillaceous [a] – Arenaceous [b])
European Soil Bureau Description	Lacustrine Sand and Silt
Soil Group	Heavy to Medium
Soil Texture	Clay to Loam [c]

[a] grain size < 0.06 mm.

[b] grain size 0.06 – 2.0 mm.

[c] a loam is composed mostly of sand and silt.

9.57. The site covers over 10,000 m^2 and most of this will be subject to earthworks. The duration of the earthworks is currently unknown but during the earthworks dust will arise mainly from the vehicles travelling over unpaved ground, the handling of dusty materials and moving any dry earth. Most of the earthworks will, though, involve the removal of subsoil which will largely be damp and not prone to creating dust. Based

24 British Geological Survey (2016) UK Soil Observatory Map Viewer, [Online], Available: http://mapapps2.bgs.ac.uk/ukso/home.html

on the total site area, the dust emission class for earthworks is considered to be large.

9.58. Construction will involve a total building volume of over 100,000 m^3. Dust will arise from vehicles travelling over unpaved ground, the handling and storage of dusty materials, and from the cutting of concrete. The duration of the construction phase is currently unknown and will be dependent on when the operators of the proposed units come forward. Based on the total building volume, the dust emission class for construction is considered to be large.

9.59. The number of vehicles accessing the site, which may track out dust and dirt is currently unknown, but given the size of the site it is likely that there will be between 10-50 HDV outward movements per day. Based on this number of HDV movements, the dust emission class for trackout is considered to be medium.

9.60. Table 7 summarises the dust emission magnitude for the proposed development.

Table 9.7: Summary of Dust Emission Magnitude for Eden Camp

9.61. Source	9.62. Dust Emission Magnitude
9.63. Earthworks	9.64. Large
9.65. Construction	9.66. Large
9.67. Trackout	9.68. Medium

Sensitivity of the Area

9.69. This assessment step combines the sensitivity of individual receptors to dust effects, with the number of receptors in the area and their proximity to the site. It also considers additional site-specific factors such as topography and screening, and in the case of sensitivity to human health effects, baseline PM_{10} concentrations.

Sensitivity of the Area to Effects from Dust Soiling

9.70. The IAQM guidance explains that residential properties are 'high' sensitivity receptors to dust soiling, whilst farmland (unless commercially-sensitive horticultural land) is a 'low' sensitivity receptor (Technical Appendix 8.1 Table A8.1.2 (attached as **Technical Appendix 5** to this ES)). The closest residential property is located approximately 250 m to the northwest. However, the Eden Camp Modern History Museum, which is also considered to be a 'high' sensitive receptor, is within 50 m of the site boundary. Using the matrix set out in Technical Appendix 8.1 Table A8.1.3 (attached as **Technical Appendix 5** to this ES), the area surrounding the onsite

works is considered to be of 'medium' sensitivity to dust soiling. Table 9.7 shows that dust emission magnitude for trackout is 'medium' and the assessment criteria set out in Technical Appendix 8.1 Table A8.1.3 (attached as **Technical Appendix 5** to this ES) thus explains that there is a risk of material being tracked 200 m from the site exit. Since it is not known which roads construction vehicles will use, it has been assumed that all possible routes could be affected. The Eden Camp Modern History Museum is within 100 m of the roads along which material could be tracked, and the assessment criteria set out in Technical Appendix 8.1 Table A8.1.3 (attached as **Technical Appendix 5** to this ES) thus indicate that the area is of 'medium' sensitivity to dust soiling due to trackout. Taking these points into account, it is judged that the area surrounding the onsite works and the area surrounding roads along which material may be tracked from the site is of 'medium' sensitivity to dust soiling (Table 9.8).

Sensitivity of the Area to any Human Health Effects

9.71. Residential properties are classified as being of 'high' sensitivity to human health effects, whereas museums, where members of staff will not be present over a time period relevant to the air quality objective for PM_{10}, are classified as being of 'medium' sensitivity. The matrix shown in Technical Appendix 8.1 Table A8.1.4 (attached as **Technical Appendix 5** to this ES) requires information on the baseline annual mean PM_{10} concentration in the area. At those properties nearest the site the existing annual mean PM_{10} concentration is best described by the background concentration from Table 9.3. Using the matrix in Technical Appendix 8.1 Table A8.1.4 (attached as **Technical Appendix 5** to this ES), the area surrounding the onsite works and surrounding roads along which material may be tracked from the site is of 'low' sensitivity to human health effects (Table 9.8).

Sensitivity of the Area to any Ecological Effects

9.72. The guidance only considers designated ecological sites within 50 m to have the potential to be impacted by the construction works. There are no designated ecological sites within 50 m of the site boundary or those roads along which material may be tracked, thus ecological impacts will not be considered further.

Summary of the Area Senstivity

9.73. Table 9.8 summarises the sensitivity of the area around the proposed construction works.

Table 9.8: Summary of the Area Sensitivity for Eden Camp

Effects Associated With:	Sensitivity of the Surrounding Area	
	On-site Works	Trackout
Dust Soiling	Medium Sensitivity	Medium Sensitivity
Human Health	Low Sensitivity	Low Sensitivity
Ecological	None	None

RISK AND SIGNIFICANCE

9.74. The dust emission magnitudes in Table 9.7 have been combined with the sensitivities of the area in Table 9.8 using the matrix in Technical Appendix 8.1 Table A8.1.6 (attached as **Technical Appendix 5** to this ES), in order to assign a risk category to each activity. The resulting risk categories for the construction activities, without mitigation, for each of the four development sites are set out in Table 9.9. These risk categories have been used to determine the appropriate level of mitigation as set out in Technical Appendix 8.6 (attached as **Technical Appendix 5** to this ES) (step 3 of the assessment procedure).

Table 9.9: Summary of Risk of Impacts Without Mitigation Eden Camp

Source	Dust Soiling	Human Health	Ecology
Earthworks	Medium Risk	Low Risk	None
Construction	Medium Risk	Low Risk	None
Trackout	Low Risk	Low Risk	None

9.75. The IAQM does not provide a method for assessing the significance of effects before mitigation, and advises that pre-mitigation significance should not be determined. With appropriate mitigation in place, the IAQM guidance is clear that the residual effect will normally be 'not significant'. Appropriate mitigation measures to minimise the risk of dust and PM_{10} impacts from construction activities at each development site are discussed in the Mitigation section of this Chapter.

Road Traffic Impacts

9.76. Predicted annual mean concentrations of nitrogen dioxide, PM_{10} and $PM_{2.5}$, as well as days with PM_{10} >50 µg/m^3, are set out in Table 9.10 and Table 9.11 for both the

"Without Scheme" and "With Scheme" scenarios. These tables also describe the impacts at each receptor using the impact descriptors given in Technical Appendix 8.1 Table A8.2.1 (attached as **Technical Appendix 5** to this ES). For nitrogen dioxide, results are presented for two scenarios to reflect current uncertainty in Defra's future-year vehicle emission factors.

Nitrogen Dioxide With 'Official' Emissions Reduction

9.77. The annual mean nitrogen dioxide concentrations are below the objective at most receptors, apart from Receptor 59 with and without the development. This receptor is within the AQMA.

9.78. The percentage changes in concentrations, relative to the air quality objective (when rounded), are predicted to be zero at 22 of the receptors, 1% at 22 of the receptors, 2% at nine of the receptors, 3% at six of the receptors and 4% at one receptor. Using the matrix in Technical Appendix Table A8.2.1 (attached as **Technical Appendix 5** to this ES), these impacts are described as negligible at most receptors, but slight adverse at three receptors (27, 56 and 61), moderate adverse at two receptors (57 and 58) and substantial adverse at one receptor (59).

9.79. The annual mean nitrogen dioxide concentrations are below 60 $\mu g/m^3$ at all of the receptor locations. It is, therefore, unlikely that the 1-hour mean nitrogen dioxide objective will be exceeded.

Nitrogen Dioxide Without Emissions Reduction

9.80. Assuming no reduction in emissions, the annual mean nitrogen dioxide concentrations are below the objective at most receptors, apart from Receptors 27, 40, 56, 57, 58, 59, 60 and 61 with and without the development. All of these receptors are within the AQMA apart from Receptor 40, which is located just outside the AQMA.

9.81. The percentage changes in concentrations, relative to the air quality objective (when rounded), are predicted to be zero at 11 of the receptors, 1% at 31 of the receptors, 2% at seven of the receptors, 3% at seven of the receptors, 4% at three of the receptors and 4% at two of the receptors. Using the matrix in Technical Appendix Table A8.2.1 (attached as **Technical Appendix 5** to this ES), these impacts are described as negligible at most receptors, but slight adverse at one receptor (15), moderate adverse at two receptors (40 and 60) and substantial adverse at six receptors (27, 56, 57, 58, 59 and 61).

9.82. The annual mean nitrogen dioxide concentrations are below 60 µg/m^3 at all of the receptor locations, apart from at Receptor 59. Taking into account that the predicted concentrations are largely overstated, it is, therefore, considered unlikely that the 1-hour mean nitrogen dioxide objective will be exceeded.

PM_{10} and $PM_{2.5}$

9.83. The annual mean PM_{10} and $PM_{2.5}$ concentrations are well below the objectives at all receptors, with or without the scheme. Furthermore, as the annual mean PM_{10} concentrations are below 32 µg/m^3, it is unlikely that the 24-hour mean PM_{10} objective will be exceeded at any of the receptors.

9.84. The percentage changes in both PM_{10} and $PM_{2.5}$ concentrations, relative to the air quality objective (when rounded), are predicted to range between zero and 1% at all of the receptors. Using the matrix in Technical Appendix Table A8.2.1 (attached as **Technical Appendix 5** to this ES), these impacts are described as negligible.

Table 9.10: Predicted Impacts on Annual Mean Nitrogen Dioxide Concentrations in 2019 (µg/m^3) [a]

Receptor	With 'Official' Emissions Reduction [b]				Without Emissions Reduction [c]			
	Without Scheme	With Scheme	% Change [d]	Impact Descriptor	Without Scheme	With Scheme	% Change [d]	Impact Descriptor
1	9.2	9.4	0	Negligible	14.7	14.9	1	Negligible
2	5.6	5.6	0	Negligible	6.4	6.5	0	Negligible
3	13.0	14.1	3	Negligible	21.3	22.8	4	Negligible
4	12.6	13.7	3	Negligible	20.6	22.1	4	Negligible
5	11.7	12.4	2	Negligible	17.3	18.4	3	Negligible
6	13.2	14.1	2	Negligible	20.3	21.7	3	Negligible
7	9.3	9.6	1	Negligible	12.5	13.1	1	Negligible
8	8.1	8.3	1	Negligible	10.0	10.4	1	Negligible
9	8.1	8.3	0	Negligible	10.1	10.4	1	Negligible
10	8.2	8.5	1	Negligible	10.3	10.7	1	Negligible
11	8.1	8.3	0	Negligible	10.0	10.3	1	Negligible
12	10.6	11.2	1	Negligible	14.8	15.7	2	Negligible
13	12.4	13.3	2	Negligible	18.2	19.5	3	Negligible
14	15.6	16.8	3	Negligible	24.8	26.5	4	Negligible
15	20.5	22.1	4	Negligible	33.1	35.1	5	Slight Adverse
16	16.4	17.8	3	Negligible	25.9	27.7	5	Negligible
17	12.0	12.9	2	Negligible	17.8	19.1	3	Negligible
18	11.6	12.4	2	Negligible	16.9	18.1	3	Negligible
19	11.4	11.6	1	Negligible	16.7	17.1	1	Negligible
20	11.2	11.6	1	Negligible	16.5	17.1	1	Negligible
21	10.7	11.0	1	Negligible	15.6	16.1	1	Negligible
22	12.4	12.5	0	Negligible	18.0	18.2	1	Negligible
23	13.4	13.6	0	Negligible	20.1	20.3	1	Negligible
24	13.6	13.7	0	Negligible	20.3	20.5	1	Negligible
25	18.8	19.0	1	Negligible	29.7	30.0	1	Negligible
26	18.2	18.4	1	Negligible	28.7	29.0	1	Negligible

Receptor	With 'Official' Emissions Reduction [b]				Without Emissions Reduction [c]			
	Without Scheme	With Scheme	% Change [d]	Impact Descriptor	Without Scheme	With Scheme	% Change [d]	Impact Descriptor
27	31.3	32.4	3	Slight Adverse	**48.8**	**50.2**	3	Substantial Adverse
28	10.9	11.2	1	Negligible	15.9	16.4	1	Negligible
29	11.4	11.8	1	Negligible	16.8	17.5	2	Negligible
30	11.6	11.9	1	Negligible	17.3	17.8	1	Negligible
31	13.3	13.6	1	Negligible	20.5	21.0	1	Negligible
32	8.9	9.0	0	Negligible	11.7	11.8	0	Negligible
33	11.0	11.4	1	Negligible	16.3	16.9	1	Negligible
34	10.7	10.8	0	Negligible	15.1	15.3	0	Negligible
35	11.7	11.8	0	Negligible	17.0	17.1	0	Negligible
36	11.4	11.5	0	Negligible	16.5	16.6	0	Negligible
37	8.9	8.9	0	Negligible	11.8	11.9	0	Negligible
38	10.6	10.8	1	Negligible	15.4	15.8	1	Negligible
39	12.8	13.0	1	Negligible	19.6	20.0	1	Negligible
40	31.0	31.4	1	Negligible	**49.2**	**49.7**	1	Moderate Adverse
41	13.9	14.2	1	Negligible	20.9	21.4	1	Negligible
42	14.7	15.0	1	Negligible	22.5	23.0	1	Negligible
43	14.2	14.4	1	Negligible	21.6	21.9	1	Negligible
44	14.8	14.9	0	Negligible	23.0	23.2	1	Negligible
45	11.6	11.7	0	Negligible	16.0	16.2	0	Negligible
46	10.8	10.9	0	Negligible	13.9	14.1	0	Negligible
47	8.1	8.2	0	Negligible	10.4	10.5	0	Negligible
48	13.0	13.1	0	Negligible	20.3	20.5	1	Negligible
49	11.3	11.4	0	Negligible	18.7	18.9	1	Negligible

Receptor	With 'Official' Emissions Reduction [b]				Without Emissions Reduction [c]			
	Without Scheme	With Scheme	% Change [d]	Impact Descriptor	Without Scheme	With Scheme	% Change [d]	Impact Descriptor
50	11.5	11.7	0	Negligible	19.1	19.4	1	Negligible
51	7.4	7.5	0	Negligible	10.4	10.5	0	Negligible
52	26.2	26.2	0	Negligible	38.7	38.7	0	Negligible
53	20.7	20.8	0	Negligible	30.3	30.5	1	Negligible
54	24.3	24.6	1	Negligible	37.3	37.7	1	Negligible
55	23.7	24.0	1	Negligible	35.5	35.9	1	Negligible
56	33.3	34.4	3	Slight Adverse	**51.3**	**52.6**	3	Substantial Adverse
57	38.3	39.1	2	Moderate Adverse	**57.3**	**58.3**	2	Substantial Adverse
58	38.7	39.4	2	Moderate Adverse	**57.3**	**58.0**	2	Substantial Adverse
59	44.9	45.6	2	Substantial Adverse	**65.4**	**66.3**	2	Substantial Adverse
60	26.8	27.3	1	Negligible	**40.1**	**40.8**	2	Moderate Adverse
61	33.9	34.5	2	Slight Adverse	**49.2**	**49.9**	2	Substantial Adverse
Objective	**40**		-	-	**40**		-	-

[a] Exceedences of the objective are shown in bold.

[b] This assumes that road vehicle emission factors reduce between 2012 and 2019 at the current 'official' rates.

[c] This assumes that road vehicle emission factors in 2019 remain the same as in 2012.

Table 9.11: Predicted Impacts on Annual Mean PM_{10} and $PM_{2.5}$ Concentrations in 2019 (µg/m^3) [a]

Receptor	PM_{10}				$PM_{2.5}$			
	Without Scheme	With Scheme	% Change [b]	Impact Descriptor	Without Scheme	With Scheme	% Change [b]	Impact Descriptor
1	15.7	15.7	0	Negligible	8.7	8.7	0	Negligible
2	14.8	14.8	0	Negligible	8.2	8.2	0	Negligible
3	16.6	16.9	1	Negligible	9.3	9.4	1	Negligible
4	16.6	16.8	1	Negligible	9.3	9.4	1	Negligible
5	14.5	14.6	0	Negligible	8.8	8.8	0	Negligible
6	14.8	15.0	1	Negligible	8.9	9.1	0	Negligible
7	14.0	14.1	0	Negligible	8.5	8.5	0	Negligible
8	13.8	13.8	0	Negligible	8.3	8.4	0	Negligible
9	13.8	13.8	0	Negligible	8.3	8.4	0	Negligible
10	13.8	13.9	0	Negligible	8.4	8.4	0	Negligible
11	13.8	13.8	0	Negligible	8.3	8.4	0	Negligible
12	14.3	14.4	0	Negligible	8.6	8.7	0	Negligible
13	14.6	14.8	1	Negligible	8.8	8.9	0	Negligible
14	15.3	15.6	1	Negligible	9.2	9.4	1	Negligible
15	15.4	15.7	1	Negligible	9.3	9.5	1	Negligible
16	15.0	15.2	1	Negligible	9.0	9.2	1	Negligible
17	14.6	14.7	1	Negligible	8.8	8.9	0	Negligible
18	14.7	14.8	0	Negligible	8.9	9.0	0	Negligible
19	14.6	14.6	0	Negligible	8.8	8.8	0	Negligible
20	14.7	14.7	0	Negligible	8.9	8.9	0	Negligible
21	14.6	14.7	0	Negligible	8.8	8.9	0	Negligible
22	14.1	14.1	0	Negligible	8.7	8.7	0	Negligible
23	14.3	14.3	0	Negligible	8.8	8.8	0	Negligible
24	14.3	14.3	0	Negligible	8.8	8.8	0	Negligible

Receptor	PM_{10}				$PM_{2.5}$			
	Without Scheme	With Scheme	% Change [b]	Impact Descriptor	Without Scheme	With Scheme	% Change [b]	Impact Descriptor
25	14.8	14.8	0	Negligible	9.1	9.1	0	Negligible
26	14.7	14.7	0	Negligible	9.1	9.1	0	Negligible
27	16.1	16.3	1	Negligible	10.0	10.1	0	Negligible
28	14.5	14.6	0	Negligible	8.8	8.8	0	Negligible
29	14.6	14.7	0	Negligible	8.9	8.9	0	Negligible
30	14.7	14.8	0	Negligible	8.9	8.9	0	Negligible
31	14.9	15.0	0	Negligible	9.0	9.1	0	Negligible
32	14.2	14.3	0	Negligible	8.6	8.6	0	Negligible
33	14.7	14.7	0	Negligible	8.9	8.9	0	Negligible
34	14.5	14.5	0	Negligible	8.7	8.8	0	Negligible
35	14.7	14.7	0	Negligible	8.9	8.9	0	Negligible
36	14.7	14.7	0	Negligible	8.9	8.9	0	Negligible
37	14.3	14.3	0	Negligible	8.6	8.6	0	Negligible
38	14.6	14.6	0	Negligible	8.8	8.8	0	Negligible
39	14.8	14.9	0	Negligible	9.0	9.0	0	Negligible
40	16.4	16.4	0	Negligible	10.2	10.3	0	Negligible
41	14.4	14.4	0	Negligible	8.8	8.9	0	Negligible
42	14.5	14.5	0	Negligible	8.9	9.0	0	Negligible
43	14.3	14.4	0	Negligible	8.8	8.9	0	Negligible
44	14.7	14.7	0	Negligible	9.1	9.1	0	Negligible
45	14.1	14.1	0	Negligible	8.7	8.7	0	Negligible
46	13.9	13.9	0	Negligible	8.6	8.6	0	Negligible
47	14.6	14.6	0	Negligible	8.5	8.6	0	Negligible
48	14.5	14.5	0	Negligible	8.9	8.9	0	Negligible

Receptor	PM_{10}				$PM_{2.5}$			
	Without Scheme	With Scheme	% Change [b]	Impact Descriptor	Without Scheme	With Scheme	% Change [b]	Impact Descriptor
49	15.4	15.4	0	Negligible	9.0	9.1	0	Negligible
50	15.4	15.5	0	Negligible	9.1	9.1	0	Negligible
51	14.8	14.8	0	Negligible	8.5	8.5	0	Negligible
52	15.9	15.9	0	Negligible	9.8	9.8	0	Negligible
53	15.1	15.1	0	Negligible	9.4	9.4	0	Negligible
54	15.4	15.4	0	Negligible	9.5	9.6	0	Negligible
55	15.3	15.3	0	Negligible	9.5	9.5	0	Negligible
56	16.3	16.5	1	Negligible	10.2	10.3	0	Negligible
57	17.6	17.7	0	Negligible	11.1	11.2	0	Negligible
58	17.7	17.8	0	Negligible	11.2	11.3	0	Negligible
59	18.2	18.4	0	Negligible	11.4	11.5	0	Negligible
60	16.4	16.5	0	Negligible	10.1	10.2	0	Negligible
61	17.7	17.9	0	Negligible	11.2	11.3	0	Negligible
Objective	**32** [c]		-	-	**25**		-	-

[a] Exceedences of the objective are shown in bold.

[b] % changes are relative to the criterion and have been rounded to the nearest whole number.

[c] While the annual mean PM_{10} objective is 40 µg/m^3, 32 µg/m^3 is the annual mean concentration above which an exceedence of the 24-hour mean PM_{10} concentration is possible, as outlined in LAQM.TG16[16]. A value of 32 µg/m^3 is thus used as a proxy to determine the likelihood of exceedence of the 24-hour mean PM_{10} objective, as recommended in EPUK & IAQM guidance.

Uncertainty in Road Traffic Modelling Predictions

9.85. There are many components that contribute to the uncertainty of modelling predictions. The model used in this assessment is dependent upon the traffic data

that have been input, which will have inherent uncertainties associated with them. There are then additional uncertainties, as the model is required to simplify real-world conditions into a series of algorithms. An important stage in the process is model verification, which involves comparing the model output with measured concentrations (see Technical Appendix 8.5 (attached as **Technical Appendix 5** to this ES)). As the model has been verified and adjusted, there can be reasonable confidence in the prediction of current year (2012) concentrations.

9.86. Predicting pollutant concentrations in a future year will always be subject to greater uncertainty. For obvious reasons, the model cannot be verified in the future, and it is necessary to rely on a series of projections provided by DfT and Defra as to what will happen to traffic volumes, background pollutant concentrations, and vehicle emissions. A disparity between the road transport emission projections and measured annual mean concentrations of nitrogen oxides and nitrogen dioxide has been identified by Defra. This is evident across the UK, although the effect appears to be greatest in inner London; there is also considerable inter-site variation. Whilst the emission projections suggested that both annual mean nitrogen oxides and nitrogen dioxide concentrations should have fallen by around 15-25% over the past 6 to 8 years, at many monitoring sites levels have remained relatively stable, or have even shown a slight increase.

9.87. The reason for the disparity between the expected concentrations and those measured relates to the on-road performance of modern diesel vehicles. New vehicles registered in the UK have had to meet progressively tighter European type approval emissions categories, referred to as "Euro" standards. While the nitrogen oxides emissions from newer vehicles should be lower than those from equivalent older vehicles, the on-road performance of some modern diesel vehicles has often been no better than that of earlier models. This has been compounded by an increasing proportion of nitrogen dioxide in the nitrogen oxides emissions, i.e. primary nitrogen dioxide, which has a significant effect on roadside concentrations[6,25].

9.88. A detailed analysis of emissions from modern diesel vehicles has been carried out[26]. This shows that, where previous standards had limited on-road success, the ‘Euro

25 Carslaw, D; Rhys-Tyler, G (2013) Remote sensing of NO2 exhaust emissions from road vehicles, [Online], Available: http://uk-air.defra.gov.uk/assets/documents/reports/cat05/1307161149_130715_DefraRemoteSensingReport_Final.pdf

26 AQC (2016) Emissions of Nitrogen Oxides from Modern Diesel Vehicles, [Online], Available: http://www.aqconsultants.co.uk/Resources/Download-Reports.aspx

VI' and 'Euro 6' standards that new vehicles have had to comply with from 2013/16[27] are delivering real on-road improvements. A detailed comparison of the predictions in Defra's latest Emission Factor Toolkit (EFT) v7.0 against the results from on-road emissions tests has shown that Defra's latest predictions still have the potential to under-predict emissions from some vehicles, albeit by less than has historically been the case[26]. The EFT v7.0 emissions now used by Defra are lower than those in version 5.2c of the EFT, used for this assessment. The concentrations predicted above using the 'official' emissions reduction will therefore be higher than would be the case if the updated emission factors were to be used.

9.89. To be consistent with the application for the permitted development, a sensitivity test has been carried out in which the road vehicle emission factors in 2019 remain the same as in 2012, hence no improvement in emissions over this period. The results of the detailed analysis[26] shows that there has already been improvements and the emissions are not too dissimilar than those predicted by Defra. The results from this sensitivity test therefore significantly over-predict emissions from vehicles in the future, and, combined with the fact that the traffic data used in the assessment is overstated, the modelled concentrations are all likely to be over-predicted by a substantial margin.

Significance of Operational Air Quality Impacts

9.90. The operational air quality impacts without mitigation are judged to be 'significant'. This professional judgement is made in accordance with the methodology set out in Appendix 8.2 (attached as **Technical Appendix 5** to this ES), and also takes into account the results of the worst-case sensitivity test for nitrogen dioxide. Future year concentrations are expected to lie between the two sets of results, but in order to provide a reasonable worst-case assessment, the judgement of significance focuses primarily on the results from the sensitivity test.

9.91. However, it must be borne in mind that the dispersion modelling presented in this chapter is based on overstated traffic flows and predicted changes in concentrations brought about the scheme are not materially different to those predicted in 2013, when the planning application 14/00426/MOUTE was submitted. The adverse impacts are a product of revised significance criteria used in this assessment, as were published by the IAQM in 2015.

[27] Euro VI refers to heavy duty vehicles, while Euro 6 refers to light duty vehicles. The timings for meeting the standards vary with vehicle type and whether the vehicle is a new model or existing model.

9.92. The assessment is also based on a dispersion model that has been verified against pollutant concentrations measured in 2012, which are significantly higher than those measured in 2015 (see Table 9.2), indicating that total concentrations have been overestimated.

Mitigation

Construction Impacts

9.93. Measures to mitigate dust emissions will be required during the construction phase of the developments in order to reduce impacts upon nearby sensitive receptors.

9.94. The Eden Camp site has been identified as a Medium risk site for dust soiling effects during earthworks and construction, and as a Low Risk site for human health effects and for trackout, as set out in paragraph 9.74. Comprehensive guidance has been published by IAQM on mitigation measures to control dust and air emissions[5], and on monitoring during demolition and construction[28]. This reflects best practice experience and has been used, together with the professional experience of the consultant and the findings of the dust impact assessment, to draw up a set of measures that should be incorporated into the specification for the works for all of the sites. These measures are described in Technical Appendix 8.6 (attached as **Technical Appendix 5** to this ES).

9.95. The mitigation measures should be written into a dust management plan (DMP). The DMP has been integrated into the Construction Management Plan containmed within the LDO Design Code. This includes making provision for the monitoing of the measures.

9.96. Where mitigation measures rely on water, it is expected that only sufficient water will be applied to damp down the material. There should not be any excess to potentially contaminate local watercourses.

Completed Developments

9.97. The assessment has demonstrated that the scheme will not cause any exceedences of the air quality objectives in areas where they are not currently exceeded. Mitigation measures to reduce pollutant emissions from road traffic are principally being delivered in the longer term by the introduction of more stringent emissions standards, largely via European legislation. Ryedale District Council's air quality

[28] Institute of Air Quality Management (2012), Guidance on air Quality Monitoring in the Vicinity of Demolition and Construction Sites.

action plan will also help deliver improvements in air quality over time. The development will include work place travel plans that will help to reduce road traffic emissions via a range of measures to encourage sustainable and low-emission transport and reduce overall vehicle trips associated with the development.

Impact Assessment

Construction Impacts

9.98. The IAQM guidance is clear that, with appropriate mitigation in place, the residual effect will normally be 'not significant'. The mitigation measures set out in Section 9.94 are based on the IAQM guidance. With these measures in place and effectively implemented the residual effects are judged to be 'not significant'.

9.99. The IAQM guidance does, however, recognise that, even with a rigorous dust management plan in place, it is not possible to guarantee that the dust mitigation measures will be effective all of the time, for instance under adverse weather conditions. During these events, short-term dust annoyance may occur, however, the scale of this would not normally be considered sufficient to change the conclusion that overall the effects will be 'not significant'.

Road Traffic Impacts

9.100. The residual impacts of road traffic emissions generated by the proposed developments will remain 'significant' based on the assessment set out in this chapter. However, this assessment is based on worst-case assumptions and overstated traffic data, on a site which already holds planning permission for a similar-scale development. Overall it is judged that the proposals do not pose a greater risk of air quality impacts than the permitted development at the site and mitigation will be provided in the form of workplace travel plans.

Summary

9.101. The construction works have the potential to create dust. During construction it will therefore be necessary to apply a package of mitigation measures to minimise dust emission. With these measures in place, it is expected that any residual effects will be 'not significant'.

9.102. The operational impacts of increased traffic emissions arising from the additional traffic on local roads, due to the development, have been assessed. Concentrations have been modelled for 61 worst-case receptors, representing existing properties where impacts are expected to be greatest. In the case of nitrogen dioxide, the

modelling has been carried out assuming both that vehicle emissions decrease (using 'official' emission factors), and that they do not decrease in future years. This is to allow for current uncertainty over emission factors for nitrogen oxides that has been identified by Defra[6].

9.103. It is concluded that concentrations of PM_{10} and $PM_{2.5}$ will remain well below the objectives at all receptors in 2019, whether the scheme is developed or not. In the case of nitrogen dioxide, the impacts will be negligible at most receptors, but slight to substantial adverse at six receptors. Without a reduction in vehicle emissions between 2012 and 2019 the impacts will still be negligible at most receptors, but slight to substantial adverse at nine receptors.

9.104. Although the proposed scheme will increase traffic volumes on local roads by a small amount, the air quality modelling includes traffic from the food store development at Wentworth Street which is no longer a commitment. The modelling baseline impacts will therefore be less and consequently the air quality impacts of the proposed scheme will also be less than that modelled for the OPP.

9.105. In addition to the traffic flows being overstated, the emissions of the sensitivity test are significantly higher than what would actually occur in reality, leading to over-predicted concentrations. Furthermore, the model has been verified against measured concentrations in 2012, which are significantly higher than those measured in the recent year of 2015. Not only does this show that concentrations are falling within Malton (and are likely to continue to do so), but the modelling has been verified against a worst-case year, which is likely to have led to concentrations being further over-predicted. Although the predicted increases in concentrations remain the same as those of the permitted development, with the latest impact significance guidance this results in some adverse impacts being predicted. These impacts are likely to be largely overstated and may not occur in reality.

9.106. Taking these points into account, the overall operational air quality impacts of the proposed development are thus judged to be 'not significant'.

GLOSSARY

AADT	Annual Average Daily Traffic
ADMS-Roads	Atmospheric Dispersion Modelling System
AQMA	Air Quality Management Area
Defra	Department for Environment, Food and Rural Affairs

DfT	Department for Transport
DMP	Dust Management Plan
EFT	Emissions Factor Toolkit
EPUK	Environmental Protection UK
Exceedence	A period of time when the concentration of a pollutant is greater than the appropriate air quality objective. This applies to specified locations with relevant exposure
HDV	Heavy Duty Vehicles (> 3.5 tonnes)
HGV	Heavy Goods Vehicle
IAQM	Institute of Air Quality Management
LAQM	Local Air Quality Management
LDF	Local Development Framework
LDV	Light Duty Vehicles (<3.5 tonnes)
$\mu g/m^3$	Microgrammes per cubic metre
NO	Nitric oxide
NO_2	Nitrogen dioxide
NOx	Nitrogen oxides (taken to be NO_2 + NO)
NPPF	National Planning Policy Framework
Objectives	A nationally defined set of health-based concentrations for nine pollutants, seven of which are incorporated in Regulations, setting out the extent to which the standards should be achieved by a defined date. There are also vegetation-based objectives for sulphur dioxide and nitrogen oxides
PM_{10}	Small airborne particles, more specifically particulate matter less than 10 micrometres in aerodynamic diameter
$PM_{2.5}$	Small airborne particles less than 2.5 micrometres in aerodynamic diameter
Standards	A nationally defined set of concentrations for nine pollutants below which health effects do not occur or are minimal
TEA	Triethanolamine – used to absorb nitrogen dioxide

10. LANDSCAPE AND VISUAL ASSESSMENT

Introduction

10.1. This section has been prepared by FPCR Environment and Design Ltd. It comprises a Landscape and Visual Assessment (LVIA) that has been undertaken by Chartered Members of the Landscape Institute as part of an Environmental Statement accompanying a Local Development Order. The Order covers development of a Food Enterprise Zone on land off Edenhouse Road, Malton, North Yorkshire. The land has already gained outline planning consent for a new livestock market, Agri Business centre and Business Park, which are the same uses that will be covered by the Local Development Order. A Design Code has been prepared for the Local Development Order, and this sets the parameters for the design. This indicates that the Food Enterprise Zone will be developed within a strong landscape framework, and will include sustainable drainage, including attenuation ponds, and parking areas as well as the new built facilities. One attenuation pond has already been constructed on site as part of the existing planning consent. The eastern site would include buildings up to 13m to the ridge, and the western site including the livestock market with buildings up to 11m to the ridge. Access is via a new road and roundabout junction to the A169, which is currently nearing completion. The A169 links to the A64. The Eden Camp, modern history visitor attraction lies to the south of the site. Landscaping would be provided at the sites boundaries, and within the development area.

10.2. The site location is shown on Figure 1 at **Appendix 2**.

10.3. The existing landscape resource of the site and its immediate context has been considered by the assessment, masterplanning and design process. This has extended from a preliminary landscape and visual review through to input to the production of the guiding Design Code and landscape design principles. This iterative process has also enabled the design of the proposal to evolve in response to the specific landscape and visual issues associated with the site and the nature of the scheme.

10.4. The LVIA considered the potential effects of the development upon:

- Individual landscape features and elements

- Landscape character
- Visual amenity and the people who view the landscape.

10.5. The main objectives of the LVIA are as follows:

- To describe and evaluate the current landscape character of the site and its surroundings and to identify any notable landscape features within the site;
- To determine the sensitivity of the landscape to the type of development proposed;
- To identify and describe any changes arising from the project relating to landscape and visual issues. This is determined as the magnitude of change;
- To identify and describe any mitigation measures that have been included;
- To evaluate the significance of residual landscape and visual effects.

10.6. All figures and photographs are included at **Appendices 2-6**.

Methodology

Principles and Overview

10.7. This Landscape and Visual Impact Assessment has been prepared based upon the Guidelines for Landscape and Visual Impact Assessment, third edition (GLVIA3), published by the Landscape Institute and the Institute of Environmental Management and Assessment, in 2013.

10.8. In summary the GVLIA3 states :

"Landscape and Visual impact assessment (LVIA), is a tool used to identify and assess the significance of and the effects of change resulting from development on both landscape as an environmental resource in its own right and on people's views and visual amenity."

10.9. These two elements of landscape and visual effects are described separately in this report.

10.10. The GLVIA3 recognises that professional judgement is a very important part of LVIA, and states that whilst there is some scope for quantitative measurements of some relatively objective matters, much of the assessment must rely on qualitative judgements(para 2.23). It also states that in identifying significant effects,

"The need for an approach that is in proportion to the scale of the project that is being assessed and the nature of the likely effects judgement needs to be exercised at all stages in terms of the scale of the investigation that is appropriate and proportional."(Paragraph 1.17)

10.11. The components of the LVIA include: a project description, baseline studies, identification and description of effects, assessment of the significance of effects and mitigation. This report outlines these components.

10.12. In terms of baseline studies the assessment provides an understanding of the landscape context where the proposal is situated, its constituent elements, character, condition and value. For the visual baseline this includes an understanding of the area in which the development may be visible, the people who may experience views, and the nature of views.

10.13. The overall significance of effects is determined making judgement about two components;

- Nature of receptor likely to be affected (known by the shorthand "sensitivity") and;
- Nature of the effect likely to occur (known by the shorthand "magnitude")

10.14. Consideration of all these criteria feeds into a comprehensive assessment of significance.

Assessment of Landscape Effects

10.15. GLVIA3 states that *"An assessment of landscape effects deals with the effects of change and development on landscape as a resource".* The baseline landscape is described by reference to existing landscape character assessments, and by a description of the site and its immediate context.

10.16. A range of landscape effects can arise through development. These can include:

- Change or loss of elements, features, aesthetic or perceptual aspects that contribute to the character and distinctiveness of the landscape
- Addition of new elements that influence character and distinctiveness of the landscape
- Combined effects of these changes

10.17. These elements are discussed in the assessment.

Susceptibility to change and value of the landscape receptor

10.18. The characteristics of the existing landscape resource are considered in respect of the susceptibility of the landscape resource to the change arising from this development. Judgements about the susceptibility to change are recorded on a scale of High, Medium and Low.

10.19. The value of the existing landscape is also considered. GLVIA3 indicates information that contributes to understanding landscape value. This information is set out in paragraph 5.20 of the GLVIA3 and includes;

- Information about areas recognised by statute such as National Parks, Areas of Outstanding Natural Beauty;
- Information about Heritage Coasts, where relevant;
- Local planning documents, for local landscape designations
- Information on individual or groups of features such as conservation areas, listed buildings, special historic or cultural sites
- Art and literature identifying value attached to particular areas or views
- Material on landscape of local or community interest

10.20. Where there is no clear existing evidence on landscape value, an assessment is made based on the following factors, based on the guidance in GLVIA3;

- Landscape quality (condition)
- Scenic quality
- Rarity
- Representativeness
- Conservation interest
- Recreation value
- Perceptual aspects
- Associations

10.21. The value of the landscape is recorded on a scale of High, Medium and Low. The overall landscape sensitivity is determined by considering the susceptibility to change and the value of the landscape receptor.

Magnitude of Landscape effects

10.22. Each effect on landscape receptors is assessed in terms of size or scale, geographical extent of the area influenced and its duration and reversibility.

10.23. In terms of size or scale the judgement takes account of the extent of the existing landscape elements that will be lost or changed, and the degree to which the aesthetic or perceptual aspects or key characteristics of the landscape will be altered by removal or addition of new elements. This assessment describes scale and size of landscape change by reference to the terms High Medium Low and negligible.

10.24. The geographical extent of the effect is described by reference to the site and its immediate context and wider landscape character areas. The duration and reversibility of effects are described.

Overall significance of landscape effects

10.25. The overall significance of landscape effects is determined by considering the sensitivity of the landscape receptors and the magnitude of effect on the landscape.

10.26. Final conclusions on the overall significance of landscape effects are drawn from the assessment components described. GLVIA3 notes at paragraph 5.56 that there are no hard and fast rules about what makes a significant effect. However it is reasonable to say that;

- Major loss or irreversible negative effects, over an extensive area, on elements and/or aesthetic and perceptual aspects that are key to the character of nationally valued landscapes are likely to be of the greatest significance;
- Reversible negative effects of short duration, over a restricted area, on elements and/or aesthetic and perceptual aspects that contribute to but are not key characteristics of the character of landscapes of community value are likely to be of least significance and may, depending on the circumstances, be judged as not significant.
- Where assessments of significance place landscape effects between these extremes, judgements must be made about whether or not they are significant, with full explanations of why these conclusions have been reached.

10.27. This assessment includes conclusions on the significance of the landscape effects.

Assessment of visual effects

10.28. An assessment of visual effects deals with the effects of change and development on the views available to people and their visual amenity.

10.29. The first stage in the assessment is to map visibility. This can be done by a computer Zone of Theoretical Visibility (ZTV), or by manual methods, using map study. For this project, production of a computer generated ZTV was not considered necessary. Field evaluation was used to establish a series of viewpoints. These have been used to represent a range of viewing experiences.

10.30. The viewpoints include:

- Views to aid description of the site itself,
- Public viewpoints, including rights of way and open access land,
- Public locations representing residential areas
- Transport routes

10.31. The views also represent what can be seen from a variety of distances from the development, and different viewing experiences.

Sensitivity of Visual Receptors

10.32. It is important to remember that visual receptors are all people. For each affected viewpoint the assessment considers both susceptibility to change in views and the value attached to views.

10.33. The visual receptors most susceptible to change are generally likely to include:

- residents at home
- people engaged in outdoor recreation, including use of public rights of way, whose attention or interest is likely to be focused on the landscape or particular views;
- visitors to heritage assets or other attractions, where views of surroundings are an important contributor to the experience;
- communities where views contribute to the landscape setting enjoyed by residents in the area.

10.34. Travellers on road rail or other transport routes tend to fall into an intermediate category of susceptibility to change. Where travel involves recognised scenic routes awareness of views is likely to be higher.

10.35. Visual receptors that are less likely to be sensitive to change include:

- People engaged in outdoor sport or recreation which does not involve or depend upon appreciation of views of the landscape;

- People at their place of work whose attention may be focused on their work or activity, not on their surroundings.

10.36. Judgements about susceptibility to change are recorded in this appraisal on a scale of High, Medium and Low.

10.37. Judgements on the value attached to views experienced, take account of:

- Recognition of the value attached to particular views, for example in relation to heritage assets, or through planning designations
- Indicators of the value attached to views by visitors, for example through appearances in guidebooks or visitor maps.

10.38. Judgements on visual value in this assessment are noted in this assessment in terms of; High, Medium and Low.

Magnitude of the visual effects

10.39. Each of the visual effects is evaluated in terms of its size or scale, the geographical extent of the area influenced and its duration or reversibility.

10.40. In terms of size or scale, the magnitude of visual effects takes account of:

- The scale of the change in the view with respect to the loss or addition of features in the view and changes in its composition, including proportion of the view occupied by the proposed development;
- The degree of contrast or integration of any new features or changes in the landscape with the existing or remaining landscape elements and characteristics
- The nature of the view of the proposed development, in terms of the relative amount of time over which it will be experienced and whether views will be full, partial or glimpses.

10.41. The geographical extent of the visual effect in each viewpoint is likely to reflect:

- The angle of view in relation to the main activity of the receptor
- The distance of the viewpoint from the proposed development
- The extent of the area over which the changes would be visible.

10.42. Judgements on the degree of change are described in this report as High, Medium low or negligible. As with landscape effects the duration of the effect could be short to long term or permanent and the same definitions apply.

Overall Significance of Landscape Visual Effects

10.43. The final conclusions on significance are drawn from the separate judgements on the sensitivity of the receptors and the magnitude of the effects.

10.44. For this assessment the following descriptive thresholds have been used

- Major: An effect that will fundamentally change and be in direct contrast to the existing landscape or views;
- Moderate: An effect that will markedly change the existing landscape or views but may retain or incorporate some characteristics/ features currently present;
- Minor: An effect that will entail limited or localised change to the existing landscape/ views or will entail more noticeable localised change but including both adverse and beneficial effects and is likely to retain or incorporate some characteristics/ features currently present;
- Negligible: An effect that will be discernible yet of very limited change to the existing landscape or views.

10.45. With new development, the effects are assumed to be adverse, unless noted otherwise.

<u>Baseline Conditions</u>

Landscape Context

10.46. The site for the proposed development is located on the northern edge of Malton, North Yorkshire. The proposed site is currently farmland, and land being developed, with the construction of a new road and attenuation pond. The site is enclosed by the A169 to the west, plantation woodland to the north and the A64/ Eden Camp museum to the south. An electricity transformer station is located next to Eden Camp, and a number of transmission lines extend from it. The western boundary is formed by some large scale agricultural buildings. Edenhouse Road extends through the site. The village of Old Malton lies to the south, beyond the raised A64/A169 junction. This area is shown on Figure 1, the aerial photograph.

Topography

10.47. The topography of the area is shown on Figure 2 (**Appendix 3**). This shows that Malton has developed on the higher land at the southern edge of the Vale of Pickering and generally occupies land up to 50m Above Ordnance datum. The valley of the River Derwent lies to the south between Malton and Norton. The Vale

of Pickering to the north is typically at 20m AOD. The site within the Vale and is generally flat are relatively low lying typically 20m AOD. Locally the landform associated with the A64/A169 junction is raised and more noticeable within the surrounding relatively level landform.

National Character

10.48. The site for the proposed development lies within the National Character Area (NCA) 26 "Vale of Pickering". This area is shown on Figure 3 (**Appendix 4**). Malton lies close to the boundaries of three different National character areas, with Area 29 the Howardian Hills to the south west, and Area 27 the Yorkshire Wolds to the east. Most of Malton, and the site lie within the Vale of Pickering area, although the boundaries between National character areas are inevitably indistinct. The National Character Area profile for the Vale of Pickering describes the key characteristics of the area;

"A low-lying flat or gently undulating vale with land rising gently to the foothills of the North York Moors and Cleveland Hills in the north, and to the steep scarp of the Yorkshire Wolds and the Howardian Hills in the south and west."

10.49. Also

"Woodland and tree cover is sparse and comprised of predominantly modern plantations with other trees occurring in hedgerows and along riparian fringes, and in small farmstead copses."

10.50. The profile also notes;

"The A64 along the southern boundary of the Vale is a major route from Leeds and the other communities of West Yorkshire through York to the coast at Scarborough and Filey. During the summer months and on fine days throughout the year it is used extensively by visitors to the coast.

In the eastern part of the Vale fields are large and geometric in shape with boundaries of low hedges or fences with drainage ditches in the lowest-lying areas. To the west smaller and more irregular fields are generally earlier in date, with more grassland, and often enclosed by full hedges with hedgerow trees.

Settlement pattern of medieval nucleated settlement following spring lines, transport routes and slightly elevated ground, along the A170 on the northern boundary of the Vale and similarly along the A64 in the south and B1257 in the west. In the centre of the Vale settlements are more dispersed and tend to be on slightly higher ground, many being established after the enclosure and drainage of the land."

10.51. The Natural England work provides useful guidance on the wider landscape character. The Yorkshire Wolds and Howardian Hills National Character Areas are not described in this report but are shown on Figure 3 (**Appendix 4**).

District Landscape Character

10.52. At a district level, the "Landscapes of Northern Ryedale" produced by Gillespies on behalf of Ryedale District Council, in August 1999 provides guidance on landscape character. This is part of the council's evidence base for the local development framework. This assessment breaks down the district outside the nationally designated areas (National Park and AONBS), into a series of landscape types. The map within the Ryedale report is of some age and the quality is not good, but based on the available information, Figure 3 (**Appendix 4**) shows the boundaries of the areas described.

10.53. The site is located within Area J "Wooded Open Vale". This is the area that covers most of Malton.

10.54. This describes the landscape of the "Wooded Vale Farmland" as generally flat and low lying, generally around 23m AOD. Its main characteristic is described as the higher concentration of woodland blocks and shelterbelts.

10.55. Under the heading "Settlement" the following is described;

"The largest settlement within the open wooded vale, and indeed the wider area is the market town of Malton/Norton, which lies at the junction of the Vale of Pickering, the calcareous Howardian Hills and the Chalk escarpment of the Yorkshire Wolds. The river Derwent separates the two parts of the town creating a visually important tract of open land along its corridor.

Malton is situated to the north of the river on gently sloping ground formed by the underling limestone's of the Howardian Hills. The latter extend into the Vale as a finger of more elevated terrain, extending to Orchard Fields and Peasey Hills. The B1248 (York Road) which links Malton to the A64 west of the town, runs along this higher ground and provides an attractive approach to the town, affording southerly views to Norton, the River Derwent and the low lying Vale landscape to the south of the town. Similar attractive views are available when entering Malton from the north west along the B1257 (Old Malton Road). Although this landscape has characteristics more typical of the Howardian Hills, for the purposes of this report, it is included within the Vale."

10.56. Under “subjective response” the report states;

“Whilst lacking features of particular note, and showing some evidence of local decline in landscape structure, with field enlargement and loss of hedgerows these parts of the vale nevertheless have a distinctly rural character.”

10.57. Under “Landscape Guidelines” the report notes the visual structure of the landscape should be assessed from the Wolds Escarpment, to ensure the relatively open structure and character of this landscape is maintained. It also notes that along the A64 corridor, the contrast between the relatively large scale pattern of the Vale to the more intimate enclosed landscape of the Wolds escarpment should be maintained. In places it notes there may be scope for new woodland planting to give greater emphasis to this boundary. It also notes that new woodland planting should be designed to reflect the existing scale and structure of the landscape. New woodland should have bold distinctive geometric shapes.

10.58. In terms of settlement and buildings, it notes there may be some scope for limited infill, and the need for expansion at the fringes of the Malton and Norton. It also draws attention to the need for considerable attention to the siting, arrangement and architectural detailing to ensure development is sympathetic to the character and landscape setting of the town.

10.59. This landscape report has provided advice and guidance that has been drawn upon for the development of the scheme.

10.60. The Howardian Hills AONB lies approximately 2.5km west of the site. The boundary closest to the site is shown on Figure 3 (**Appendix 4**). The management plan for the AONB summarises the special qualities of this AONB on page 29. This states:

“*The Howardian Hills have a strong unity of visual character, not least because they are physically separated from the surrounding countryside, but also because there are a number of common characteristics which bind the landscape together. The strongest of these is the dominance of woodland, which seems to form a green web across the whole area. The open sweeping views from the ridge tops and the quiet intimacy of the enclosed valleys are experiences which constantly recur whilst travelling through the area. The sheer complexity of the land cover, with its rich patchwork of crops, pastures, woods, trees and hedgerows is another consistent quality across most of the area.”*

10.61. The application site is largely confined by the plantation woodlands and earthworks of the A64. Views from the AONB from the site are largely confined by topography. The character of the site is distinctly different to the AONB, and development on it would have a negligible effect on it.

The Local Landscape

10.62. The Natural England work, and landscape work for the District provides useful context, but the landscape of the site is influenced by a range of local factors. The site itself is an area of arable land influenced by the adjacent land uses, along with disturbed ground associated with a new road construction across the site and recently constructed attenuation pond. Eden Camp which is a former Second World War prisoner of war camp lies to the south and is crossed by some large electricity lines and pylons. The camp is a curious mix of historic buildings and features, with an almost industrial character. The rising earthworks of the A64/ A169 junction lie to the south, planted with screening woodland. To the north the site is largely enclosed by plantation woodland, with the busy A169 to the east. Whilst overall the site is agricultural in character, it is heavily influenced by the surrounding land uses. Malton and Old Malton lie to the south of the A64, and the road and its associated planting provide a degree of separation.

Potential Impacts

10.63. New built development on currently agricultural land can lead to a loss of landscape features, and can affect local landscape character. Changes to the fabric of a site could result from the loss of trees, woodlands hedges or features such as ponds. Changing a currently open area, to one with new built development can change the character of the area. New green spaces and planting can have a positive effect on the landscape fabric of a site and on local character.

Construction Phase

10.64. During the construction phase there would be temporary landscape and visual effects. These would arise from localised construction work necessary to build the new facilities, including the appearance of cranes. Such effects would be for a short/ medium duration only.

Operational/ Completion Phase

10.65. Upon completion the new development, and the associated infrastructure is likely to result in the greatest effects on the local landscape, and visual amenity, therefore it is the final development which is the main focus for this assessment.

Receptors, Residential settlements

10.66. Little visibility would be expected to be experienced by the majority of residents of Malton or Old Malton due to the distance and screening effects of the A64 and the associated earthworks and planting. Some residents of properties on Great Sike Road to the north of the site, could have distant partially screened views towards the site.

Road users

10.67. The main road past the site is the A169, which forms the western boundary and from where open views are possible. Views from the A64 are more restricted because of planting, and the site would lie beyond Eden Camp museum, which is partially visible. Edenhouse Road passes through the site and close range views are possible from here.

Public Rights of Way

10.68. A public right of way (Bridleway) extends along Freehold Lane, which is a track between the southern site boundary and Eden Camp, and views are possible into the site. Other public rights of way are shown on Figure 4, some follow the local lanes, and are mainly north of the A64.

Recreational Users/ Community Facilities

10.69. The most significant recreational facility in the vicinity of the site, is Eden Camp, modern history museum. This has been developed on the site of a former prisoner of war camp, and is now a successful visitor attraction. The camp is situated beneath some electricity pylons and adjacent to some employment buildings, and a major road junction. The museum is a valued facility but has a rather unusual context that is partly industrial and partly rural. The relationship of the site with this area is an important consideration.

<u>Mitigation</u>

10.70. The main mitigation arises from the overall location and design of the scheme rather than adding on any particular mitigation measure. For this scheme, the use of a site that is effectively contained by the existing landscape structure mitigates the potential effect on the wider rural landscape. The mature tree belts to the north provide natural enclosure and mark a change in character from the land influenced by the buildings at Eden Camp and the A64, to the more rural character further north. Potential effects on the local area could be mitigated by the use of a

landscape planting around the sites perimeter, to the east west and south. The boundary with Eden Camp would be carefully considered. The Design Code which accompanies the LDO sets out details of the design and mitigation to be incorporated in the scheme.

Impact Assessment

Landscape Effects

10.71. Development of the site would involve the loss of some arable land. There are few features of landscape value within the site itself, just hedgerows and woodlands around the site perimeter. A road and roundabout on the site are nearing completion. An attenuation pond has recently been completed on the southern part of the site. The proposed scheme would retain the majority of these features. Extensive areas of new planting are proposed. There would be new areas of planting and green space, with a new balancing pond facility already constructed in the field immediately east of Eden Camp. This would have a positive landscape effect, and will provide a more attractive frontage to the museum. New planting around the site perimeters would help to screen views to the development from the A169, and would reinforce the woodland, that exists to the north. This would be in accordance with guidance in the district landscape character assessment. The retained existing hedgerows would be allowed to grow taller and thicker, and would be reinforced with new planting.

10.72. The new landscape areas around the site would contain forest sized trees, which could grow and ultimately provide a significant new landscape structure, visually linking with the existing woodlands.

10.73. At a national and regional level the site lies within, the area described as the Vale of Pickering. The site is well contained by the existing woodland, Eden Camp complex and A64 and does not share all the characteristics of the wider area. Development would only have a minor effect on this wider landscape area.

10.74. At a district level, the site forms a compartment of land within the "Wooded Vale Farmland" landscape character area. Within this character area the site is well contained by the existing features, and does not display all the typical characteristics of this character area.

10.75. Whilst development would inevitably change the site itself, the magnitude of change on the wider character areas would be no greater than "low". This would be because the essential characteristics of the wider landscape would be unaffected.

10.76. There would be slight beneficial longer term effects arising from the development of the woodland planting and new green spaces. During construction there would be some temporary disruption due to the building work. The local landscape area is considered to be of medium landscape value and to have a medium sensitivity to change. Whilst the wider area contains features of some landscape value, there are opportunities for enhancement and some potential for change. At completion overall the development of the scheme would also have a minor effect on the character of the wider district landscape area.

10.77. Within the site and its immediate context there would be major/ moderate short term magnitude of landscape effect arising through disruption through construction, and the construction of the newdevelopment. As the development is completed this would reduce to a moderate magnitude of effect. The site itself has been assessed as having a low / medium susceptibility to change. It does have some value as agricultural land on the edge of town, but it is not a truly rural piece of landscape, being heavily influenced by the adjacent Eden Camp Complex, pylons and major road junction. Overall there would be a moderate landscape effect upon completion. In the longer term (typically 15-20 years) as the new landscape and tree planting matures, and balancing pond in front of Eden Camp establishes, this would start to have a positive effect and the overall effect on the local area would become minor adverse.

10.78. The site is physically outside the AONB and does not display the special qualities of the AONB. Development of the site is predicted to have no effect on the landscape of the AONB.

Visual Effects

10.79. Visibility of the existing site is explored using a series of key viewpoints from nearby residential areas, properties, local lanes, footpaths and roads. These are shown on Figure 4 (**Appendix 5**). Many of these views represent views from specific receptors. In each case, the viewpoint seeks to represent the maximum potential visibility of the site and the potential future development. Figures 5-10 (**Appendix 6**) show the representative photographic viewpoints to illustratively support the descriptions. The photographs were taken during January 2014, unfortunately

weather conditions at the time meant the quality of the photographs are not ideal, but are sufficient to carry out the assessment. Some changes have occurred on site since the time the photographs were taken. Whilst the photographs do not show the existing (changing) conditions on the site itself, these changes are noted in the accompanying text.

Photoviewpoint A – View southeast across the site from Edenhouse Road

10.80. This view from Edenhouse Road shows the eastern part of the site. It shows the site itself as an area of arable land, enclosed to the north by the woodland, and with the A169 as the eastern boundary. A road is currently being constructed across this field. The electricity transmission lines are notable landscape elements. From this location development of the site would inevitably result in a high degree of visual change, as the open land would be replaced with the new development and landscape areas. In the short term there would be views to the new buildings, and over time as the perimeter landscape treatment establishes, a more enclosed green character would develop. Views from the road are transient, and the views would be for a relatively short distance. Users of the road have a medium susceptibility to visual change, and overall there would be a short to medium term moderate visual effect. As the perimeter landscape areas establish this effect would reduce leading to a minor effect in the longer term.

Photoviewpoint B – View south west across the site from Edenhouse Road

10.81. This viewpoint is again from Edenhouse Road, but looks south west across the part of the site described as site 588. The existing views shows the open arable land, farm buildings to the west, and Eden Camp to the south. From this location development of the site would inevitably result in a high degree of visual change, as the open land would be replaced with the development and landscape areas. In the short term there would be views to the new buildings and parking areas, and over time as the perimeter landscape treatment establishes, a more enclosed green character would develop. Views from the road are transient, and the views would be for a relatively short distance. Users of the road have a medium susceptibility to visual change, and overall there would be a short to medium term moderate visual effect. As the perimeter landscape areas establish this effect would reduce leading to a minor effect in the longer term.

Photoviewpoint C – View south from Great Sike Road

10.82. This road lies a short distance (less than 1km) to the north of the site. The road provides access to some properties and is also a bridleway. The viewpoint shows a view over the roadside hedge back towards Eden Camp. The block of woodland immediately north of the site, screens views to the site itself. Users of the lane could have a high susceptibility to visual change if they are using it for walking riding/ cycling. It is possible that some elements of the development could be visible above the existing trees, or beyond the end of the woodland block, these however would be small visual elements, and the overall character of the route would be little affected.

10.83. There would be a low degree of visual change leading to a minor overall visual effect, even in the short term. In the longer term as the perimeter landscape treatment establishes, there would be an even more reduced visual effect.

Photoviewpoint D – View south from Great Sike Road near Windmill Farm

10.84. This photograph shows the view from further west along Great Sike Road, and represents a potential view from the residential receptor Windmill Farm. The photograph shows a more open vies across the arable farmland towards Eden Camp and the farm buildings. The winter sunshine means that the buildings are not clearly visible in the photograph but can be seen.

10.85. The development would result in more buildings of similar scale to the existing farm buildings that can be seen, infront of Eden Camp. There would also be perimeter planting. The main open aspect to the foreground of the view would remain.

10.86. Views from Windmill Farm itself are more restricted than from this viewpoint, because of garden planting. Users of the lane and occupiers of Windmill Farm have a high susceptibility to visual change. Whilst parts of the development would be visible from this location, they would be seen infront of Eden Camp, and beyond the existing farm buildings. The new buildings would not look out of place in this context. The scale and treatment of the buildings would be agricultural in character. There would be a low magnitude of visual change, leading to a minor overall visual effect.

Photoviewpoint E – View east from Borough Mere Lane.

10.87. Borough Mere Lane lies to the west of the site, and is also a bridleway, providing access to the countryside to the north of Malton. The existing view shows open arable land in the foreground, with Eden Camp and the electricity pylons beyond. A

belt of plantation woodland lies to the north. The new buildings would be developed in the field beyond the plantation. The woodland is therefore likely to effectively screen views.

10.88. Users of the route have a high susceptibility to visual change, but the magnitude of change is likely to be low/ negligible. The overall visual effect, even in the short term is therefore expected to be minor/ negligible.

Photoviewpoint F – View east from Borough Mere Lane , near the A64 overbridge.

10.89. The viewpoint is located further south along Borough Mere Lane, towards the A64. The view shows the character of the local area, much more influenced by the A64 and the electricity lines that cross the arable land. Eden Camp is largely screened by the intervening woodland.

10.90. Users of the lane/ bridleway are likely to be there accessing the countryside for recreation, and therefore have a high susceptibility to visual change. Most of the new development would however be screened by the existing woodland, and the visual change is likely to be minimal. Overall even in the short term, the visual effects are likely to be minor/ negligible.

Photoviewpoint G – View south along the A169

10.91. This photograph shows a view along the A169 looking south towards Malton. In represents what can be seen by travellers along the route, once past the woodland, near the woodland block known as “Wild man from Borneo”. Whilst the low winter sun has meant the photograph is not as clear as it might be, it does show the view south across the agricultural land. The woodland belt that extends along the southern site boundary can be seen. This is likely to largely screen any views to development on the proposed development. It is possible that the tops of some of the new buildings may be partially visible above the tree line, but this would be minimal. The overall character of the view would be little affected. The view is also transient.

10.92. Users of the road have a medium susceptibility to visual change. The magnitude of visual change is predicted to be low. Leading to a minor/ negligible visual effect, even in the short term.

Photoviewpoint H – View south along the A169

10.93. This viewpoint is located on the A169, just north of the perimeter tree belt that encloses the site. It shows the view across the part of the site, with Eden Camp and the electricity lines visible beyond. The new roundabout with the A169 is currently being constructed. The rising road towards the A64/ A169 junction can also be seen. Development of the site would inevitably change this close range view, replacing the farmland in the foreground with development and new planting. Users of the road have a medium susceptibility to visual change, and the scheme would result in a medium/ high degree of visual change from this location. Overall there would be a moderate visual effect in the short term. As the perimeter planting establishes, the views to new buildings would be screened and softened, and the visual effects would reduce to minor.

Photoviewpoint I – View north from the A64/ A169 Junction

10.94. Located to the south, this viewpoint is relatively elevated, being situated on the earthwork of the junction. It shows what can be seen when leaving the junction and travelling north towards Pickering. Eden Camp and the electricity lines can be seen along with the eastern part of the site, enclosed by the northern tree belt. Users of the route are transient and have a medium susceptibility to visual change.

10.95. Since the photograph has been taken a new balancing pond has been developed in the field in the foreground, infront of Eden Camp. As this feature establishes it will have a minor beneficial visual effect. Views towards the museum would be maintained. The new development would be visible in the field beyond Edenhouse Road, beyond new planting. The livestock market would be mostly behind Eden Camp. This elevated location would mean that most of it was visible. The new perimeter landscape treatment would in time soften views to the built development. There would be a medium/ high degree of visual change in the short term, reducing to medium in the longer term as the planting establishes. Overall the visual effects from this location would be moderate reducing to minor in the longer term.

Photoviewpoint J – View north from Footpath off Westgate Old Malton

10.96. This viewpoint is located on the public footpath that extends north from Old Malton towards the A64. This shows vehicles visible on the A64, but with trees filtering views beyond it. The electricity lines can be seen, but Eden Camp is mostly screened. Users of this route, and the nearby residential properties in Old Malton, have a high susceptibility to visual change. Woodland along the A64 and near Eden Camp however provides a high degree of screening and the magnitude of visual

change would be low/ negligible. The overall visual effects would be minor/ negligible.

Summary

10.97. Overall the key viewpoints are all locations relatively close to the site. The interaction of the landform of the A64, existing plantation woodland and existing development at Eden Camp and the farm buildings, result in a very restricted visual envelope. Visual effects would vary between moderate and negligible. There are no significant distant views from the wider landscape.

10.98. There would inevitably be some close range views from the roads that pass the site, where there would be a higher degree of visual change. Users of the roads are transient, and would soon pass the site. Mitigation would arise through a high quality design and successful perimeter landscape treatment. This could include belts of new planting tying into the existing plantation woodland, which already encloses much of the site.

10.99. There would be some views from within Eden Camp, particularly the car park area. Mitigation for this would comprise a high quality simple landscape treatment. The existing car park is surrounded by barbed wire, in the character if the prison camp. It is not a rural idyll. The existing camp is situated next to employment buildings and an electricity substation, none of which appear to have affected the success of the museum. The new development, set behind a simple landscape treatment, similarly need not adversely affect the use and enjoyment of the site.

10.100. The parcel of land to the east of Eden Camp would remain open and now contains a new balancing pond. Retaining this area open, maintains the visual connectivity between Eden Camp, and the A169, which could be important for attracting visitors.

10.101. Overall development of the site would have a limited effect on the wider landscape or countryside.

Summary

10.102. This report has been prepared by FPCR Environment and Design Ltd. It comprises a Landscape and Visual Assessment (LVIA) that has been undertaken by Chartered Members of the Landscape Institute. A new Food Enterprise Zone is proposed at land west of the A169 near Eden Camp, Malton, North Yorkshire. The land already has outline planning consent for the same land uses that are covered by the LDO,

and the environmental effects were found to be acceptable when that application was determined. The Design Code for the site indicates that the new facilities will be laid out within a strong landscape structure, tying into the existing woodlands that surround much of the site. Access would be taken from Edenhouse Road with landscaping at the sites boundaries and a new balancing pond to the east of Eden Camp.

10.103. This Landscape and Visual Impact Assessment has been prepared based upon the Guidelines for Landscape and Visual Impact Assessment, third edition (GLVIA3), published by the Landscape Institute and the Institute of Environmental Management and Assessment, in 2013.

10.104. The proposed site is currently arable land, and land being developed for a new road and attenuation pond. The site is enclosed by the A169 to the west, plantation woodland to the north and the A64/ Eden Camp museum to the south. An electricity transformer station is located next to Eden Camp, and a number of transmission lines extend from it. The western boundary is formed by some large scale agricultural buildings. Edenhouse Road extends through the site. The village of Old Malton lies to the south, beyond the raised A64/A169 junction.

10.105. The site for the proposed development lies within the National Character Area (NCA) 26 "Vale of Pickering". At a district level, the “Landscapes of Northern Ryedale” produced by Gillespies on behalf of Ryedale District Council, in August 1999 provides guidance on landscape character. The site is located within Area J “Wooded Open Vale”. This is the area that covers most of Malton.

10.106. This describes the landscape of the “Wooded Vale Farmland” as generally flat and low lying, generally around 23m AOD. Its main characteristic is described as the higher concentration of woodland blocks and shelterbelts.

10.107. Under “subjective response” the report states;
“Whilst lacking features of particular note, and showing some evidence of local decline in landscape structure, with field enlargement and loss of hedgerows these parts of the vale nevertheless have a distinctly rural character.”

10.108. Under “Landscape Guidelines” the report notes the visual structure of the landscape should be assessed from the Wolds Escarpment, to ensure the relatively open structure and character of this landscape is maintained. It also notes that along the

A64 corridor, the contrast between the relatively large scale pattern of the Vale to the more intimate enclosed landscape of the Wolds escarpment should be maintained. In places it notes there may be scope for new woodland planting to give greater emphasis to this boundary. It also notes that new woodland planting should be designed to reflect the existing scale and structure of the landscape. New woodland should have bold distinctive geometric shapes.

10.109. In terms of settlement and buildings, it notes there may be some scope for limited infill, and the need for expansion at the fringes of the Malton and Norton. It also draws attention to the need for considerable attention to the siting, arrangement and architectural detailing to ensure development is sympathetic to the character and landscape setting of the town.

10.110. Landscape mitigation for the scheme arises from the overall location and design of the scheme rather than adding on any particular mitigation measure. For this scheme, the use of a site that is effectively contained by the existing landscape structure mitigates the potential effect on the wider rural landscape. The mature tree belts to the north provide natural enclosure and mark a change in character from the land influenced by the buildings at Eden Camp and the A64, to the more rural character further north. Potential effects on the local area could be mitigated by the use of a landscape planting around the sites perimeter, to the east west and south.

10.111. Development of the site would involve the loss of some arable land. There are few features of landscape value within the site itself, just hedgerows and woodlands around the site perimeter. The proposed scheme would retain the majority of these features apart from where sections of hedgerow would be removed to provide access. Extensive areas of new planting are proposed. There would be new areas of planting and green space, with a new balancing pond facility in the field immediately east of Eden Camp. This would have a positive landscape effect, and could provide a more attractive frontage to the museum. New planting around the site perimeters would help to screen views to the development from the A169, and would reinforce the woodland, that exists to the north. This would be in accordance with guidance in the district landscape character assessment. The retained existing hedgerows would be allowed to grow taller and thicker, and would be reinforced with new planting.

10.112. At a national and regional level the site lies within, the area described as the Vale of Pickering. The site is well contained by the existing woodland, Eden Camp complex

and A64 and does not share all the characteristics of the wider area. Development would only have a minor effect on this wider landscape area.

10.113. At a district level, the site forms a compartment of land within the "Wooded Vale Farmland" landscape character area. Within this character area the site is well contained by the existing features, and does not display all the typical characteristics of this character area.

10.114. Whilst development would inevitably change the site itself, the magnitude of change on the wider character areas would be no greater than "low". This would be because the essential characteristics of the wider landscape would be unaffected. At completion overall the development of the scheme would have a minor effect on the character of the wider district landscape area.

10.115. Within the site and its immediate context there would be major/ moderate short term magnitude of landscape effect arising through disruption through construction, and the construction of the new market and business park. As the development is completed this would reduce to a moderate magnitude of effect. The site itself has been assessed as having a low / medium susceptibility to change. It does have some value as agricultural land on the edge of town, but it is not a truly rural piece of landscape, being heavily influenced by the adjacent Eden Camp Complex, pylons and major road junction. Overall there would be a moderate landscape effect upon completion. In the longer term (typically 15-20 years) as the new landscape and tree planting matures, and balancing pond in front of Eden Camp establishes, this would start to have a positive effect and the overall effect on the local area would become minor. Development of the site is predicted to have no effect on the landscape of the AONB.

10.116. In terms of visual effects, the key viewpoints are all locations relatively close to the site. The interaction of the landform of the A64, existing plantation woodland and existing development at Eden Camp and the farm buildings, result in a very restricted visual envelope. There are no significant distant views from the wider landscape. There are no close range views from residential properties, and more distant views are screened or filtered by woodlands. Views from rights of way would be little affected, beyond the immediate vicinity of the site.

10.117. There would inevitably be some close range views from the roads that pass the site, where there would be a higher degree of visual change. Users of the roads are

transient, and would soon pass the site. Mitigation would arise through a high quality design and successful perimeter landscape treatment. This could include belts of new planting tying into the existing plantation woodland, which already encloses much of the site.

10.118. There would be some views from within Eden Camp, particularly the car park area. Mitigation for this would comprise a high quality simple landscape treatment. The existing car park is surrounded by barbed wire, in the character if the prison camp. It is not a rural idyll. The existing camp is situated next to employment buildings and an electricity substation, none of which appear to have affected the success of the museum. The new development, set behind a simple landscape treatment, similarly need not adversely affect the use and enjoyment of the site.

10.119. Overall the scheme is well located and enclosed by a woodlands and existing development, so that the landscape and visual effects arising from

11. SUMMARY OF MITIGATION AND MONITORING REQUIREMENTS

11.1. The following section provides a brief summary of mitigation and monitoring requirements as extracted from sections 7-10 of this ES

Socio Economic

11.2. There are no mitigation or monitoring requirements in respect of socio economic issues.

Transport

11.3. While no adverse effects have been identified that require mitigation construction traffic will be managed in accordance with the Construction Management Plan set out within the LDO Design Code. The requirement for a Staff Travel Plan in respect to the proposals for the site adjacent Eden Camp will be secured by way of a condition of the LDO.

11.4. The site access arrangements during the construction phase will be designed in accordance with the Construction Management Plan set out within the LDO Design Code to ensure they do not present a danger to highway safety.

Air Quality

11.5. Measures to mitigate dust emissions will be required during the construction phase of the developments in order to reduce impacts upon nearby sensitive receptors. The mitigation measures should be implemented in accordance with the requirements of the Construction Management Plan contained within the LDO Design Code and may require monitoring.

11.6. The assessment has demonstrated that the scheme will not cause any exceedences of the air quality objectives in areas where they are not currently exceeded.

11.7. The LDO will also require large occupiers to operate travel plans that will help to reduce road traffic emissions.

Landscape and Visual Assessment

11.8. The main mitigation arises from the overall location and design of the scheme rather than adding on any particular mitigation measure. For this scheme, the use of a site that is effectively contained by the existing landscape structure mitigates the potential effect on the wider rural landscape. The mature tree belts to the north provide natural enclosure and mark a change in character from the land influenced by the buildings at Eden Camp and the A64, to the more rural character further north. Potential effects on the local area could be mitigated by the use of a landscape planting around the sites perimeter, to the east west and south. The boundary with Eden Camp would be carefully considered.

12. RESIDUAL IMPACTS AND CONCLUSIONS

12.1. Residual impacts would be adverse or beneficial impacts that, after implementation of mitigation measures, would remain following the development and operation of the proposed application scheme.

12.2. It is unlikely that the LDO proposal – as per the OPP proposal – could be constructed and operated without any residual adverse environmental impacts. However the design provisions and other mitigation methods described in the earlier sections of this Environmental Statement, can negate or lower the significance of adverse impacts, enhance beneficial impacts and reduce the possibility of risk impacts occurring.

12.3. Overall, whilst the proposal results in a number of temporary adverse impacts during the construction phase, the completed redevelopment scheme results in almost entirely negligible or beneficial impacts.

12.4. The only exceptions relate to the impacts on air quality at a small number of locations (where pollution levels are already above target levels) albeit these are considered to be an over estimate of impacts and landscape character and visual impact which is understandable and unavoidable where development on Greenfield land is concerned.

12.5. Notwithstanding the above, the proposal results in substantial beneficial impacts in so far as they deliver significant employment development and support the land based economy (including through the relocation of the Livestock Market) in accordance with the Local Plan Strategy and in support of the Strategic Economic Plan for the York, North Yorkshire and East Riding Enterprise Partnership.

12.6. A summary table identifying predicted residual impacts for construction and operation is attached at **Appendix 7**. The tables present a brief description of the residual impact following the implementation of mitigation measures.

APPENDIX 1

14th October 2016

Liz Garvey
Freeths LLP
Cumberland Court
80 Mount Street
Nottingham
NG1 6HH

Our ref: SF2459

Dear Liz,

Malton Food Enterprise Zone, Eden Camp – Ecology Update Survey

Smeeden Foreman Limited have been instructed to undertake an updated ecological walkover survey of land proposed for the above development. This was carried out following a recommendation made within the EIA Scoping Report for the proposed works prepared by Peter Brett Associates LLP in September 2016 on behalf of Ryedale District Council. Paragraph 7.5.5 of the scoping report states:

*"On the basis of surveys and assessments reported in the ES there are unlikely to be significant effects of ecology. Current ecological conditions at the site should be determined in accordance with British Standard 4202:*2013 Biodiversity. Code of practice for planning and development. *Should this confirm that the ecological value of the site remains as recorded in 2014 and therefore that significant effects are unlikely this should be confirmed in the ES and ecology can be scoped out of the EIA."*

Initial ecology surveys of the site were carried out by FPCR Environment and Design Limited in January 2014 (report ref: 6038\ECO\Edenhouse\EcoApp\ EdenWest, 3rd April 2014). Making reference to this report and the supporting Phase 1 Habitat Plan (Figure 2, ref: 6038-E-02), an updated ecological walkover survey was carried out by Smeeden Foreman Limited on 13th October 2016, to assess the current status of the habitats on site using the JNCC Phase 1 Habitat survey methodology (2010) and assessing the sites suitability to support protected species.

The site comprises three fields which are dissected by Edenhouse Road. Works have commenced on the eastern field, including the formation of roundabout access and internal access road to service development at Edenhouse Road (revised details to approval 14/00426/MOUTE). These construction works have been undertaken under full planning permission (ref: 16/00412/FUL). Land to the south and west of this field now comprise bare ground as a result of the construction works undertaken and sections of hedgerow surrounding this field have also been removed; hedgerows labelled H1 and H2 on Figure 02 prepared by FPCR Environment and Design Limited and a small section of H4, to the south

of T1 have been removed. H3 remains unaffected and H4 still occurs to part of the western and all of the southern boundary. The remaining unaffected areas of the eastern field appear to have been recently used for arable purposes, with crop stubble noted within the northern and western section of this field.

The western arable field has become disused and is now colonised by forb species typical of arable field margins, with species including broadleaved dock *Rumex obtusifolius,* broadleaved willowherb *Epilobium montanum,* spear thistle *Cirsium arvense,* greater plantain *Plantago major,* prickly sow-thistle *Sonchus asper,* nipplewort *Lapsana communis,* common field speedwell *Veronica persica,* scentless mayweed *Tripleurospernum inodorum,* common ragwort *Senecio jacobaea,* a goosefoot *Chenobium sp.,* shepherds purse *Capsella bursa-pastoris,* hogweed *Heracleum sphondylium,* groundsel *Senecio vulgaris* and dove's-foot crane's-bill *Geranium molle.* Hedgerows which border this field on all boundaries are still present and are representive of descriptions within the report produced by FPCR. Drains to the eastern and southern boundaries of this field contained shallow levels of static water at the time of survey. This survey followed a few days of wet weather, so it is considered that the drains are likely to only contain water seasonally. No emergent vegetation was noted within the ditches, further indicating that these are only seasonally wet.

A small area of immature plantation woodland identified to the south-eastern corner of the western field, has now been largely removed, with hedgerow bordering the woodland remaining largely unaffected, this work was carried out in August 2016 following checks by a Smeeden Foreman ecologist finding active nests to be absent.

The field to the south of Edenhouse Road is similar to that of the western field, being disused and colonised by arable weeds, comprising a similar species assemblage to that listed above, with the addition of common fumitory *Fumaria officinalis,* creeping cinquefoil *Potentilla reptans,* common nettle *Urtica dioica* and weld *Reseda luteola.* H9 remains intact and is representative of what was detailed during the original survey by FPCR. Works outwith the southern boundary have taken place, including the construction of a balancing pond and the removal of the dry ditch, which was noted to the western boundary during the 2014 surveys.

Habitats within the site are still considered to be largely of low conservation value, comprising disused arable fields with common forb species identified to be present. Remaining hedgerows are relatively species-poor being dominated by hawthorn; however, these should be retained, where possible, as they are likely to provide suitable habitat to a range of nesting bird species and commuting and foraging habitat to bats.

In terms of protected species, recommendations made within the report produced by FPCR still remain relevant. Recommendations include the retention of T1, where possible, as it has the potential to support roosting bats. If this tree is to be affected by the proposals by felling or subject to any tree surgery works, further assessment including a climb and inspect survey undertaken by an appropriately qualified ecologist and trained tree climber should be undertaken to identify any signs of bat use. A climb and inspect survey can take place at anytime within the year. This inspection may be proceeded by an emergence/re-entry survey undertaken within the appropriate season (May – August), if necessary. A European Protected Species Mitigation Licence obtained from Natural England may be required prior to works commencing if roosting bats are identified. Furthermore, in the interest of bats and other wildlife, a sympathetic lighting scheme should be adopted so that the site remains attractive to such species. Lighting should therefore be of low level illuminance, where possible and avoid illuminating features, such as the retained hedgerows and T1. Recommendations in regards to bats include the management of trees at road edges so that these create an arch or 'hop-over' across the road and allow continued commuting along hedgerows.

Any further losses of hedgerow, scrub and trees present on site should be undertaken outside of the nesting bird season (March – August inclusive) or immediately following checks by an appropriately qualified ecologist, where active nests are found to be absent.

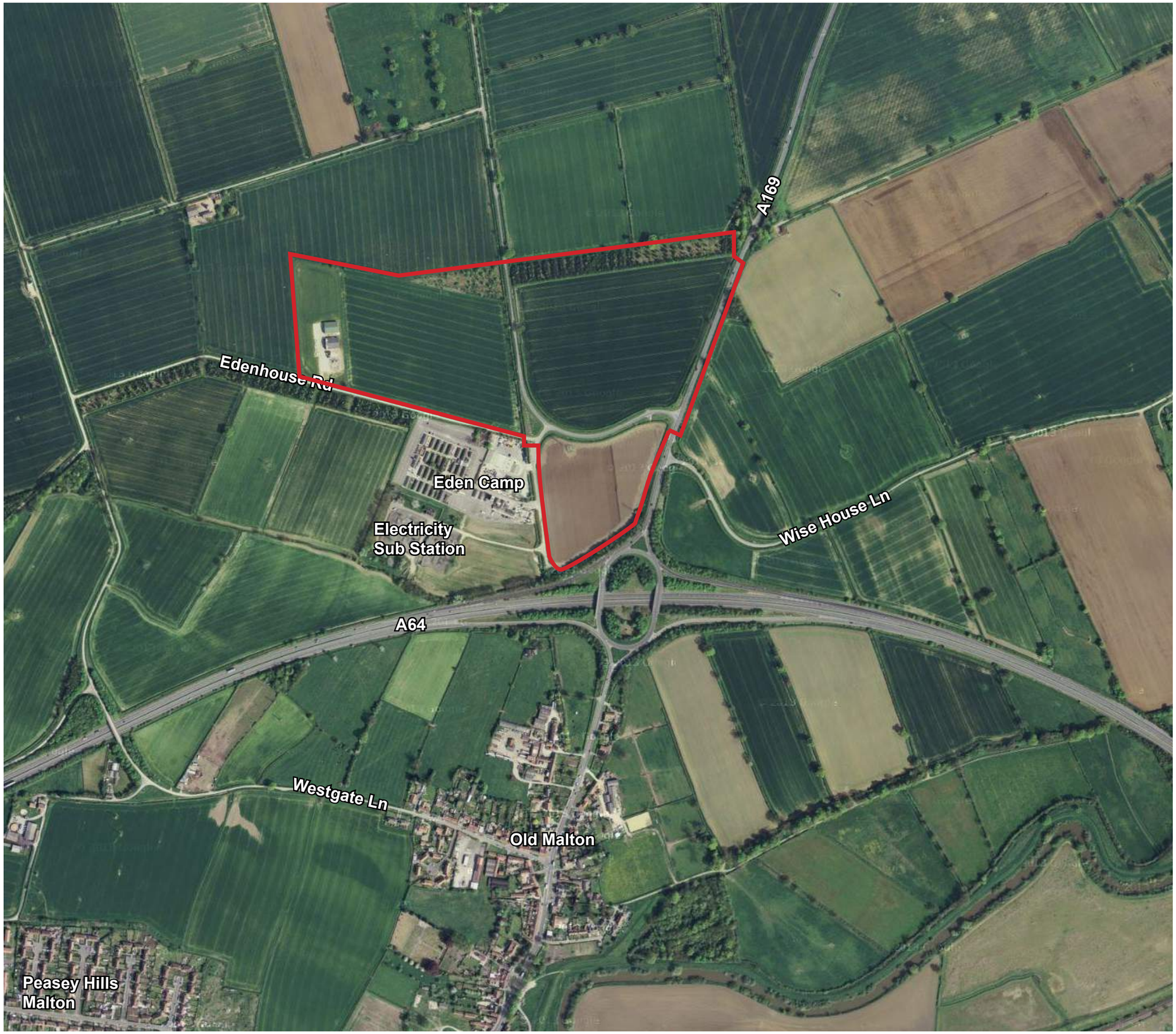
Landscape proposals for the site prepared by Smeeden Foreman Limited (refer to: LS02, Rev B), as included in the FEZ Design Guide aim to enhance site biodiversity with habitat creation proposals including hedgerow planting along the new access road leading off the A169 to Edenhouse Road, native woodland and shrub mixes to the site boundaries and wildflower seeding.

Please don't hesitate to contact me if you have any further queries.

Yours sincerely,

Katie Lawrence BSc MCIEEM
Associate Ecologist

APPENDIX 2



Site Boundary

client
Commercial Development Projects

project
Malton Food Enterprise Zone

drawing title
SITE LOCATION PLAN

N

scale	drawn	issue date
NTS @ A3	ELB	07 October 2016

drawing / figure number
Figure 1

rev
-

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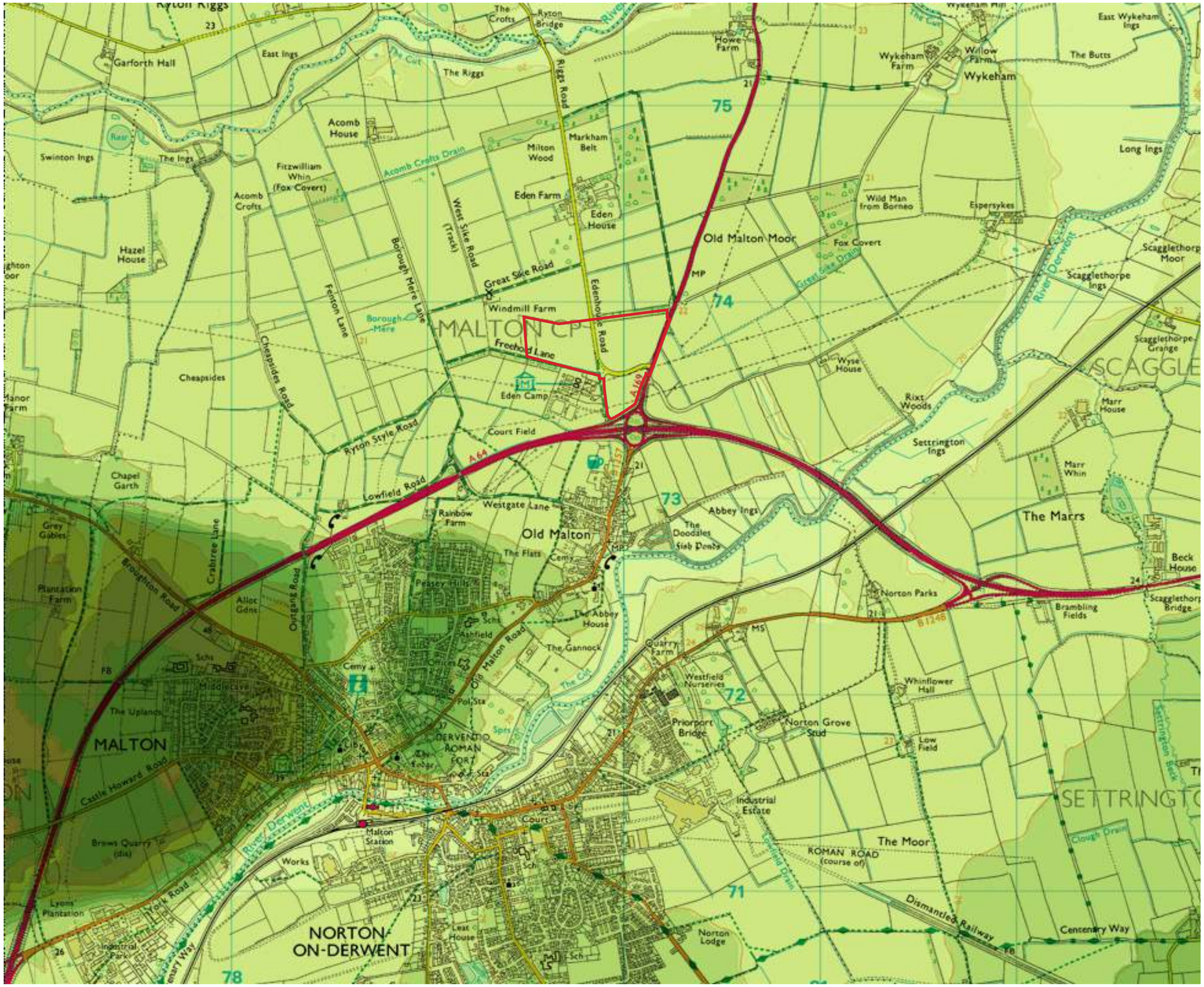
\\Fpcr-vm-04\projects\6000\6038\LANDS\Plans\Site 1 Eden Camp West\Malton Food Enterprise Zone\6038 Fig 1 Site Location.indd

APPENDIX 3



Site Boundary

60m - 65m AOD

55m - 60m AOD

50m - 55m AOD

45m - 50m AOD

40m - 45m AOD

35m - 40m AOD

30m - 35m AOD

25m - 30m AOD

20m - 25m AOD

15m - 20m AOD

client
Commercial Development Projects

project
Malton Food Enterprise Zone

drawing title
TOPOGRAPHY

N

scale
1:20,000 @ A3

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issue date
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Figure 2

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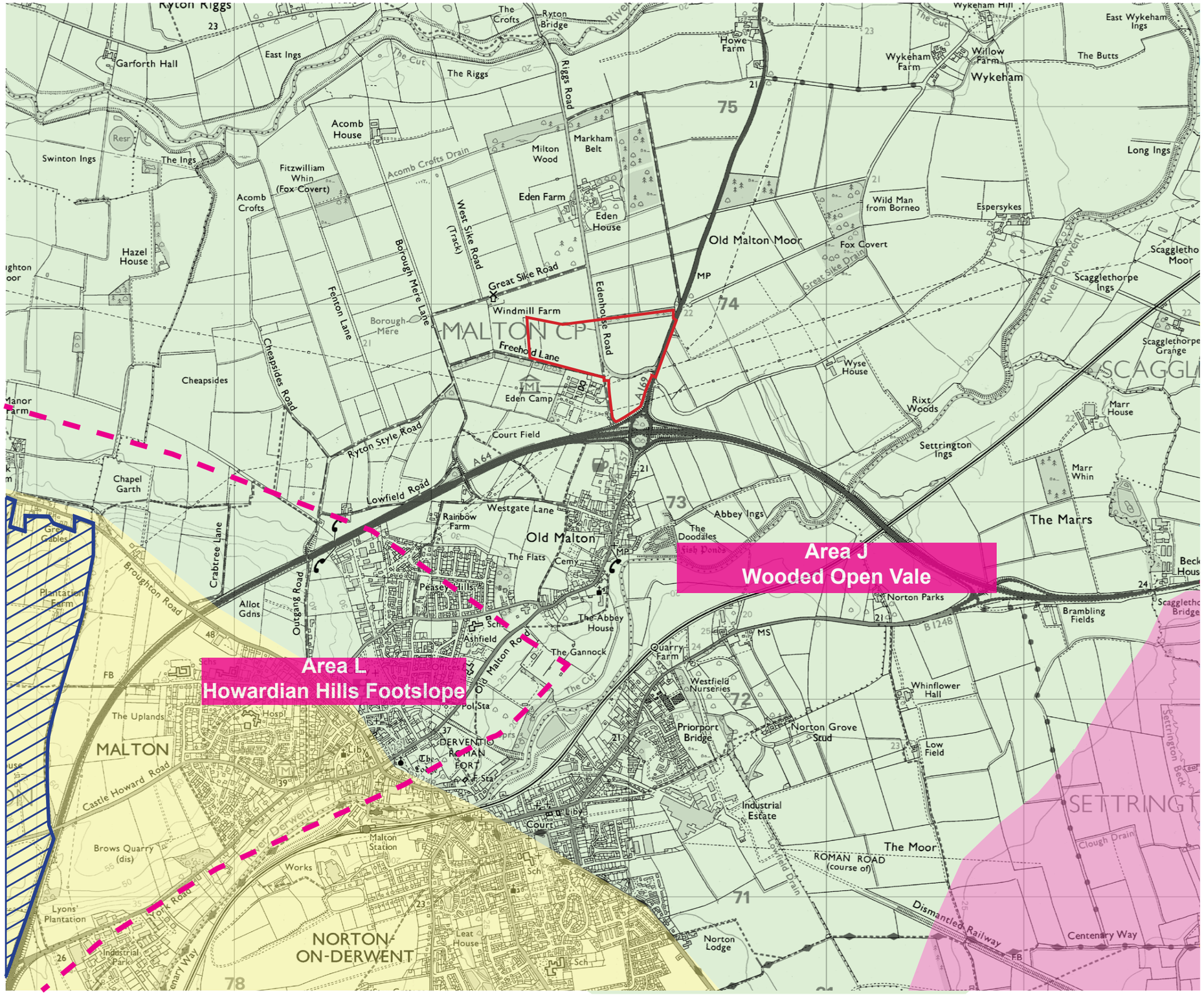
\\Fpcr-vm-04\projects\6000\6038\LANDS\Plans\Site 1 Eden Camp West\Malton Food Enterprise Zone\6038 Fig 2 Topography.indd

APPENDIX 4



Site Boundary

LCA 26 Vale of Pickering

LCA 27 Yorkshire Wolds

LCA 29 Howardian Hills

Landscape of Northern Rydale

Area J Wooded Open Vale

Area L Howardian Hills Footslope

Area of Outstanding Natural Beauty

client
Commercial Development Projects

project
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drawing title
LANDSCAPE CHARACTER

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Figure 3

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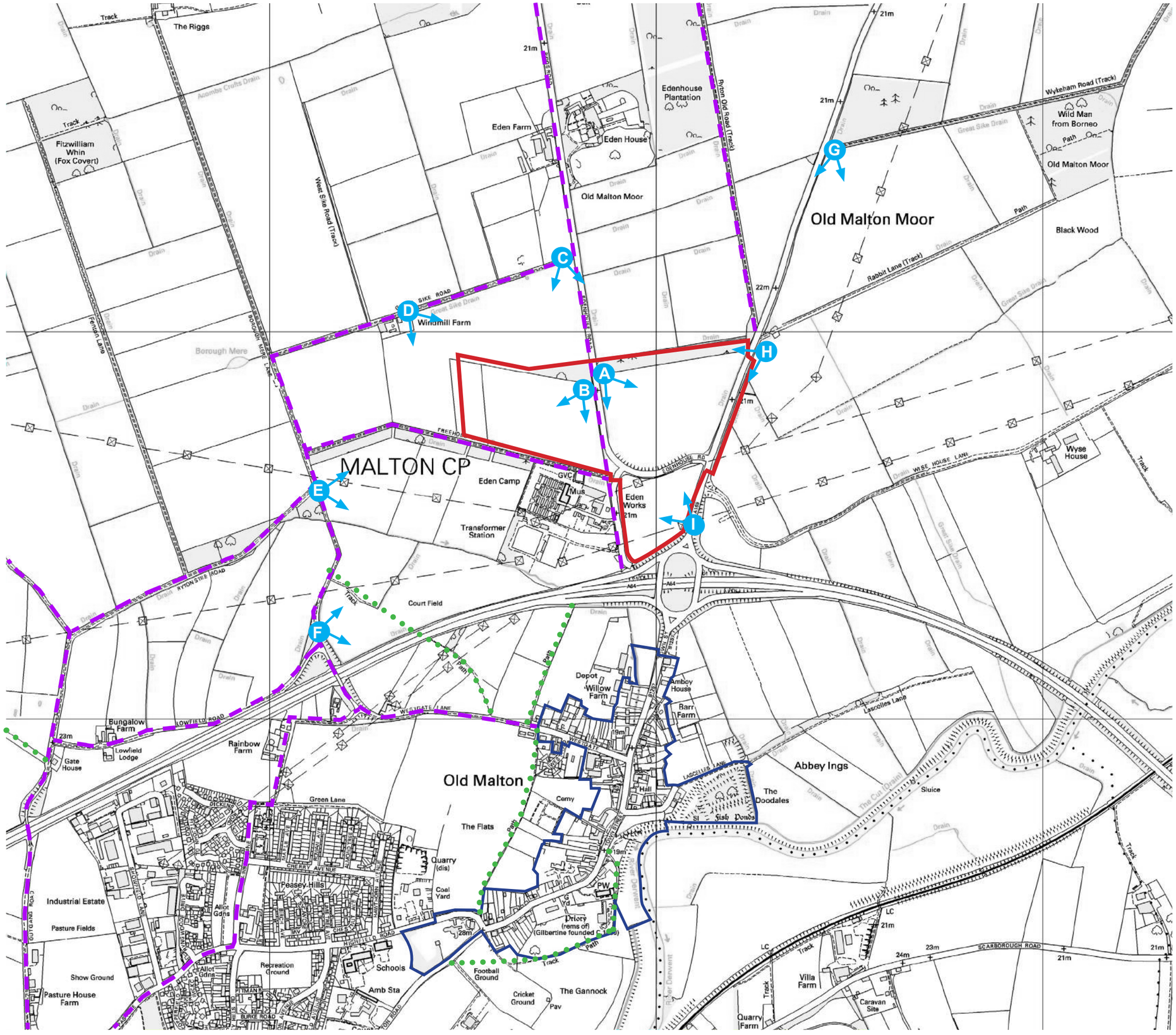
\\Fpcr-vm-04\projects\6000\6038\LANDS\Plans\Site 1 Eden Camp West\Malton Food Enterprise Zone\6038 Fig 3 Landscape Character.indd

APPENDIX 5



Site Boundary

Footpath

Bridleway

Conservation Areas

Viewpoint location

client
Commercial Development Projects

project
Malton Food Enterprise Zone

drawing title
LANDSCAPE AND VISUAL APPRAISAL

N

scale	drawn	issue date
1:10,000 @ A3	ELB	07 October 2016

drawing / figure number
Figure 4

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APPENDIX 6

Viewpoint A: View south east across the site from Edenhouse Road

Viewpoint A: Continued

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PHOTO VIEWPOINT A

scale
NTS @ A3

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Figure 5

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J:\\5998\LANDS\PLANS\PHOTO VIEWPOINTS

Viewpoint B: View south west across the site.

Viewpoint C: View south from Great Sike Road

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PHOTO VIEWPOINTS B & C

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Figure 6

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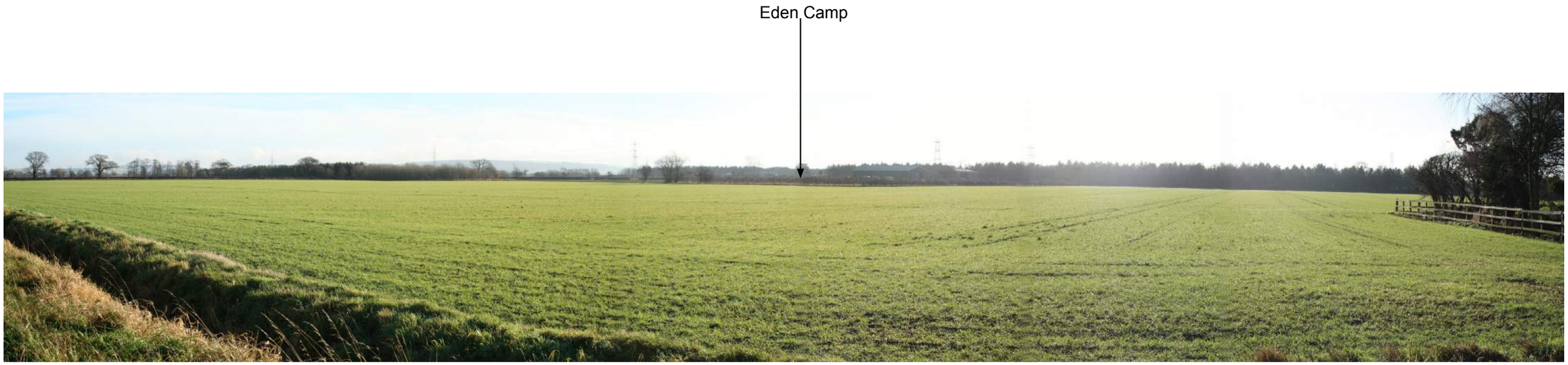
J:\\5998\LANDS\PLANS\PHOTO VIEWPOINTS



Viewpoint D: View south from Great Sike Road near Windmill Farm

Viewpoint E: View east from Borough Mere Lane

client
Commercial Development Projects

project
Malton Food Enterprise Zone

PHOTO VIEWPOINTS D & E

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Figure 7

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Viewpoint F: View east from Borough Mere Lane near the A64 overbridge

Viewpoint G: View south along the A169

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Malton Food Enterprise Zone

PHOTO VIEWPOINTS F & G

scale	drawn	issue date
NTS @ A3	ELB	March 2014

drawing / figure number
Figure 8

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Viewpoint H: View south from the A169

Viewpoint I: View north from the A64 overbridge / A169 junction

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PHOTO VIEWPOINTS H & I

scale
NTS @ A3

drawn
ELB

issue date
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drawing / figure number
Figure 9

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Viewpoint J: View north from footpath north of Westgate Old Malton

client
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project
Malton Food Enterprise Zone

PHOTO VIEWPOINT J

scale
NTS @ A3

drawn
ELB

issue date
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drawing / figure number
Figure 10

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APPENDIX 7

SCHEDULE OF RESIDUAL IMPACTS – CONSTRUCTION PHASE

ISSUE/SITE	DESCRIPTION OF IMPACT	SIGNIFICANCE OF RESIDUAL IMPACT
Socio Economic		
Site adjacent Eden Camp	• Creation of construction jobs throughout the construction phase • "Knock on" economic benefits for local suppliers and businesses	Local Minor Beneficial
Transport		
Site adjacent Eden Camp	• Construction traffic travelling to the proposed development site in private cars • HGV's delivering and removing materials and equipment	Negligible/ Local Minor Adverse (Minor/Moderate Adverse at County Level)
Air Quality		
Site adjacent Eden Camp	• Dust generated by construction activities • Air pollution from construction traffic	Insignificant Negligible/Minor Adverse
Landscape and Visual		
Site adjacent Eden Camp	• Change in landscape character • Visual impact on views etc.	Local Moderate/Substantial Adverse

SCHEDULE OF RESIDUAL IMPACTS – OPERATIONAL PHASE

ISSUE/SITE	DESCRIPTION OF IMPACT	SIGNIFICANCE OF RESIDUAL IMPACT
Socio Economic		
Site adjacent Eden Camp	• Job creation and multiplier effect on GDP • Support wage growth with increase in disposable income supporting social and community facilities. • Socio cultural benefit through support of agricultural industry in Ryedale.	Local/Regional Substantial Beneficial
Transport		
Site adjacent Eden Camp	• Non Car Accessibility • Road Safety • Highway/Junction Capacity	Local Minor Beneficial Negligible Negligible
Air Quality		
Site adjacent Eden Camp	• Effect on air quality as a result of increased traffic	Negligible/ Local Minor Adverse
Landscape and Visual		
Site adjacent Eden Camp	• Change in landscape character • Visual impact on views etc.	Local Minor Adverse Negligible/Local Minor Adverse