South West Milton Keynes

Environmental Statement

Non-Technical Summary

JANUARY 2015

SOUTH WEST MILTON KEYNES

ENVIRONMENTAL STATEMENT

VOLUME 3 – NON TECHNICAL SUMMARY

SOUTH WEST MILTON KEYNES CONSORTIUM

CONTENTS

1. INTRODUCTION

1.1 An Environmental Statement (ES) has been prepared on behalf of the South West Milton Keynes Consortium (SWMK Consortium) to support an outline planning application for a mixed use development (the "Proposed Development") at South West Milton Keynes (SWMK). This report provides a non-technical summary of the ES, including a summary of the proposed development, the likely significant environmental effects and the mitigation measures proposed. The purpose of the non-technical summary is to provide a summary of the Proposed Development in non-technical language so that it can be easily understood by members of the public and the decision makers.

1.2 The SWMK Consortium – the "Applicant" - comprises Hallam Land Management, William Davis Ltd, Taylor Wimpey, Connolly Homes and Bellcross Homes. The SWMK Consortium control land to the south west of Milton Keynes, south of the A421 and north of the line of the proposed Oxford to Cambridge railway line (hereafter referred to as the "Application Site"). The location and extent of the Application Site is shown on Drawing No. SWMK03-079-C in **Appendix 1**

1.3 The Proposed Development site is wholly located within the administrative boundary of Aylesbury Vale District Council (AVDC), but the principal access points to the A421 will be within the administrative boundary of Milton Keynes Council (MKC). The planning application has been submitted to both AVDC and MKC, so that each planning authority can determine the elements of the Proposed Development that fall within their respective administrative areas.

1.4 It is anticipated that construction of the Proposed Development will commence in 2016/17, subject to the grant of planning permission, and that the Proposed Development will be completed by 2023/24.

Environmental Impact Assessment

1.5 The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (the "EIA Regulations") set out the regulations on assessing the effects of certain projects on the environment. The aim of the EIA process is to ensure that when decision-makers decide whether to grant planning permission for a project, they do so in the full knowledge of the likely significant effects of that project on the environment. The likely significant environmental effects of the Proposed Development have been identified and assessed in the ES, for both the construction and operational phases. Where relevant, mitigation measures are proposed to prevent, reduce and offset significant adverse effects on the environment arising from the Proposed Development and these are described in respect of each environmental topic.

Development Parameters

1.6 It is neither feasible nor realistic for all aspects of a large scale development to be designed in detail at an early stage. The EIA Regulations require that an ES for an outline planning application provides a description of development that is sufficient to enable the likely significant effects to be identified. Therefore, Development Parameters have been identified

in this ES in order to fix those aspects of the Proposed Development which are capable of giving rise to significant environmental effects. The Development Parameters have been established and assessed so that appropriate planning conditions can be defined to provide limits and controls for future reserved matters applications. The Development Parameters to be defined by planning conditions include:

- the location and types of land use;
- the maximum quantum of floorspace for the proposed uses;
- the maximum heights of development;
- landscaping and open space; and
- highway access and pedestrian and cycle linkages.

ES Structure

1.7 The ES comprises three separate volumes, which are as follows:

- Volume 1 - Main Report: providing the full text of the ES in 18 Chapters;
- Volume 2 – Technical Appendices: comprising the technical and supporting documents referred to in the relevant chapters of the ES; and
- Volume 3 – Non-Technical Summary: providing a concise summary of the Proposed Development, its likely significant environmental effects and the measures proposed to reduce, offset or avoid these effects.

Other Documents

1.9 In addition to the ES, the planning application is supported by a number of other documents, which are as follows:

- Application Forms/Ownership Certificates
- Planning Statement
- Design & Access Statement
- Sustainability Statement
- Flood Risk Assessment
- Retail Assessment
- Employment Assessment
- Statement of Community Involvement
- Arboricultural Assessment
- Transport Assessment & Framework Travel Plan
- Energy Strategy
- S106 Heads of Terms
- Draft Construction Environmental Management Plan

ES Availability and Comments

1.10 The ES and the Technical Appendices can be purchased at a cost of £150 for printed copies, and £15 for a CD. All documents are available from:

Mark Hyde
Januarys
York House
7 Dukes Court
54-62 Newmarket Road
Cambridge CB5 8DZ

Telephone: 01223 326 825
E-mail: mjh@januarys.co.uk

1.11 The ES will also be available to view in the Planning Departments at AVDC and MKC, and on the planning applications database within the Councils' websites. All comments on the planning application should be sent to:

Head of Development Management
Planning Division
Aylesbury Vale District Council
The Gateway
Gatehouse Road
Aylesbury
HP19 8FF

Director of Planning & Transport
Department of Planning Services
Milton Keynes Council
PO Box 125
Civic Offices
1 Saxon Gate East
Milton Keynes
MK9 3ZL

2. APPLICATION SITE & PROJECT DESCRIPTION

Site Context

2.1 The Application Site straddles the boundary between the rural hinterland of Aylesbury Vale and the urban areas of Milton Keynes. To the north is the industrial area of Snelshall West and to the east is the established residential area of Far Bletchley. To the west and south of the Site is farmland and open countryside. The village of Newton Longville is located to the south of the Site.

2.2 The Application Site is located adjacent to Milton Keynes, which is a main centre in the region providing significant employment opportunities and containing a broad range of services and facilities. The Proposed Development includes walking, cycling and public transport infrastructure and facilities, which would connect to the existing networks in the surrounding area.

2.3 The surrounding area possesses an undulating land form characterised by a ridge running across the central length of the Site from east to west. The predominant topographic features are shallow ridges and valleys sloping away from this focal ridge line, which run broadly on a south west alignment.

2.4 The Site is well connected on a local, sub-regional and regional scale. The A421 immediately north of the Site enables connections to the established Milton Keynes grid road network also linking to the A5 and M1 which provide connections to the wider city and region respectively.

Application Site

2.5 The Application Site covers an area of 144.77 Ha and is located immediately to the west of Far Bletchley, at the south western edge of Milton Keynes. The boundaries of the Site are formed by the A421 (H8 Standing Way) and Buckingham Road (A4034) to the north, the disused former Oxford to Bletchley rail line to the south (due to be reopened as part of the East West Rail project), Whaddon Road to the west, and the existing residential area of Far Bletchley to the east. Weasel Lane – an existing bridleway and cycle route – cuts through the Site from Whaddon Road to Buckingham Road. There are other public rights of way across the Site, including the Milton Keynes Boundary Walk.

2.6 The Site currently comprises agricultural land. There are hedgerows and trees at some of the field boundaries. There are existing buildings on the Site, which are associated with the farm businesses and are in agricultural use.

2.7 An oil pipeline crosses the middle of the Site in a north south direction and a 10m wide exclusion zone for the pipeline is incorporated into the layout of the Proposed Development. There are high voltage overhead power lines crossing the north western part of the Site; the power lines will be placed underground as part of the Proposed Development. An intermediate pressure gas main passes through the eastern part of the Site in a north south direction; the gas main will fall within land set aside for the grid road reserve.

Sensitive Receptors

2.8 The likely significant effects on the potential receptors of the Proposed Development, both during construction and operation, have been considered in the various ES technical studies. The potentially sensitive receptors can be summarised as follows: neighbouring residential areas; heritage assets including conservation areas, listed buildings and areas of archaeological interest; agricultural land and farm businesses; protected ecological habitats and species; the surrounding landscape; the highway, cycle and footpath networks; and existing watercourses.

2.9 The effects of the Proposed Development on the identified sensitive receptors are assessed in the relevant chapters of this ES (Chapters 5 to 18) and the ES technical studies. For example, the significant effects on the sensitive ecological receptors are assessed in Chapter 7: Ecology and the various habitat and protected species surveys contained in Appendices 7.1 to 7.6.

Project Description

2.10 The full description of the Proposed Development for the purpose of the planning application is as follows:

Outline planning application with all matters reserved except for access for a mixed-use sustainable urban extension on 144.77 Ha of land to the south west of Milton Keynes, to provide for the following:

- *up to 1,855 mixed tenure dwellings (C3) on 54.16 Ha of land;*
- *an employment area (B1) on 2.07 Ha of land;*
- *a neighbourhood centre on 0.67 Ha of land accommodating retail (A1/A2/A3/A4/A5), community (D1/D2) and residential (C3) uses;*
- *provision of a primary school on 3.0 Ha of land;*
- *provision of a secondary school on 5.2 Ha of land;*
- *allotment space on 1.22 Ha of land;*
- *ground remodelling;*
- *55.75 Ha of multi-functional green open space including: parkland, sports and recreational facilities with pavilion/changing facilities; play areas, wildlife areas, a range of strategic open spaces including a community orchard and new landscaping;*
- *a Sustainable Drainage Scheme including 5.05 Ha of land for surface water attenuation measures;*
- *associated infrastructure including new junctions to the A421, Whaddon Road and Buckingham Road, primary streets, residential streets, pedestrian footpaths and cycle routes, foul water pumping stations and statutory undertakers equipment;*
- *a Grid Road Reserve of 7.24 Ha;*
- *highway improvements on 5.56 Ha;*
- *public transport infrastructure, car and cycle parking for all uses; and*
- *undergrounding of 132Kv overhead power lines.*

Overall Development Concept

2.11 The Proposed Development would form part of Milton Keynes. It would in effect be an urban extension, which has been designed to be a standalone new neighbourhood, following the place-shaping principles identified in Policy CS6 of the Milton Keynes Core Strategy. The parameters of the Proposed Development are shown on the Parameter Plan (Drawing No. SWMK03-074-G), which is contained in **Appendix 2.**

Residential Development

2.12 Up to 1,855 mixed tenure dwellings, including a range of affordable housing types to be provided on site. Up to 30% of the overall housing target will be affordable, which would equate to up to 557 affordable dwellings.

Density Parameters

2.13 The Proposed Development includes a variety of residential densities. The average density is 35 dwellings per hectare (dph), which is a typical for other Milton Keynes expansion areas. Lower densities are proposed at the more sensitive boundaries, and higher densities close to the primary routes and at the neighbourhood centre. The distribution of densities across the site is as follows:

- 20-25 dph – southern and eastern edges in more visually sensitive locations
- 25-35 dph – within locations not visible from public vantage points
- 35-40 dph – edge of site adjacent to primary routes
- 40-45 dph – close to employment and neighbourhood centre

Height Parameters

2.14 The maximum building heights within the Proposed Development for the different uses are as follows:

- Residential: – 2 to 3 storeys up to 11m, with three storeys along primary routes and at key entrances or intersections in order to provide landmark or gateway buildings.
- Employment Area: – up to 12m, which is similar to other employment sites opposite and adjacent to A421 and these uses need visibility.
- Neighbourhood Centre – up to 13m, with retail and community uses at ground floor and residential above.
- Primary School – up to 10m and 2 storeys for efficient use of site.
- Secondary School – up to 12m.

Access

2.15 The Proposed Development includes improvements to the existing highway network, comprising the following: new highways access points to Whaddon Road, Buckingham Road, and a left in/left out junction onto the A421; junction improvements to Tattenhoe Roundabout and Bottle Dump Roundabout close to Central Milton Keynes and on the A421 (including revised access arrangements to the Pearce Recycling site); traffic calming in adjacent villages such as Newton Longville to discourage rat-running and high-speed traffic;

and, a grid road reserve for the A4146 and A421 link road. Weasel Lane, Sustrans Route 51, and the Milton Keynes Boundary Walk cut through the Application Site, and will be retained and incorporated into the Proposed Development. The Proposed Development includes walking, cycling and public transport infrastructure and facilities, which would connect to the existing networks in the surrounding area thus providing residents with the opportunity to travel by non-car modes of transport.

Open Space and Green Infrastructure

2.16 The Proposed Development includes open space and recreation facilities within the site, including a local park and district park, formal sports pitches, tennis courts and a Multi-Use Games Area (MUGA), a skateboard park, children's play areas comprising two Neighbourhood Equipped Area of Play (NEAP) and eight Local Equipped Area of Play (LEAP), and allotments. These facilities are located where they are easily accessible to residents within the Proposed Development and also from neighbouring areas.

Drainage

2.17 The majority of the site lies within Flood Zone 1 and therefore is at low risk of flooding. The north western corner of the site is within Flood Zone 3 and as such is at high risk of flooding. However the Environment Agency has no records of flooding at the site. All buildings will be located within Flood Zone 1. The Proposed Development will include sustainable drainage systems comprising green roofs, rainwater harvesting and permeable paving, and attenuation basins will be included to attenuate surface water run-off to green field rates. The Proposed Development incorporates drainage infrastructure, foul water pumping stations and statutory undertakers' equipment.

Waste Management

2.18 The Proposed Development would generate construction, household, commercial, and organic waste. The appointed contractor will prepare a voluntary Site Waste Management Plan (SWMP). A separate Construction & Environmental Management Plan will be prepared to deal with dust, noise, health and safety during the construction phase. The SWMP will include measures to minimise the amount of waste generated and disposed of during the site clearance and construction phase of the Proposed Development. The Proposed Development will include both internal and external waste and recycling storage facilities, and exterior storage space will be provided for home composting and community composting facilities may also be an option. The Proposed Development will include Bring Sites within publicly accessible areas such as supermarkets and public car parks to provide additional recycling opportunities.

3. POLICY CONTEXT & ALTERNATIVES

Introduction

3.1 Schedule 4 of the EIA Regulations requires an ES to provide:

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

3.2 The planning background to development in the SWMK Area – including the Application Site - provides the context for this planning application. The 'SWMK Area' refers to the broad area on the south western edge of the urban area of Milton Keynes, between the A421 to the north and the disused former Oxford to Bletchley rail line to the south. The identification of a potential urban extension area to the south west of Milton Keynes emerged from a series of studies over the last twenty two years. The SWMK Area has been considered at a strategic level through the former Milton Keynes South Midlands Sub Regional Strategy, the South East Plan, the Vale of Aylesbury Proposed Submission Core Strategy and the Consultation Draft Salden Chase Masterplan & Delivery SPD processes. In all cases, the SWMK Area has been assessed as a suitable and sustainable location for development. The Application Site has been comprehensively considered for mixed use development at a strategic level, and it has been compared with realistic alternatives during that process. Alternative site layouts have been considered for the Proposed Development, and the design has evolved from on-site constraints and as a result of feedback from consultation.

Consideration of Alternative Sites

3.3 Alternative locations for an urban extension to the south west of Milton Keynes have been considered and assessed in two documents: Milton Keynes Growth Area Study - Roger Tym & Partners (May 2003); and, Draft SPD for the Masterplanning & Delivery North East Aylesbury Vale SDA (January 2010). The outcome of those assessments demonstrates that the Application Site has emerged as the most suitable location for the Proposed Development.

<u>Milton Keynes Growth Area Study - Roger Tym & Partners (May 2003)</u>

3.4 The Milton Keynes Growth Area Study was prepared to inform the Examination in Public of the Draft Milton Keynes & South Midlands Sub-Regional Strategy. The Study considered and assessed a wide range of options for urban extensions on the periphery of Milton Keynes. The assessment process was undertaken in three stages: Stage 1 assessed broad locations for growth; Stage 2 examined a long list of land parcels; and, Stage 3 assessed the preferred scenario. At Stage 1 a broad area at South West of Bletchley (including land in the SWMK Area) was assessed. At Stage 2 land at South West of Bletchley was divided into 10 potential land parcels. The Application Site falls within Parcels MK3a and MK4. The land parcels were assessed against a series of criteria, including landscape, natural habitats, cultural heritage natural resources, flooding, noise, accessibility, and infrastructure. The Stage 2 assessment process concluded that there were no major environmental or natural resource constraints to Parcels MK3a and MK4 and that they were both well located in terms of access to existing roads, the proposed southern bypass and the East-West rail corridor. Stage 3 recommended

that Parcels MK3a and MK4 should be identified as development areas for the period to 2016.

Draft SPD for the Masterplanning & Delivery North East Aylesbury Vale SDA

3.5 The Draft SPD for the Masterplanning & Delivery North East Aylesbury Vale SDA sought to deliver Policy CS4 of the Draft Core Strategy, which proposed an urban extension to Milton Keynes. In March 2009 AVDC prepared a Core Strategy Evidence Paper which considered the merits of three potential areas to accommodate the urban extension: Site A - North of the A421, Site B - Salden Chase and Site C -West of Newton Leys. The Application Site falls within the eastern part of Site B.

3.6 Section 7 (Conclusions from the Evidence Paper), compared the three sites against the place-shaping principles and the outcome of the SA results. Site B was selected as the preferred location for the strategic development area at SWMK, based on its sustainability credentials. The outcome of the assessment of potential sites is summarised in Paragraphs 7.2 and 7.3 of the Evidence Paper, which state:

> "*It is considered that the evaluation confirms the initial high-level assessment against the draft place-shaping principles set out in Section 5 of this paper, and further evaluation against other potential constraints criteria support the conclusion that Site B – Salden Chase – is the most appropriate location for the North-East Aylesbury Vale SDA. A Land Suitability Assessment undertaken for MK2031 identified it as the least constrained area, and it particularly has potential to make an important contribution to the Milton Keynes linear park system and the achievement of the North-East Aylesbury Vale SDA transport strategy.*
>
> *A Sustainability Appraisal (SA) of the three sites has also been undertaken. This evaluates the three sites (Site A, Site B and Site C) against the 17 SA objectives; these include delivery of housing, impact on climate change, mitigation of flooding and provision of business and employment. The SA scores the sites against the objectives ranging from a major negative impact to a minor negative impact. As can be seen in the below summary table Site B scores the best overall with the least number of major negative impacts and the highest number of positive impacts (both major and minor).*"

Consideration of Alternative Site Layouts

3.7 The process to establish the design and layout of the Proposed Development is described in detail in Section 4 of the Design & Access Statement. The design and layout evolved from an iterative design process alongside an appraisal of the physical characteristics of the site, site constraints and an extensive series of workshops and consultations.

3.8 The site analysis demonstrates that the characteristics of the surrounding area, the ridge line, the topography, and the land form influenced the design of the Proposed Development. There are existing public rights of way and a bridleway/cycle route through the site, and there is an established road network in the surrounding area, and the Proposed Development must connect to these existing links. The site contains existing landscape,

ecological habitats, and archaeological features which would be retained within the Proposed Development. The site contains a variety of utilities infrastructure. Exclusion zones are required for the oil pipeline and intermediate pressure gas main, and these areas are kept free of development within green infrastructure and highway corridors. The high voltage overhead power lines which cross the site can be placed underground as part of the Proposed Development. The proximity of the rail line at the southern boundary requires a buffer to be retained and careful design in order to avoid any adverse noise or visual impacts.

3.9 In addition to the existing physical characteristics and the various constraints and opportunities that the site presents, the development concept has also been influenced by the intrinsic functional character and structure of Milton Keynes. The Proposed Development would form part of Milton Keynes. It would in effect be an urban extension which includes some of the characteristic features of the City, such as self-contained residential neighbourhoods surrounded by substantial areas of open space and strategic landscaping, and it would connect to the existing grid road network. It has been designed to be a standalone new neighbourhood which follows the place-shaping principles identified in Policy CS6 of the Milton Keynes Core Strategy. This approach was discussed with both AVDC and MK during design process.

3.10 The final illustrative masterplan for the site is the result of a series of pre-application discussions and workshops which have considered alternative designs and layouts for the Proposed Development. In summary, four versions of the illustrative masterplan have been prepared; a first draft in June 2012, revised drafts in April 2013 and September 2013, and the final version in September 2014. The main amendments that have occurred during the illustrative masterplan process have been the relocation of the employment area, neighbourhood centre, and primary school, the addition of a secondary school, and the location and extent of the green infrastructure and open space areas. The amendments were made as a result of consultation feedback from the pre-application discussions and the outcome of the workshops.

4. ENVIRONMENTAL IMPACT ASSESSMENT METHODOLOGY

Introduction

4.1 This chapter explains the EIA methodology and describes the ES structure and content. It provides details of the process of identifying and assessing the likely significant environmental effects of the Proposed Development.

General Approach

4.2 The ES has been prepared in accordance with the EIA Regulations which implement European Council Directive No. 85/337/EEC as amended by European Council Directive No. 97/11/EC. The practice guidance on EIA, which has been followed for this ES, includes the following documents:

- National Planning Practice Guidance (NPPG) (published 6th March 2014); and,
- Guidelines for Environmental Impact Assessment, Institute of Environmental Management and Assessment (IEMA) 2004.

4.3 ID: 4-003-20140306 of the NPPG provides a summary of the stages of preparing an EIA, including the screening and scoping stages and preparing the ES.

Scoping

4.4 The purpose of requesting a Scoping Opinion is to obtain a formal opinion from the Local Planning Authority on what should be included in the ES. It is an important tool for identifying the likely significant effects of a proposed development. In January 2013 a formal EIA Scoping Opinion request was submitted to AVDC. The Scoping Report concluded that the following topics should be considered:

- Archaeology and Cultural Heritage;
- Agricultural Land;
- Ecology;
- Landscape Character and Visual Resources;
- Hydrology and Drainage;
- Traffic, Movement and Access;
- Air Quality;
- Noise;
- Socio-Economic Issues;
- Services and Utilities; and
- Interactive and Cumulative Impacts.

4.5 On 16th September 2013, AVDC adopted a scoping opinion which confirmed that the matters identified in the Scoping Report were those that should be covered in the ES. The SWMK Consortium subsequently decided to address Waste and Contaminated Land matters in addition to the topics mentioned above.

Assessment Methodology

4.6 The EIA Regulations require that that an ES should identify, describe and assess the likely significant effects of a development on the environment. Therefore, this ES identifies, describes and assesses the likely significant effects of the Proposed Development during both the construction phase and once completed.

4.7 The environmental effects have been evaluated against definitive standards and legislation where available. Where it has not been possible to quantify effects, qualitative assessments have been carried out, based on available knowledge and professional judgement. Where uncertainty exists, this has been noted in the relevant assessment chapter.

Determining Significance

4.8 The significance of effects reflects the relationship between two factors:

- The actual change taking place to the environment i.e. the magnitude or severity of an impact; and
- The sensitivity, importance or value of the affected resource or receptor.

4.9 Significance will generally be classified as major, moderate or minor. Effects of 'major' or 'moderate' significance are considered to equate to significant effects in the context of the EIA Regulations.

4.10 The effects are also described as:

- Adverse – detrimental or negative effects to an environmental resource or receptor; or
- Beneficial – advantageous or positive effect to an environmental resource or receptor.

4.11 Each of the technical chapters or accompanying technical appendices provides the criteria, including sources and justifications, for quantifying the different levels of effect. Where possible, this has been based upon quantitative and accepted criteria, together with the use of value judgements and expert interpretations to establish the extent to which an effect is likely to be environmentally significant.

Assumptions and Limitations

4.12 The assumptions that have been made when preparing the ES are as follows:

- All of the principal existing land uses adjoining the Application Site remain;
- Construction will commence in 2016/17 (subject to gaining planning permission) and will be completed in by 2023/24;
- The Proposed Development will be constructed in accordance with the Development Parameters;
- Conditions will be attached to the planning permission that will control disturbance during the construction works;
- Necessary off-site services infrastructure for the Proposed Development will be provided by statutory undertakers; and

- The planning permission, when granted, will contain conditions that will be sufficient to limit the Proposed Development to that which has been assessed.

5. ARCHAEOLOGY & CULTURAL HERITAGE

5.1 An assessment of the likely significant effects of the Proposed Development on heritage assets was undertaken as part of the EIA. The potential impacts of the proposed development have been considered utilising existing information contained in the Buckinghamshire and Milton Keynes Historic Environment Records, Newton Longville Conservation Area Review, the Buckinghamshire & Milton Keynes Historic Landscape Characterisation Report, www.magic.co.uk. A geophysical survey and archaeological evaluation has also been undertaken, the scope of which was agreed with Buckinghamshire County Council.

5.2 There are no scheduled ancient monuments, listed buildings, conservation areas, registered parks and gardens, battlefield sites or World Heritage Sites within the Application Site. Therefore, there will be no direct impacts on designated historic assets.

5.3 The Proposed Development lies beyond the setting of Lower Salden Farmhouse (Grade II) which lies 1.5km to the south west of the site. The Proposed Development will have no effect on the setting or significance of the house. The Newton Longville Conservation Area is entirely surrounded by late 20th century development. The Proposed Development will be visible in long distance views from Whaddon Road within the Conservation Area. The Proposed Development will not be visible from elsewhere within the Conservation Area. Therefore, there will be minor magnitude of change within the periphery of the setting of the Conservation Area which will not result in any change to the significance of the Conservation Area itself.

5.4 There are four areas of late prehistoric/Roman settlement within the Application Site, which were identified during the geophysical survey and evaluation trenching. These are classified as non-designated archaeological remains. The Proposed Development has been designed so that all four settlement areas will be preserved within open space and school playing fields. Consequently, the Proposed Development will have a negligible impact on non-designated archaeological heritage assets. Furthermore, an archaeological watching brief will be implemented on the areas of the development closest to the four areas of prehistoric/Roman settlement remains so as to enable any peripheral remains that may be associated with these settlements to be recorded.

5.5 The historic landscape of the site is essentially that of 19th century parliamentary enclosure which has subsequently suffered from significant hedgerow loss. This is the dominant historic landscape character of Aylesbury Vale and therefore when viewed in the wider district context, the Proposed Development will have a negligible impact upon this landscape type.

5.6 The Proposed Development will have a minor impact on the historic environment.

6. AGRICULTURAL LAND

6.1 The Application Site comprises 122 Ha of Grade 3b agricultural land and 16 Ha of Grade 3a agricultural land. The site is predominately in arable use with a small area of permanent pasture land. The site is occupied by four farm businesses.

6.2 The Proposed Development involves the development of less than 20 hectares of "best and most versatile agricultural land". The magnitude of the impact of the loss of this quantity of BMV land is minor. The significance of the impact is moderate to minor adverse because the Proposed Development would require significant changes in the day-to-day management of the existing agricultural businesses or require significant land take. The moderate adverse effects on agricultural land cannot adequately be addressed through mitigation measures and as such a significant environmental effect on this topic would remain as a result of the Proposed Development.

6.3 The land is farmed by four separate businesses. The magnitude of change on three of the businesses is slight negative, with the remaining business only being negligibly affected. The significance of the impact on farm businesses is minor adverse. There is no need for any mitigation in relation to the occupying farming businesses. Two of the businesses will remain operating off-site as viable businesses and the other two businesses only operate on a part-time basis. The minor adverse effects on the existing farm businesses are a consequence of development on undeveloped land which cannot be addressed through mitigation measures.

7. ECOLOGY

7.1 The ecological assessment comprises an assessment of desk study information and habitat and species surveys at the Application Site and surrounding area. The search area for biodiversity information was determined by the significance of sites and species and potential zones of influence i.e. 10km from a site of international importance, 2km from a site of national or regional importance, and 1km for species records. An Ecological Appraisal was undertaken, followed by detailed species surveys and assessments for Great Crested Newts, Bats, Reptiles, Birds and Badgers. In addition, relevant ecological information was collected from a range of organisations including Multi Agency Geographic Information for the Countryside (MAGIC) website, Buckinghamshire and Milton Keynes Environmental Records Centre (BMERC), Buckinghamshire Badger Group (BBG) and North Buckinghamshire Bat Group (NBBG).

Impact Assessment

7.2 The impacts of the Proposed Development was predicted, taking into account different stages and activities within the development process. The significance of likely effects was determined by identifying those receptors likely to be affected. The features were evaluated to identify the important ones, i.e. those which, if their level of value reduced, national or local policies (or in some cases legislation) would be triggered. The nature of the individual and combined impacts were characterised on each important feature, to determine the longevity, reversibility and consequences for the feature in terms of ecological structure and function. Where it was concluded that an effect would be likely to reduce the value given to an important feature, it was described as significant. Therefore, the ecological significance of these impacts has then been assessed based upon the likely effect on the integrity or conservation status of each feature. The assessment of impact significance is undertaken both to identify the need for mitigation and also to assess residual impacts.

Significance Criteria

7.3 The ecological significance of the impacts of the Proposed Development was assessed, based upon the likely effect on the integrity or conservation status of the feature. The assessment of impact significance is completed both to identify the need for mitigation and also to assess residual impacts.

7.4 The significance of likely effects was determined by:

- identifying those ecological features likely to be affected;
- evaluating them to identify the important ones (i.e. those which, if their level of value reduced, national or local policies (or in some cases legislation) would be triggered); and
- characterising the nature of the individual and combined impacts on each important feature, to determine longevity, reversibility and consequences for the feature in terms of ecological structure and function.

7.5 Where it was concluded that an effect would be likely to reduce the value given to an important feature, it was described as significant.

Mitigation and Enhancement

7.6 For the purpose of the Ecological Assessment impacts on Valued Ecological Receptors are assessed without mitigation in place.

7.7 Mitigation or compensation is given for significant impacts on features of nature conservation importance. In line with current CIEEM guidelines the mitigation for the Project should aim to:

- Avoid significant adverse ecological impacts;
- Reduce adverse impacts that cannot be avoided; and
- Compensate for any residual significant ecological impacts.

7.8 Priority is given to avoidance of impacts, where possible, through scheme design and/or regulation of the Project through aspects such as timing, storage of materials etc. Where this is not possible opportunities are sought to reduce the impacts as much as is feasible. If significant impacts cannot be mitigated (i.e. avoided through an alteration in layout, programme etc), then compensation (i.e. replacement of habitat to be lost/affected) that is considered appropriate minimise adverse impacts of the Project should be outlined.

Impact Assessment

7.9 The dominant habitat types identified within the Application Site were considered to be of negligible conservation value. Areas of Local nature conservation value included woodland, hedgerows and mature trees. These areas occupy a small proportion of the Application Site and will be largely left in situ.

7.10 Protected and otherwise notable fauna known to use the Application Site include:

- Badgers, centred on a main sett adjacent the south boundary;
- Common lizard and grass snake; a small population adjacent the north Site boundary and centrally along Weasel Lane where limited suitable habitat exists;
- Seven species of bat, that utilise the established hedgerows and woodland for foraging and commuting routes; and
- A range of common and widespread but nevertheless declining breeding and overwintering birds.

7.11 Green infrastructure proposals include a significant area of open space throughout the Site including hedgerow buffers that provide connectivity through the Proposed Development. The green infrastructure proposals have been designed to complement and augment the retained habitats within the Application Site that are of greatest nature conservation value.

7.12 A wide range of new habitats will be provided including native broadleaved woodland, species-rich grassland and wetland. A Biodiversity Management Plan will also be prepared, balancing habitat establishment with recreational requirements. Although some limited

disruption to wildlife is unavoidable, the scale and diversity of the green infrastructure proposals will provide comprehensive mitigation, compensation and substantial enhancement of the Site compensating for any initial losses.

7.13 The provision of green infrastructure habitats and appropriate mitigation measures necessary to prevent direct impacts are considered to largely avoid significant impacts on protected and notable species, although it is accepted that some short-term disruption will occur, leading to minor effects overall.

7.14 The significant effects on badger foraging habitat during the construction phase would remain, although the creation of new woodland, hedgerows, species-rich grassland and wetland as part of the Proposed Development would reduce the adverse effects.

7.15 There would be some loss of ecological habitats as a result of the Proposed Development, which would be mitigated by habitat enhancement measures e.g. new woodland, hedgerows, species-rich grassland and wetland which would be delivered through a Biodiversity Management Plan. There would be no moderate adverse effects on ecology after the proposed mitigation measures have been implemented.

8. DRAINAGE

8.1 An assessment of the likely significant effects of the Proposed Development on drainage was undertaken as part of the EIA. The assessment incorporates the findings of the Flood Risk Assessment (FRA). The FRA sets out the drainage strategy for the Application Site.

8.2 The majority of the Application Site is located within Flood Zone 1 of the EA Flood Map and therefore is at low risk of flooding. The north western corner of the site is within Flood Zone 3 and as such is at high risk of flooding. However the Environment Agency has no records of flooding on any part of the site. All buildings within the Proposed Development will be located within Flood Zone 1. The Proposed Development will include sustainable drainage systems (SUDS) comprising green roofs, rainwater harvesting and permeable paving, and swales and attenuation basins will be included to attenuate surface water run-off to green field rates. During the construction phase, temporary attenuation ponds will be provided to reduce the surface water runoff at the Application Site.

8.3 The Proposed Development will not result in any increase in flood risk at the Application Site. The attenuation will be designed to control the 1 in 100 year event, plus an allowance of 30% for climate change.

8.4 Oil interceptor devices will be used during the construction phase of the Proposed Development to reduce the risk of contamination by vehicles or from liquids and chemicals stored at the Application Site. The swales and attenuation ponds will reduce the risk of pollution from storm water from the Proposed Development, and therefore there will be no adverse impact on the drainage regime at the Application Site.

9. LANDSCAPE & VISUAL

9.1 Landscape effects are the changes that occur to the character of the landscape as a result of the Proposed Development. The visual effects are the changes that occur to the view of the landscape for receptors such as residents, visitors and those that pass the site.

Landscape Effects

9.2 The character analysis identified that the majority of the study area sits within an area of low sensitivity landscape character area (Newton Longville-Stoke Hammond Claylands). The development will physically alter the landscape character of a small part of this character area. Agricultural land will be changed to a high quality mixed used development and an extensive new green infrastructure network. The development abuts the existing urban edge of Milton Keynes and Bletchley and would extend the existing settlement further south.

9.3 The development of the Application Site has the potential to deliver benefits including softening of the existing suburban edge and improved landscape character through the management of open space and planting of small blocks of woodland and individual trees, improving the access and recreation opportunities to the local community.

9.4 Whilst the existing sense of openness will inevitably be lost, green infrastructure will break up the massing of the development, and the townscape quality of the Proposed Development will be high, with a strong hierarchy of streets and open spaces. Existing landscape features, such as Weasel Lane, will be retained within the Proposed Development. The proposed local footpath and cycleway network will provide enhanced recreational opportunities throughout the Proposed Development.

9.5 The scale of change on the Newton Longville-Stoke Hammond Claylands as a result of the Proposed Development is medium/low during construction and on completion, reducing to low over time, as the planting matures. The proposals will therefore have a moderate/minor adverse effect on this landscape character in the short term. However, within 15 years and as the new GI matures these effects are likely to reduce be minor adverse.

9.6 The site lies adjacent to a character area of high sensitivity - part of the former hunting chase of Whaddon Chase. The wooded character of the overall area is distinctive. Woodland blocks that continue this character will be repeated around the western and southern boundaries of the site. These green spaces will help to minimise adverse effects on landscape character to minor adverse in the short term and negligible in the longer term.

9.7 The sensitivity of the site is considered to be medium/low and of local value. The scale of the change would be medium during construction and on completion, reducing to medium/low in the longer term. The proposals are assessed to have a moderate adverse effect in the short term and moderate/minor adverse effect on the landscape character of the site context in the longer term.

9.8 On the Application Site itself the changes would inevitably cause greater landscape effects. The site itself is considered to be of medium/low sensitivity and local value. The scale of change would be high during construction, high/medium at completion and medium at year 15. The landscape effects of the Proposed Development for the Application Site are considered to be major adverse during construction, major/moderate adverse at completion and moderate adverse at Year 15.

Visual Effects

9.9 The visual analysis showed that development will be initially visible from the countryside to the south due to the south facing contours of the site below Weasel Lane. However, there are few receptors within this area. Furthermore, there are significant opportunities to enhance the landscaped edge of Far Bletchley, which is visible from this area. The elevated tree lined ridgeline of Weasel Lane can also be reinforced and protected. The proposals also break up the mass of the development with belts of trees and green infrastructure corridors, which reduce the visual effect of the built form.

9.10 In general, the roads that will experience the greatest effects are those that are adjacent to the site. The scale of change from close up views from Whaddon Road (at the rail way bridge) will be high/medium. The sensitivity of the users of this road is medium and although the sense of openness will be lost and immediate effects are assessed as moderate/major adverse, after 15 years, when the high quality townscape and green infrastructure matures, effects will be reduced to moderate adverse. Effects on gateway views when travelling from the west along the A421 of the larger Bottledump roundabout will be mitigated by substantial new planting and new balancing ponds with permanent water which will eventually create a new sense of place and arrival to the site. Effects on road users near the Bottledump roundabout are assessed to be moderate adverse in the short term and minor adverse in the longer term.

9.11 There are relatively few residential receptors with views of the Application Site. These are limited to the edge of Far Bletchley, a small number of properties in the hamlet of Chase Farm, 'The Leys' farmhouse on the east of Whaddon Road, 'Bletchley Leys' farmhouse on the west of the same road, and some longer distance views from Newton Longville. Although views from housing on the edge of the existing settlements will inevitably change, new structure planting will soften views towards the development. The Leys farmhouse will initially have major adverse effects during construction and at the start of the operational phase, but following the implementation of landscape mitigation measures the effects would reduce to moderate adverse as the proposed green infrastructure matures. The properties on the edge of Far Bletchley with back gardens backing on to the site will initially experience major/moderate adverse effects during construction and at the start of the operational phases, but in the long term the effects are assessed as moderate adverse once landscape mitigation measures have been implemented. Some houses on the edge of Newton Longville will see the development on the south facing slopes of the site. Visual effects are assessed as major/moderate adverse in the short term reducing to moderate adverse as the planting matures. North of the site there are no significant residential

receptors, although development will be visible north of Weasel Lane from the Snelshall East and West and the Tattenhoe Park grid squares.

9.12 The views from the long distance footpaths that run through the site, in particular Weasel Lane, will initially have major adverse effects during construction and at the start of the operational phases of the Proposed Development. However, the retention of the footpaths within 'greenways' and areas of trees, woodland and habitat will eventually create a strong network of open space that will provide important links between the countryside and town, which will eventually reduce the effects to moderate adverse.

9.13 Long term adverse effects on sensitive receptors and character areas have been minimised through the extensive provision of woodland belts and open space. The substantial green infrastructure and high quality development framework plan will eventually establish a positive effect on the majority of visual receptors and character areas, providing an enhanced transition between the urban and rural area and linking the Application Site positively into the strategic wider green infrastructure network.

9.14 Well defined natural features establish the broader setting for the development. Nearby to the west of the site, Salden Wood, Broadway Wood and Hogpound Wood provide the inspiration for the character of woodland blocks which have been repeated through the Application Site within the green infrastructure. This will provide a similar framework to that which already defines the western edge of Milton Keynes and successfully separates it from Whaddon and other villages in the Vale. The setting and character of Newton Longville, as a distinct and separate area to the Milton Keynes conurbation will be successfully protected and enhanced, using the railway line as the definitive boundary of The Proposed Development.

9.15 The proposal forms a logical urban extension to both Far Bletchley together with Snelshall East and West as it abuts the existing mixed use edge of the city and connects well with the Tattenhoe Park development to the north. The western expansion of the city has been successfully contained by the interaction of established woodland blocks, which reflect the area's historic role as part of Whaddon Chase. This principle will be continued in relationship to the Proposed Development.

9.16 The resulting urban extension will be completely contained within a very robust green infrastructure (GI) framework which surrounds and permeates the developed area. The Green Infrastructure Plan (Figure 19.9 Rev A) is contained in **Appendix 3.** This will be truly multi-functional, encompassing broadleaved native structural woodland, extensive areas of species rich wet meadow, footpaths and bridleways, play areas, and community sports fields. Approximately 40% of the available land in the Proposed Development is allocated for the provision of GI, thus meeting Aylesbury Vale District Council's aspirations.

9.17 The Proposed Development has clear defensible boundaries. It has practical convenient links to the greenways such as Weasel Lane and the Milton Keynes Boundary Walk, which provide linkages to the open countryside.

9.18 Substantial landscape biodiversity and amenity enhancements will be delivered, both locally and regionally, with the green infrastructure framework complementing and connecting to wider strategic corridors such as the Whaddon Chase Strategic Opportunity Area identified within the Buckinghamshire Green Infrastructure Strategy.

10. TRAFFIC MOVEMENT & ACCESS

10.1 The assessment of the likely significant effects of the Proposed Development on traffic, movement and access has considered the effect of the Proposed Development on the surrounding transport network, including the potential effects of the predicted traffic associated with the Proposed Development. The Proposed Development includes improvements to the existing highway network, and walking, cycling and public transport infrastructure and facilities which would connect to the existing networks in the surrounding area.

10.2 A Transport Assessment and a Framework Travel Plan have also been submitted as part of the planning application. The Transport Assessment considers the transport impact of the Proposed Development in detail. The Framework Travel Plan includes further details of the measures that will be implemented to promote sustainable travel to and from the Proposed Development and how these measures will be monitored, reviewed and revised as necessary.

10.3 There are two broad principles used to consider the significance of traffic effects. Firstly, highway links where traffic flows will increase by more than 30% (or the number of heavy goods vehicles will increase by more than 30%). Secondly, any other specifically sensitive areas, including accident black-spots, conservation areas, hospitals, links with high pedestrian flows, where traffic flows have increased by more than 10%.

10.4 Buckingham Road and Whaddon Road will provide the main site entrances to the Proposed Development, including for construction traffic. Buckingham Road and Whaddon Road already carry a significant number of vehicle and HGV movements. The increase in construction related traffic has been assessed as insignificant. A Construction Phase Traffic Management Plan is proposed as a mitigation measure, in order to identify agreed routes for construction traffic, and to ensure that wheel wash facilities and road sweeping is undertaken to minimise any impacts from dust and dirt.

10.5 The impact of increased traffic associated with the Proposed Development on the surrounding highway network has been assessed. The traffic impact on the surrounding highway network will not be significant, except on Buckingham Road where the impact is moderate. Increased capacity and improvements are proposed at Tattenhoe Roundabout to mitigate the impact of traffic from the Proposed Development, which would reduce the effect to minor. The capacity of Bottle Dump Roundabout is not an issue, there is substandard visibility to the equestrian/cycle/pedestrian crossing facility on Whaddon Road. Alignment and visibility improvements are proposed at Bottle Dump Roundabout and the effect would remain negligible.

10.6 There will be an increase in traffic as a result of the Proposed Development, however, following the implementation of mitigation measures the effects would be reduced and no longer significant. Travel Demand Management Strategy will be implemented for the Proposed Development which is aimed at delivering an effective Travel Plan and at reducing the amount of traffic generated. A Framework Travel Plan is submitted with the planning application, which contains details of the initial targets and measures to achieve a modal shift towards non-car modes of transport. The Public Transport Strategy comprising a new bus service through the Application Site, and the delivery of pedestrian and cycle facilities on

site with connections to the wider footpath and cycle network, are key elements of the transport mitigation strategy.

11. AIR QUALITY

11.1 During the construction phase, air quality impacts from the Proposed Development could arise from dust associated with construction and increased traffic from construction vehicles. The operational phase will lead to an increase in traffic on local roads, which may impact upon air quality at existing residential properties. The new residential properties will also be subject to the impacts of road traffic emissions from the adjacent road network. The main air pollutants of concern related to traffic emissions are nitrogen dioxide and fine particulate matter (PM_{10} and $PM_{2.5}$).

11.2 The potential for increased nitrogen dioxide emissions from locomotives on the proposed re-opened East West railway line have also been considered. However, the distance between the nearest proposed residential dwellings and the railway line significantly exceeds minimum distances where emissions might be a factor, and therefore this issue was not assessed further.

11.3 The existing conditions within the study area show good air quality, with concentrations all below the air quality objectives.

11.4 The construction works have the potential to create dust. During construction a package of mitigation measures will be implemented to minimise dust emission. The construction-related air quality mitigation measures identified in the draft Construction & Environmental Management Plan will ensure that any disruption to nearby sensitive receptors is minimized. For example a Dust Management Plan will be put in place, dust causing activities will be located away from receptors, and screening will be erected between potentially dusty activities and sensitive receptors. These measures will be co-ordinated by the Works Environmental Manager and implemented through the Construction Environmental Management Plan. With these measures in place, it is expected that any residual effects on air quality will be not significant.

11.5 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 twenty-three worst-case receptors, representing existing properties where impacts are expected to be greatest. In addition, the impacts of traffic from local roads on the air quality for future residents have been assessed at five worst-case locations within the new development itself. It is concluded that concentrations of particulate matter (PM_{10} and $PM_{2.5}$) will remain below the objectives at all existing receptors in 2026. This conclusion is consistent with the outcomes of the reviews and assessments prepared by AVDC and MKC, which show that exceedences of the PM_{10} objective are unlikely at any location. In the case of nitrogen dioxide, the annual mean concentrations remain below the objective at all existing receptors in 2017.

11.6 The overall operational air quality impacts of the Proposed Development will be insignificant.

12. NOISE & VIBRATION

12.1 The potential direct and indirect noise and vibration impacts arising from construction activities, road traffic and noise associated with the employment uses of the Proposed Development have been assessed.

12.2 Noise from the Proposed Development would be generated by construction activities (ground preparation, excavation for foundations, construction of roads and buildings, off-loading of materials and vehicle movements), fixed plant equipment (in employment area, schools and local centre), additional road traffic, and a reopened railway line. The existing and future residents are those that would be most affected by noise from the Proposed Development, unless mitigation measures are implemented. A draft Construction & Environmental Management Plan has been submitted with the application, which explains how adverse impacts arising from the construction phase would be managed and controlled, including the impacts from noise.

12.3 Noise and vibration impacts from the Proposed Development will occur during both the construction and operation phases.

12.4 During construction there will be temporary periods where noise levels are significantly elevated above existing noise levels. The most critical periods with respect to adverse noise levels will be when construction occurs in close proximity to existing residential areas and buildings to the east and to the north and north-west of the site. The construction-related noise mitigation measures identified in the draft Construction & Environmental Management Plan will ensure that any disruption to nearby sensitive receptors is minimized. These measures will be co-ordinated by the Works Environmental Manager and implemented through the Construction Environmental Management Plan. The noise impact on residents as a result of construction activities would be moderate. The proposed noise control techniques would be implemented to reduce the negative impacts.

12.5 During operation of the Proposed Development there will be minor, long term impacts due to the increased levels of road traffic. The impacts will be minimised by the use of low-noise road surfacing for new roads and where existing roads have been improved as part of the Proposed Development.

12.6 The impacts due to other operational aspects of the development will be addressed at detailed design stage with careful siting of noise sources and the use of planning conditions. The design and layout of the Proposed Development and buildings will separate dwellings from main noise sources, avoid habitable rooms facing noise sources, and provide adequate noise attenuation measures within building facades and glazing. A buffer will be included to provide suitable stand-off distances between the proposed dwellings and the main roads (Standing Way, Whaddon Road and Buckingham Road) and the re-opened East West railway.

13. SOCIO-ECONOMIC ISSUES

13.1 An assessment of the likely significant effects of the Proposed Development on socio-economic issues have been assessed in the EIA. Socio-economic issues include housing, employment and community infrastructure.

13.2 The Proposed Development would provide 1,855 new mixed tenure dwellings, including affordable housing. The delivery of additional housing and affordable housing are identified as important local priorities.

13.3 The Proposed Development would create employment opportunities during the construction phase. The Proposed Development includes 2.07 hectares of land for employment uses, comprising small scale starter business units. The growth in the local population would support the local economy by providing employees for businesses, services and facilities. In a wider socio economic context, the development clearly has the potential to raise the local area's economic profile with regards to economic activity, employment and income. The employment opportunities would be a minor beneficial effect.

13.4 The Proposed Development would provide land for a primary school and secondary school, neighbourhood centre, additional community and recreational facilities, which will be a moderate beneficial effect for the local community. The significant amount of multi-functional green infrastructure to be provided within the Proposed Development would be a minor beneficial effect.

13.5 The Proposed Development will have long-term significant minor to moderate beneficial impacts on the local economy.

14. SERVICES & UTILITIES

14.1 An assessment of the significant effects of the Proposed Development on the services and utilities have been assessed in the EIA. The services and utilities relate to water, gas, electricity, telecommunications and oil pipelines. The Application Site has no utility supply provision, although there are a number of existing utility supplies present in adjacent residential areas supplying water, electricity, gas and telecommunications. There are a number of services that pass through the site.

14.2 An oil pipeline crosses the middle of the site in a north south direction; a 10m wide exclusion zone for the pipeline is incorporated into the layout of the Proposed Development. There are high voltage overhead power lines crossing the north western part of the site; the power lines will be placed underground as part of the Proposed Development. An intermediate pressure gas main passes through the eastern part of the site in a north south direction; the gas main will fall within land set aside for the grid road reserve.

14.3 The effects associated with the Proposed Development are the short term loss of supply during works to connect to the supply network at the construction phase, and shortages of service supplies locally and in the wider network due to constraints in the supply network at the operational phase.

14.4 The network operators have developed methodologies to permit live jointing whereby the existing network remains fully operational during connection works. If the local network needs to be shut down for a temporary period, the supply company is obliged to give adequate notice to the affected users and ensure that appropriate provision is made for essential supplies.

14.5 A potential loss of supply through network damage is mitigated through careful planning of the construction phases of the development and good construction practice.

14.6 The regulatory regimes applicable to public service supply companies dictate that any network expansion should result in no loss or reduction of service. The supply companies will ensure that the minimum regulatory standards are maintained and that no environmental effect will result from supplying the site.

14.7 Any short term potential effects during the construction phase are considered to be minor, and there will be no significant effects during the operational phases.

15. WASTE

15.1 For the purpose of this assessment, 'waste' is defined as "any substance or object the owner discards, intends or is required to discard". This definition is as specified under the Waste Framework Directive (2006/12/EC), as amended by Directive (2008/98/EC).

15.2 For the Proposed Development, waste materials are anticipated to comprise the following:

- Construction waste arising from site clearance, excavation and construction activities;
- Household waste generated by residents;
- Commercial waste generated by businesses and people using the local facilities; and
- Organic waste from the maintenance of soft landscaped areas.

15.3 The Proposed Development is not expected to result in a significant quantity of materials being generated from excavation, as the majority of such material will be re-used on site.

15.4 The Proposed Development will generate a considerable quantity of construction and operational waste, even following implementation of measures to minimise the generation of waste.

15.5 The appointed contractor will prepare a Site Waste Management Plan (SWMP), which would be secured via planning condition to ensure it is implemented. The SWMP will include measures to minimise the amount of waste generated and disposed of during the site clearance and construction phase of the Proposed Development. If the majority of construction waste is appropriately reused on-site or reused and recycled offsite, which would be a requirement of the SWMP, the Proposed Development will result in a residual temporary effect of minor adverse significance.

15.6 The Proposed Development will include both internal and external waste and recycling storage facilities. These facilities will be located within the curtilage of each house and at commercial premises, and in suitably designed enclosures on ground level for flats. These facilities will be designed to be convenient and easily accessible for residents and waste collection crews. Sufficient exterior storage space will be provided to enable the installation by residents of a home composting bin/food digester in the gardens of private houses. Bring Sites will be provided within the Proposed Development to provide additional recycling opportunities. The generation of waste during the operation of the Proposed Development is likely to comprise a minor adverse effect on off-site waste treatment and disposal facilities in the long-term for household waste and a negligible effect in the long-term for commercial waste.

16. GROUND CONDITIONS AND CONTAMINATION

16.1 The main effects of the Proposed Development relate to potential soil and controlled water contamination as a result of the following: disruption to existing ground contamination during construction works; waste, fuel and chemical storage; the use of plant; and the potential for fuels, oils and suspended solids to enter drainage systems. The main effects of the Proposed Development on potential geotechnical risks result from abnormal ground conditions associated with the historic surface ground workings and previous development of the site. There may also be significant effects caused by poor natural ground conditions.

16.2 Ground investigation will be undertaken at the Application Site prior to the detailed design of the Proposed Development in order to identify areas of contamination, risks to human health, controlled waters, the presence of ground gases and any geotechnical risks prior to construction. If risks are identified following the ground investigation works, mitigation measures will be implemented to remove the risks at the Application Site.

16.3 Mitigation Measures are likely to include personal protective equipment for construction and maintenance workers, liquid interceptors within the drainage system, implementing a cover system with clean certified material, and appropriately designed foundations to accommodate any ground risks.

16.4 Following the implementation of these mitigation measures, the residual effect on all receptors will be of negligible significance.

17. SIGNIFICANT INTERACTIVE & CUMULATIVE IMPACT

17.1 The ES has identified a number of Moderate Adverse and Moderate/Minor Adverse effects arising from the Proposed Development. Moderate adverse effects are significant in EIA terms.

17.2 Table 17.1 in **Appendix 4** summarises the likely significant effects of the Proposed Development. Most of the moderate adverse effects e.g. on the topics of ecology, landscape and noise, and on residential receptors, occur during the construction phase of the Proposed Development and as such would be temporary. The construction impacts on air quality, noise and waste would be mitigated by the implementation of a Construction Environmental Management Plan, Dust Management Plan, and Site Waste Management Plan, which would be secured via planning conditions. The significant moderate effects on residents as a result of construction activities would remain, although noise control techniques would be implemented to reduce the negative impacts. The significant moderate effects on badger foraging habitat during the construction phase would remain, although the creation of new woodland, hedgerows, species-rich grassland and wetland as part of the Proposed Development would reduce the adverse effects. The moderate adverse effects on agricultural land cannot adequately be addressed through mitigation measures and as such a significant environmental effect on this topic would remain as a result of the Proposed Development. The minor adverse effects on the existing farm businesses are a consequence of development on undeveloped land which cannot be addressed through mitigation measures.

17.3 There would be some moderate adverse effects arising once the Proposed Development is completed, but in all cases, except for the loss of agricultural land, mitigation measures are proposed to address or reduce those significant effects. There would be some loss of ecological habitats as a result of the Proposed Development, which would be mitigated by habitat enhancement measures e.g. new woodland, hedgerows, species-rich grassland and wetland which would be delivered through a Biodiversity Management Plan. There would be no moderate adverse effects on ecology after the proposed mitigation measures have been implemented. The significant effects on landscape and views e.g. at the application site and surrounding area, and from neighbouring residential properties and users of the footpath and cycle network would be mitigated through a Landscape Strategy, comprising additional woodland, trees and hedgerows. The significant effects on the application site, the nearest residential properties, and users of the footpath and cycle network would remain, although over time those effects would reduce as the landscape enhancement measures become established. There would be moderate adverse effects on traffic levels on Buckingham Road as a result of the Proposed Development. The significant effects would be addressed by improvements to Tattenhoe Roundabout and Bottle Dump Roundabout, and through mitigation measures comprising a Travel Demand Management Strategy, Framework Travel Plan and Public Transport Strategy to reduce traffic levels and increase the use of sustainable modes of transport. The Biodiversity Management Plan, Landscape Strategy, Travel Demand Management Strategy, Framework Travel Plan and Public Transport Strategy would be secured via planning conditions.

17.4 Table 17.2 in **Appendix 4** identifies the cumulative effects. There will be cumulative effects arising from the Proposed Development and other developments on the topics of landscape and waste. There would be cumulative effects on the existing residents from the impacts on landscape, air quality and noise. It is the cumulative effects on residents from changes arising from construction and road traffic noise during the construction phase and from changes to the landscape during the operational phase which would remain significant. The identified mitigation measures e.g. the Construction Environmental Management Plan and Landscape Strategy would be implemented to address and reduce the significant environmental effects.

17.5 Interactive effects arise where the effects of development on one environmental topic bring about changes in another topic. The interactive effects identified for the Proposed Development relate to water, and are set out in Table 17.3 in **Appendix 4.** Those interactive effects would mostly arise during the construction phase and would be temporary. The effects on water would be of negligible significance, and would not increase as a result of interactive effects. The proposed mitigation measures would prevent pollutants from entering watercourses or the drainage system.

18. CONCLUSIONS

18.1 The likely significant effects of the Proposed Development have been identified and assessed, and proposed mitigation measures have been described in Chapters 5 to 16. Chapter 17 identifies the significant, cumulative and interactive effects of the Proposed Development.

18.2 The ES was prepared alongside the design process, so that many of the measures to mitigate the likely significant adverse effects have been incorporated into the Proposed Development. For example, the areas of archaeological interest at the Application Site (four areas of late prehistoric/Roman settlement) are retained within the proposed open space. The existing trees, woodland and hedgerows have been retained and enhanced to address potential significant effects on ecology and landscape and visual matters. Potential effects on the highway network will be minimised through improvements to Tattenhoe Roundabout and Bottle Dump Roundabout. The Proposed Development includes a Sustainable Drainage System (SUDS) such as swales and attenuation ponds in order to reduce surface water runoff and prevent pollutants entering the watercourse.

Significant Effects

18.3 The ES has identified a number of Moderate Adverse and Moderate/Minor Adverse effects arising from the Proposed Development. Moderate adverse effects are significant in EIA terms.

18.4 Most of the moderate adverse effects e.g. on the topics of ecology, landscape and noise, and on residential receptors, occur during the construction phase of the Proposed Development and as such would be temporary. The construction impacts on air quality, noise and waste would be mitigated by the implementation of a Construction Environmental Management Plan, Dust Management Plan, and Site Waste Management Plan, which would be secured via planning conditions. The significant moderate effects on residents as a result of construction activities would remain, although noise control techniques would be implemented to reduce the negative impacts. The significant effects on badger foraging habitat during the construction phase would remain, although the creation of new woodland, hedgerows, species-rich grassland and wetland as part of the Proposed Development would reduce the adverse effects. The moderate adverse effects on agricultural land cannot adequately be addressed through mitigation measures and as such a significant environmental effect on this topic would remain as a result of the Proposed Development. The minor adverse effects on the existing farm businesses are a consequence of development on undeveloped land which cannot be addressed through mitigation measures.

18.5 There would be some moderate adverse effects arising once the Proposed Development is completed, but in all cases, except for the loss of agricultural land, mitigation measures are proposed to address or reduce those significant effects. There would be some loss of ecological habitats as a result of the Proposed Development, which would be mitigated by habitat enhancement measures which would be delivered through a Biodiversity Management Plan. The significant effects on landscape and views would be mitigated through a Landscape Strategy, comprising additional woodland, trees and hedgerows. The

significant landscape effects on the application site, the nearest residential properties, and users of the footpath and cycle network would remain, although over time those effects would reduce as the landscape enhancement measures become established. There would be moderate adverse effects on traffic levels on Buckingham Road as a result of the Proposed Development. The significant effects would be addressed by improvements to Tattenhoe Roundabout and Bottle Dump Roundabout, and through mitigation measures comprising a Travel Demand Management Strategy, Framework Travel Plan and Public Transport Strategy to reduce traffic levels and increase the use of sustainable modes of transport. The Biodiversity Management Plan, Landscape Strategy, Travel Demand Management Strategy, Framework Travel Plan and Public Transport Strategy would be secured via planning conditions.

18.6 In Table 18.1 the potential sensitive receptors and the mitigation measures to address significant adverse effects on them arising as a result of the Proposed Development are identified.

Table 18.1 Potential Sensitive Receptors

Category	Sensitive Receptor/Land Use	Mitigation
Land Use	Properties within the Application Site and in neighbouring residential areas including: • Residents at Chase Farm, Lower Salden Farm, The Leys Farmhouse, and Bletchley Leys Farmhouse; and • Residents on edge of Bletchley, Far Bletchley, and Newton Longville.	Addressed in design and layout. Dwellings separated from main noise sources and noise mitigation measures implemented. Low-noise road surfacing used for new roads and existing roads which have been improved. Construction Environmental Management Plan and Dust Management Plan implemented. Noise monitoring conducted to ensure noise control techniques are implemented.
Cultural Heritage	• Newton Longville Conservation Area; • Listed Buildings; • Areas of Archaeological Interest including late prehistoric/Roman settlements within the Application Site; and, • Areas of ridge and furrow.	Late prehistoric/Roman settlement retained in areas of open space. Addressed in design and layout, and by providing strategic landscaping.
Agricultural Land	• Agricultural land quality comprising Grade 3a and sub-Grade 3b; and, • Three existing farm businesses (two full-time and one part-time).	It is not possible to mitigate the loss of agricultural land. There is no need for any mitigation in relation to the occupying farming businesses. Two of the businesses will remain operating off-site as viable businesses and the other two businesses only operate on a part-time basis.
Ecology	• Milton Keynes Wildlife Corridor Wetland and Woodland within the Application Site • Railway Sidings east of Salden Wood/83F08 • Semi-natural woodland • Mature trees • Hedgerows • Great Crested Newts • Bats • Reptiles • Breeding and Overwintering Birds • Badgers	Existing habitats protected and enhanced. Biodiversity Management Plan prepared.
Landscape & Visual	• Newton Longville Conservation Area; • Landscape Character Areas of Newton Longville – Stoke Hammond Claylands, Whaddon Chase, and Horwood Claylands; • Users of footpaths on Midshires and Swan's Way, Weasal Lane, Milton Keynes Boundary Walk, and at	Hedgerows and hedgerow trees mostly retained and reinforced. New woodland, trees and hedgerows planted. Landscape Strategy prepared.

	Cowpasture Farm and around Newton Longville; • Residents at Chase Farm, Lower Salden Farm, The Leys Farmhouse, and Bletchley Leys Farmhouse; and • Residents on edge of Bletchley, Far Bletchley, and Newton Longville.	
Transport, Movement and Access	Vehicles, pedestrians and cyclists using the local highway network, including at: • A421 (Standing Way); • Whaddon Road; • Weasel Lane; • Milton Keynes Boundary Walk; and, • Other Rights of Way.	Travel Demand Management Strategy, Framework Travel Plan and Public Transport Strategy implemented. Increased capacity and improvements at Tattenhoe Roundabout. Alignment and visibility improved at Bottle Dump Roundabout.
Water	Existing watercourses at the Application Site and in the vicinity: • Tattenhoe Brook; • Tributary of River Ouzel; and, • Field drains.	Pollution Prevention Guidance to be implemented. Wheel and boot washing facilities provided. Fuel tanks stored in bunded hardstanding. Oil interceptor devices used. Swales and attenuation ponds created to reduce surface water runoff and prevent pollutants entering watercourse.

Cumulative Effects

18.7 The ES has identified cumulative effects associated with the Proposed Development i.e. impacts that result from incremental changes caused by other past, present or reasonably foreseeable actions together with the Proposed Development. The traffic modelling undertaken to inform the transport assessment has included all known committed developments within and on the edge of Milton Keynes, and as such the cumulative effect of traffic from these developments on air quality and noise matters have been assessed. The landscape related cumulative effects arise from the developments at Tattenhoe Park and Newton Leys. The construction waste related cumulative effects arise from committed developments within and on the edge of Milton Keynes. There would be cumulative effects on the existing residents from the impacts on landscape, air quality and noise. It is the cumulative effects on residents from changes arising from construction and road traffic noise during the construction phase and from changes to the landscape during the operational phase which would remain significant. The cumulative noise effects on residents would be temporary and the effects would be reduced by mitigation measures comprising a Construction Environmental Management Plan and noise control techniques. The cumulative landscape effects on residents would be partially mitigated through a Landscape Strategy, comprising additional woodland, trees and hedgerows, and over time the significant adverse effects would reduce as the landscape enhancement measures become established. While residents would be exposed to construction, noise and landscape impacts all at once, it is not the case that those impacts combined would increase the significance of their effect. The identified mitigation measures e.g. the Construction Environmental Management Plan and Landscape Strategy would be implemented to address and reduce the significant environmental effects.

Interactive Effects

18.8 The ES has identified interactive effects associated with the Proposed Development. The interactive effects relate to water. The effect on water would arise from impacts on surface water run-off, hydrocarbon pollution of groundwater and controlled water. Those interactive effects would mostly arise during the construction phase and would be

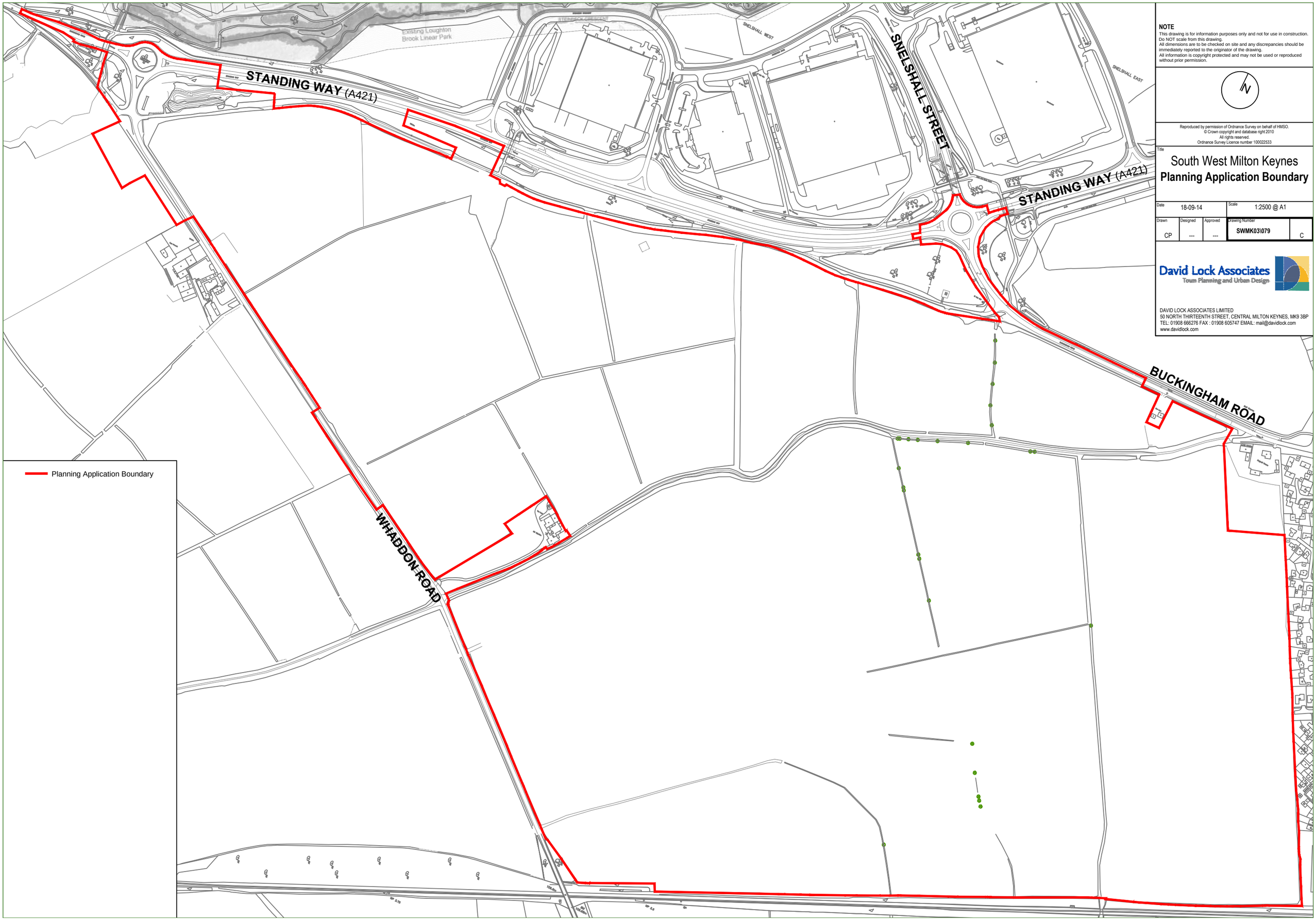
temporary. The effects on water would be of negligible significance, and would not increase as a result of interactive effects. The proposed mitigation measures would prevent pollutants from entering watercourses or the drainage system.

Conclusions

18.9 In conclusion, the ES has identified a number of Moderate Adverse and Moderate/Minor Adverse effects arising from the Proposed Development both during the construction and operational phase. The construction impacts on air quality, noise and waste would be mitigated. The significant effects on badger foraging habitat during the construction phase would remain, although the creation of new woodland, hedgerows, species-rich grassland and wetland as part of the Proposed Development would reduce the adverse effects. The moderate adverse effects on agricultural land cannot adequately be addressed through mitigation measures and as such a significant environmental effect on this topic would remain. The minor adverse effects on the existing farm businesses are a consequence of development on undeveloped land which cannot be addressed through mitigation measures.

18.10 There would be some moderate adverse effects arising once the Proposed Development is completed, but in all cases, except for the loss of agricultural land, mitigation measures are proposed to address or reduce those significant effects. The Biodiversity Management Plan, Landscape Strategy, Travel Demand Management Strategy, Framework Travel Plan and Public Transport Strategy would be secured via planning conditions. The significant landscape effects on the application site, the nearest residential properties, and users of the footpath and cycle network would remain, although over time those effects would reduce as the landscape enhancement measures become established.

APPENDIX 1



NOTE

This drawing is for information purposes only and not for use in construction. Do NOT scale from this drawing.
All dimensions are to be checked on site and any discrepancies should be immediately reported to the originator of the drawing.

Title

South West Milton Keynes
Planning Application Boundary

Date	Scale
18-09-14	1:2500 @ A1

Drawn	Designed	Approved	Drawing Number	
CP	---	---	SWMK03\079	C

David Lock Associates
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APPENDIX 2

- Planning Application Boundary
- Primary route - 15m Corridor
- Secondary Route
- Highways Improvements
- Secondary Street Connection Between Parcels
- Grid Road Reserve
- Proposed Access Point
- Employment Area
  Building height: up to 12m
- Residential Development Area
  Building height: up to 10m
  (2 - 2.5 Storey Dwellings)
- Residential Development Area
  Building Height: up to 11m
  (3 Storey Dwellings)
- Primary School
  Hatched area indicates the part of the site in which the School Building(s) will be located; Up to 10m
- Secondary School
  Hatched area indicates the part of the site in which the School Building(s) will be located; Up to 12m
- Neighbourhood Centre
  Building height: up to 13m
- Allotments
- Existing Hedgerows to be Retained
- Existing Woodlands to be Retained
- Indicative Location of Changing Pavillion - up to 5.5m
- Indicative Location of Local Equipped Area for Play - LEAP (400m²)
- Indicative Location of Neighbourhood Equipped Area for Play - NEAP (1000m²)
- Indicative Location of MUGA
- Existing Footway (Milton Keynes Boundary Walk)
- Existing Bridleway & Sustrans Route (Weasel Lane)
- Proposed SUDs Basin
- Pedestrian & Cycle Underpass Beneath Grid Road
- Existing Pedestrian Underbridge Beneath Railway
- Oil Pipeline
- Indicative Green Space Within Residential Parcels

LANDUSE	(Ha)
Allotments	1.22
Employment	2.07
Green Open Space	55.75
Grid Road Reserve	7.24
Infastructure	4.84
Local Centre	0.67
Primary School	3.00
Secondary School	5.20
Water Attenuation	5.05
Residential	54.16
SUB-TOTAL	***139.21***
Highway Improvements	5.56
TOTAL	***144.77***

NOTE
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Title

South West Milton Keynes
Land Use Plan
Parameter Plan

Date	Scale
16-09-14	1:2500 @ A1

Drawn	Designed	Approved	Drawing Number	
CP	SH	SH	SWMK03\074	G

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APPENDIX 3

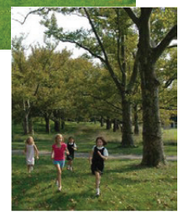
Sustainable Drainage Systems and ecological pond areas on the north and south boundaries of the site

Areas of meadow and woodland along the pipeline reserve with sporting and play activities adjacent to the more natural areas.

Sporting Centre with cricket pitches, pavillion, football pitches, tennis courts, MUGA, and natural areas of play, within easy reach of the facilities of the local centre.

Allotments

Skate Park - near to school and local centre



Parks on the western and southern boundaries provide a landscaped setting for the boundary walk, recreation and play. The boundary park is designed to be an extension of Chepstowe local park.

Important open space could act as a meeting point. e.g. the village green

Orchards - along the ridge

Accessible green space with structural woodland planting in the linear perimeter park

Trees, hedges , ornamental shrubs, grass and meadows will be laid out to provide a diverse series of rooms along the linear parks

Hallam Land Management

South West milton Keynes

GI FRAMEWORK

1:5000 @ A1 HM February 2014

FIGURE 9.19 A

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masterplanning ■ environmental assessment ■ landscape design ■ urban design ■ ecology ■ architecture ■ arboriculture

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APPENDIX 4

Table 17.1: Likely Significant Effects

Topic	Stage of Development	Receptor	Duration of Effect	Mitigation Measure	Significance of Effect
Archaeology	Construction & Operation	Area 1 late prehistoric/Roman settlement	Permanent	Area retained within open space.	Negligible
		Area 2 late prehistoric/Roman settlement	Permanent	Area retained within open space.	Negligible
		Area 3 late prehistoric/Roman settlement	Permanent	Area retained within open space.	Negligible
		Area 4 late prehistoric/Roman settlement	Permanent	Area retained within open space.	Negligible
		Hedgerows and parliamentary enclosure field system	Permanent	All hedgerows to be retained.	Negligible
		Weasel Lane	Permanent	Weasel Lane to be retained except where internal roads cross the lane.	Minor
		Newton Longville Conservation Area	Permanent	Addressed in design and layout, and by providing strategic landscaping.	Minor
		Listed Buildings at Westbrook End, Newton Longville	Permanent	Addressed in design and layout, and by providing strategic landscaping.	Minor
		Lower Salden Farmhouse	Permanent	No mitigation required.	Negligible
Agriculture	Construction	Loss of approximately 20 Ha of best and most versatile agricultural land	Permanent	It is not possible to mitigate the loss of agricultural land.	Moderate adverse
		Dagnall Farm	Permanent	Part time business and loss of a small proportion of farmed area. No mitigation required.	Minor adverse
		Part of Hurdlesgrove Farm	Permanent	Remaining farm business unaffected. No mitigation required.	Minor adverse
		Land farmed by Messrs Cook	Permanent	Part time business and loss of a large proportion of farmed area. No mitigation required.	Minor adverse
		Leys Ground Farm	Permanent	Small loss of farmed area and remaining business unaffected. No mitigation required.	Negligible
	Operation	Trespass onto neighbouring agricultural land	Permanent	No mitigation required.	Negligible
		Loss of approximately 20 Ha of best and most versatile agricultural land	Permanent	It is not possible to mitigate the loss of agricultural land.	Moderate adverse

Ecology	Construction	Loss of hedgerow	Permanent	New hedgerow and woodland planting.	Minor
		Loss of semi-natural woodland	Permanent	New woodland planting.	Negligible
		Loss of bat foraging habitat	Temporary	Provide hop-overs.	Minor (short-term)
		Loss of bat roosting habitat	Permanent	Appropriate felling methodology implemented where necessary.	Minor
		Loss of reptile habitat	Permanent	Existing habitat protected, and enhanced reptile movement corridors created.	Minor
		Disturbance/killing of reptiles	Permanent	Existing habitats protected.	Negligible
		Loss of breeding bird habitat	Permanent	New hedgerow, woodland, wetland and species-rich grassland created and variety of nest boxes installed.	Minor
		Disturbance to breeding birds	Temporary	Potential breeding habitat only removed outside breeding season, and new habitat created.	Minor (short-term)
		Loss of skylark breeding habitat	Permanent	No mitigation.	Minor
		Loss of wintering bird habitat	Permanent	New hedgerow, woodland, wetland and species-rich grassland created.	Minor
		Loss of badger foraging habitat	Permanent	New woodland, hedgerows, species-rich grassland and wetland created.	Moderate
		Disturbance to badger sett	Temporary	Construction in vicinity of badger sett between December and April avoided, non-working areas within 30m of sett identified, and badger check completed prior to works.	Negligible
		Disturbance/killing of GCN	Permanent	Trapping areas within 500m of P8 defined.	Negligible
	Operation	Damage to Howe Park Wood SSSI from increased recreation pressure	Permanent	Extensive areas of on-site open space provided.	Negligible
		Damage to Railway sidings east of Salden Wood/83F08 LWS from pollution	Permanent	No mitigation.	Negligible
		Damage to Broadway and Thrift Wood/83B16 LWS from increased recreation pressure	Permanent	Extensive areas of on-site open space provided.	Negligible

		Damage to Milton Keynes Wildlife Corridor (wetland and woodland) from increased visitor pressure	Permanent	Provision extensive on-site open space	Negligible
		Disturbance to foraging and commuting bats	Permanent	Hop-overs created, new hedgerows and woodland planted, and light spill on linear features avoided.	Minor
		Disturbance to breeding birds	Permanent	Nest boxes provided.	Negligible
		Disturbance to badgers	Permanent	Enhanced foraging area close to main sett provided.	Negligible
		Disturbance/killing of reptiles from residents and domestic animals	Permanent	No mitigation.	Minor
Drainage	Construction	Surface water run-off	Temporary	Temporary attenuation ponds constructed.	Negligible
		Hydrocarbon pollution of groundwater from vehicles and storage of liquids and chemicals	Temporary	EA guidance - Pollution Prevention Guidance 6 - to be implemented. Wheel and boot washing facilities provided. Fuel tanks stored in bunded hardstanding. Oil interceptor devices used.	Negligible
	Operation	Surface water run-off	Permanent	Sustainable Drainage System (SUDS) such as swales and attenuation ponds created to reduce surface water runoff and prevent pollutants entering watercourse.	Negligible
Landscape	Construction & Operation	Bedfordshire and Cambridgeshire Claylands (NCA 88)	Permanent	Green infrastructure provided.	Negligible
		LCT 4.9 Newton Longville – Stoke Hammond Claylands	Permanent	Open space managed and new woodland and trees planted.	Minor adverse
		LCT 4.7 Whaddon Chase	Permanent	New blocks of woodland provided on western and southern boundaries.	Minor adverse
		LCT 4.8 Horwood Claylands	Permanent	New blocks of woodland provided.	Minor adverse
		Immediate Application Site context	Permanent	New woodland and trees planted and new green spaces provided.	Moderate/Minor adverse
		Application Site	Permanent	Hedgerows and hedgerow trees mostly retained and reinforced. New woodland, trees and	Moderate adverse

				hedgerows planted.	
		Vehicular users of A421 & Whaddon Road (Viewpoint 1)	Permanent	New planting provided.	Minor adverse
		Pedestrian users of the Midshire & Swan's Way (Viewpoint 2)	Permanent	New planting and open space provided.	Minor adverse/Negligible
		Pedestrian users of Mid Shires Way footpath (Viewpoints 3 & 4)	Permanent	No mitigation.	Minor adverse/Negligible
		Vehicle users of track (Viewpoint 5)	Permanent	No mitigation.	Negligible
		Approximately 10 houses at Chase Farm (Viewpoint 6)	Permanent	Hedgerows mostly retained. New blocks of woodland planted on western boundary.	Negligible
		Vehicular users of Access road to Springfield Farm (Viewpoint 7)	Permanent	No mitigation.	Negligible
		Residents of Lower Salden Farm (Viewpoint 8)	Permanent	New woodland planted.	Negligible
		Users of footpaths between Mursley and Newton Longville (Viewpoint 9 & 10)	Permanent	Landscape planting and green infrastructure provided.	Minor adverse/Negligible
		Users of footpath past Cowpasture Farm (Viewpoint 11)	Permanent	Trees and green infrastructure provided. Sports pitches provided on highest ground.	Minor adverse
		Users of Footpath from Newton Longville (Viewpoint 12)	Permanent	Existing trees and hedgerows retained.	Minor adverse
		Users of playing fields/Milton Keynes Boundary Walk, Newton Longville (Viewpoint 13)	Permanent	Trees and green infrastructure provided.	Minor adverse/Negligible
		Approximately 20 Houses on northern edge of Newton Longville (Viewpoint 14& 15)	Temporary at construction, permanent at operational phase	Open space and woodland provided along Weasel Lane corridor. Trees, open space and green infrastructure provided on highest ground.	Temporary Major adverse during construction and at start of operational phase reducing to Moderate adverse once mitigation measures implemented
		Bletchley Road (Viewpoint 16)	Permanent	Additional landscape planting provided on southern boundary.	Minor/Moderate adverse
		Approximately 29 houses on the edge of Bletchley (Viewpoint 17)	Temporary at construction, permanent at operational phase	Open space provided.	Temporary Major adverse during construction and at start of operational phase reducing to Moderate adverse once mitigation measures implemented
		Users of Weasel Lane footpath & footpath to	Temporary at construction,	Trees and hedgerows along	Temporary Major adverse during

		Newton Longville (Viewpoint 18)	permanent at operational phase	Weasel Lane corridor retained and reinforced. Additional woodland and green infrastructure provided.	construction and at start of operational phase reducing to Moderate adverse once mitigation measures implemented
		Users of footpath in Tattenhoe Park (Viewpoint 19)	Permanent	No mitigation.	Negligible
		Vehicular users of A421 and footpath users of subway (Viewpoint 20)	Permanent	No mitigation.	Negligible
		Future residential within Tattenhoe Park (Viewpoint 21)	Permanent	No mitigation.	Minor adverse/Negligible
		The Leys Farmhouse (Viewpoint 22)	Temporary at construction, permanent at operational phase	Existing trees and hedgerows retained. Additional woodland and trees planted. Green open space provided.	Temporary Major adverse during construction and at start of operational phase reducing to Moderate adverse once mitigation measures implemented
		Bletchley Leys Farmhouse (Viewpoint 22)	Permanent	Existing trees and hedgerows retained. Green infrastructure provided along Weasel Lane and on western boundary.	Moderate/Minor adverse
		Vehicular users on Whaddon Road at railway bridge (Viewpoint 23)	Temporary at construction, permanent at operational phase	Additional landscape planting provided alongside railway.	Temporary Major adverse during construction and at start of operational phase reducing to Moderate adverse once mitigation measures implemented
		Vehicular users of Shenley Road (Viewpoint 24)	Permanent	Existing trees and hedgerows retained.	Negligible
		Newton Longville, Whaddon Road (near Fire Lane) residents (Viewpoint 25)	Permanent	Open space and woodland provided along Weasel Lane corridor. Trees, open space and green infrastructure provided on highest ground.	Moderate/Minor adverse
		Newton Longville, Whaddon Road users (Viewpoint 25)	Permanent	Open space and woodland provided along Weasel Lane corridor. Trees, open space and green infrastructure provided on highest ground.	Moderate/Minor adverse
		Users of Weasel Lane (west of site) (Viewpoint 26)	Permanent	Existing trees and hedgerows along Weasel Lane retained. New blocks of woodland planted.	Moderate/Minor adverse

Traffic Movement & Access	Construction	Increased levels of traffic generated by construction vehicles	Temporary	Construction Phase Traffic Management Plan implemented to minimise construction traffic impacts.	Negligible
	Operation	Traffic levels on A421 (between Whaddon Crossroads and Bottle Dump Roundabouts)	Permanent	Travel Demand Management Strategy, Framework Travel Plan and Public Transport Strategy implemented. Alignment and visibility improved at Bottle Dump Roundabout.	Negligible
		Traffic levels on Whaddon Road through Newton Longville	Permanent	Travel Demand Management Strategy, Framework Travel Plan and Public Transport Strategy implemented.	Negligible
		Traffic levels on A421 Standing Way (between Bottle Dump and Tattenhoe Roundabouts)	Permanent	Travel Demand Management Strategy, Framework Travel Plan and Public Transport Strategy implemented. Increased capacity and improvements at Tattenhoe Roundabout. Alignment and visibility improved at Bottle Dump Roundabout.	Negligible
		Traffic levels on Buckingham Road	Permanent	Travel Demand Management Strategy, Framework Travel Plan and Public Transport Strategy implemented. Increased capacity and improvements at Tattenhoe Roundabout.	Moderate
		Traffic levels on A421 Standing Way (between Tattenhoe and Windmill Hill Roundabouts)	Permanent	Travel Demand Management Strategy, Framework Travel Plan and Public Transport Strategy implemented. Increased capacity and improvements at Tattenhoe Roundabout.	Negligible
		Traffic levels on V1 Snelshall Street	Permanent	Travel Demand Management Strategy, Framework Travel Plan and Public Transport Strategy implemented.	Negligible
Air Quality	Construction	Dust impacts during	Temporary	Construction	Negligible

		construction on existing and future residents		Environmental Management Plan and Dust Management Plan implemented.	
	Operation	Increased emissions from additional traffic on existing and future residents	Permanent	Concentrations of PM_{10} and $PM_{2.5}$ and nitrogen dioxide will remain below objectives at all existing receptors in 2026. No mitigation.	Negligible
Noise	Construction	Construction noise on residents	Temporary	Construction Environmental Management Plan implemented. Noise monitoring conducted to ensure noise control techniques are implemented.	Moderate/Minor
		Road traffic noise during construction on residents	Temporary	Construction Environmental Management Plan implemented.	Minor
		Construction vibration on residents	Temporary	Construction Environmental Management Plan implemented.	Neutral
	Operation	Operational noise on residents	Permanent	Addressed in design and layout, with dwellings separated from main noise sources and noise mitigation measures implemented.	Neutral
		Operational road traffic noise on residents	Permanent	Low-noise road surfacing used for new roads and existing roads which have been improved.	Minor/Neutral
		Vibration during operation on residents	Permanent	No mitigation.	Neutral
Socio-Economic	Construction	Employment opportunities for existing residents	Temporary	No mitigation.	Negligible
	Operation	Employees for existing and future businesses	Permanent	Land for employment uses provided, which would be attractive to small businesses. Proposed Development connected to employment sites by walking, cycling and public transport.	Minor Beneficial
		Employment opportunities for future residents	Permanent	Land for employment uses, comprising small scale starter business units, provided.	Minor Beneficial
		Education, community and health facilities for residents	Permanent	Primary school, secondary school and neighbourhood	Moderate Beneficial

				centre provided.	
		Green infrastructure and recreation facilities for residents	Permanent	Open space and recreation facilities provided.	Minor Beneficial
Services & Utilities	Construction	Loss of supply during works to connect to the supply network	Temporary	Supply shut down localised and planned for quiet periods. Affected users notified. Essential supplies maintained. Good construction practice implemented.	Minor
	Operation	Shortages of service supplies due to constraints in the supply network	Temporary	Supply maintained by utility companies.	Negligible
Waste	Construction	Increased waste from site clearance, excavation and construction activities	Temporary	Site Waste Management Plan prepared to minimise the amount of waste generated and disposed of. Construction waste reused on-site or reused and recycled off-site.	Minor
	Operation	Off-site waste treatment and disposal facilities for household waste	Permanent	Internal and external waste and recycling storage facilities provided. Home composting facilities provided in private gardens. Bring Sites provided.	Minor
		Commercial waste facilities	Permanent	Waste and recycling storage facilities provided.	Negligible
Soil & Ground Conditions	Construction	Site personnel	Temporary	Personal protective equipment and welfare facilities provided.	Negligible
		Controlled waters	Temporary	Liquid retention reservoirs and interceptors provided. EA guidance - Pollution Prevention Guidance 5 and 6 - to be implemented.	Negligible
	Operation	End users from contamination	Permanent	Site investigation and remediation strategy implemented.	Negligible
		Controlled waters from contamination	Permanent	Site investigation and remediation strategy implemented.	Negligible
		Proposed structures from geotechnical hazards	Permanent	Site investigation and remediation strategy implemented.	Negligible
		Proposed landscaping from contamination	Permanent	Site investigation and remediation	Negligible

				strategy implemented.	
		Proposed structures from contamination	Permanent	Site investigation and remediation strategy implemented.	Negligible

Table 17.2: Cumulative Effects

Topic	Stage of Development	Receptor	Duration of Effect	Mitigation Measure	Significance of Cumulative Effect
Landscape	Construction & Operation	Users of A421 and residents of Shenley Road in Bletchley from cumulative effect of Proposed Development and development at Tattenhoe Park.	Permanent	Landscape planting and green infrastructure provided.	Negligible
Landscape	Construction & Operation	Users of Stoke Road and Whaddon Road in Newton Longville from cumulative effect of Proposed Development and development at Newton Leys.	Permanent	Hedgerows and hedgerow trees mostly retained and reinforced. Landscape planting and green infrastructure provided.	Minor
Landscape	Operation	Existing residents at nearest properties, on northern edge of Newton Longville, and on the edge of Bletchley.	Permanent	Existing trees and hedgerows retained. Additional woodland and trees planted. Green infrastructure and open space provided. Additional landscaping provided along Weasel Lane corridor, and at southern and western boundary.	Temporary Major adverse during construction and at start of operational phase reducing to Moderate adverse once mitigation measures implemented
Air Quality – Dust	Construction	Existing residents at nearest properties, on northern edge of Newton Longville, and on the edge of Bletchley.	Temporary	Construction Environmental Management Plan and Dust Management Plan implemented.	Negligible
Air Quality – Increased Traffic Emissions	Operation	Existing residents at nearest properties, on northern edge of Newton Longville, and on the edge of Bletchley.	Permanent	Concentrations of PM_{10} and $PM_{2.5}$ and nitrogen dioxide will remain below objectives at all existing receptors in 2026. No mitigation.	Negligible
Noise - Construction and Road Traffic	Construction	Existing residents at nearest properties, on northern edge of Newton Longville, and on the edge of Bletchley.	Temporary	Construction Environmental Management Plan implemented. Noise monitoring conducted to ensure noise control techniques are implemented.	Moderate/Minor adverse
Noise - Operational	Operation	Existing residents at nearest properties, on northern edge of Newton Longville, and on the edge of Bletchley.	Permanent	Addressed in design and layout, with dwellings separated from main noise sources and noise mitigation measures	Neutral

				implemented.	
Noise - Operational Road Traffic	Operation	Existing residents at nearest properties, on northern edge of Newton Longville, and on the edge of Bletchley.	Permanent	Low-noise road surfacing used for new roads and existing roads which have been improved.	Minor/Neutral
Waste	Construction	Cumulative effect of increased waste from site clearance, excavation and construction activities from Proposed Development and other committed development within and on the edge of Milton Keynes	Temporary	Site Waste Management Plan prepared to minimise the amount of waste generated and disposed of. Construction waste reused on-site or reused and recycled off-site.	Minor

Table 17.3: Interactive Effects

Receptor	Topic	Stage of Development	Duration of Effect	Mitigation Measure	Significance of Interactive Effect
Water	Drainage – Surface Water Run-off	Construction	Temporary	Temporary attenuation ponds constructed.	Negligible
	Drainage – Hydrocarbon Pollution of Groundwater	Construction	Temporary	EA guidance - Pollution Prevention Guidance 6 - to be implemented. Wheel and boot washing facilities provided. Fuel tanks stored in bunded hardstanding. Oil interceptor devices used.	Negligible
	Drainage – Operational Surface Water Run-off	Operation	Permanent	Sustainable Drainage System (SUDS) such as swales and attenuation ponds created to reduce surface water runoff and prevent pollutants entering watercourse.	Negligible
	Soil & Ground Conditions – Controlled Waters	Construction	Temporary	Liquid retention reservoirs and interceptors provided. EA guidance - Pollution Prevention Guidance 5 and 6 - to be implemented.	Negligible