



LAND TO THE WEST OF HATFIELD

Non-Technical Summary

Arlington Business Parks GP Ltd

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1 INTRODUCTION

This Non-Technical Summary (NTS) outlines the content of an Environmental Statement (ES) prepared by Triptych PD Limited on behalf of Arlington Business Parks GP Limited ('the client'). The ES is submitted in support of an outline planning application at Land to the West of Hatfield, which seeks consent for:

“Large-scale mixed-use development for 1,100 new homes and supporting infrastructure including a primary school, local centre and open space.”

This NTS seeks to provide a brief summary of the proposed development and its likely effects on the environment in non-technical language.

1.1 NON-TECHNICAL SUMMARY

Schedule 4 of the EIA Regulations 2017 sets out the information to be included in an ES. This document therefore comprises a Non-Technical Summary as required in accordance with Schedule 4, Part 9 of the EIA Regulations 2017.

1.2 THE APPLICANT & LAND OWNERSHIP

Arlington Business Parks GP Limited is the freehold owner of the site. The red line plan identifies the application site and also includes the blue line showing the Applicant's adjacent ownership.

1.3 THE REQUIREMENT FOR AN ENVIRONMENTAL IMPACT ASSESSMENT

Applications for development that fall to be considered under the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 are required to be supported by an Environmental Impact Assessment. Under the Regulations, a request for Screening Opinion can be made to a local planning authority to confirm whether the development would fall to be considered under the Regulations as an 'EIA Development'. Within the Regulations the criteria for considering whether the proposals constitute an 'EIA Development' are defined as either 'Schedule 1' or 'Schedule 2' developments within the Regulations.

Schedule 1 developments consist of those which are likely to have significant environmental effects, including significant infrastructure, waste, transport, power, and other chemical or petrochemical projects. For all other projects which fall to be considered under Schedule 2, the requirement for an EIA is determined on the basis of the following criteria:

- The development is within a class contained within Column 1 of Schedule 2 (i.e. 'Infrastructure Projects')
- The development either meets or exceeds the thresholds contained within Column 2 of Schedule 2 (i.e. Class 10 (a) – 'the area of the development exceeds 0.5 hectares); and
- The development proposals are likely to have significant effects on the environment by virtue of factors such as the character of the development, location and potential impact (as defined by Schedule 3).

The development falls to be considered under Schedule 2 Class 10 (b) – 'Urban Development Projects'. The applicable thresholds for this Class under the 2017 Regulations are as follows:

- (i) The development includes more than 1 hectare of urban development which is not dwellinghouse development; or
- (ii) The development includes more than 150 dwellings; or
- (iii) The overall area of the development exceeds 5 hectares.

1.4 SCREENING & SCOPING

1.4.1 Screening Opinion

The proposals are for 1,100 dwellings plus associated infrastructure with an overall site area of 67.5 hectares. It was therefore the professional judgement of the Team and in discussions with Officers at Welwyn Hatfield Borough Council ('WHBC', 'the Council', 'local planning authority' and/or 'LPA') that the proposals were considered EIA development and that an ES would be required to accompany any subsequent planning application.

1.4.2 Scoping Opinion

The gaining of a Scoping Opinion is not a mandatory requirement in terms of the EIA Regulations. In this instance, the decision has been taken by the Applicant/Project Team to submit the outline planning application without gaining an Opinion but based on combined professional judgement. Chapter 6 sets out those topics not considered to have significant environmental effects and therefore not part of the disciplines assessed and reported in this ES.

1.5 VIEWING THE ES AND REPRESENTATIONS

1.5.1 Requesting Copies of ES Documents

The ES and associate NTS will be available to view (free of charge) either via the planning applications page of Welwyn Hatfield Borough Council (<http://www.welhat.gov.uk/planning>) or at the Council offices located at The Campus, Welwyn Garden City, Hertfordshire, AL8 6AE.

Alternatively, a copy of the ES can be requested from Triptych PD in either electronic or hard copy. The cost of duplicating the ES will be charged at cost (i.e. no additional uplift) dependent on the format that the copy is requested. These costs are detailed below:

- Electronic copy via CD – £10
- Hard copy via post – £450 + postage

Unfortunately, given the size of the ES, it is not possible to disseminate copies of this document via email.

A copy of the NTS can also be requested from Triptych PD in either electronic (email or CD) or hard copy and is available free of charge. If a hard copy is requested, please send an A4 size stamp addressed envelope to the following address: 62 Queen's Park Terrace, Brighton, BN2 9YB.

1.5.2 Representations

Should you wish to make representations to the application or in direct reference to the ES, these should be made within 30 days of the date that the application has been registered by the local planning authority – 30 days is set as a LPA cannot determine an EIA application within that initial timescale. Any such representations can be submitted to the planning department of Welwyn Hatfield Borough Council either via the planning applications page or by writing to the Council offices located at The Campus, Welwyn Garden City, Hertfordshire, AL8 6AE.

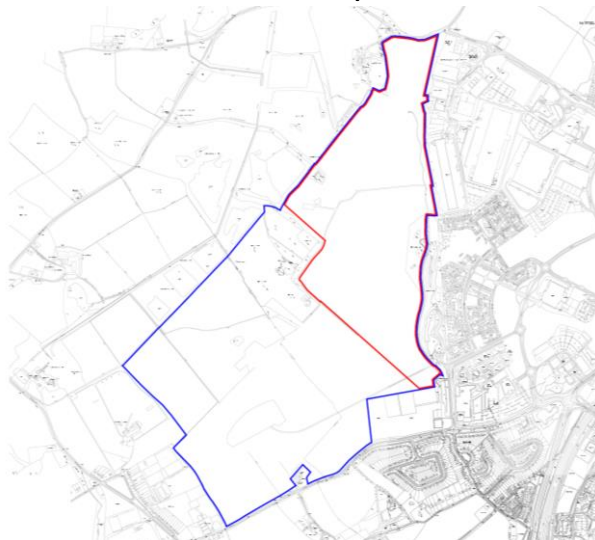
2 THE SITE

2.1 LOCATION

The application site, as shown within the accompany Site Location Plan provided within **Appendix 2.1** of the ES, is located to the west of Hatfield between Coopers Green Lane and A1057. Coopers Green Lane forms the northern site boundary; the existing built up area forms the eastern site boundary; the southern boundary is defined by sports pitches and existing open space as part of Ellenbrook Fields; the western site boundary is defined by a combination of woodland, agricultural land, and mineral extraction. The built-up area to the east comprises Hatfield Business Park; University of Hertfordshire De Havilland Campus; and residential areas, all of which were developed by the Applicant in partnership with Welwyn Hatfield Borough Council, St Albans City and District Council and Hertfordshire County Council.

In the wider context, the application site is approximately 2.2km from Hatfield Town Centre and 3.2km from Hatfield Railway Station.

Figure 2.1: Extract of Site Location Plan (not to scale – illustration only)



2.1.1 Existing Site

The site itself, which extends to approximately 67.5 hectares (ha), is located in the northern part of Ellenbrook Fields, and comprises a large area of grassland of varying quality, with areas of scrub, trees and woodland.

The site was home to the previous aerodromes, runway and taxiways as part of the former Hatfield Aerodrome, which closed in 1993. Along the eastern edge of the Site is the Ellenbrook, which was de-culverted as part of the original Hatfield Aerodrome redevelopment.

An open space runs along a section of the Ellenbrook, providing amenity for the Salisbury Village housing development, with housing generally fronting onto the green space. It also encompasses a number of surface water attenuation ponds.

Further north, the Ellenbrook passes through an area of more semi-natural grassland, before becoming culverted. There is mature tree and scrub planting to the east of the brook, along the boundary with Hatfield Business Park.

There is strong boundary vegetation along the entire western Site boundary, including mature tree belts around Astwick Manor (Grade II listed); Home Covert woodland; a further small copse on the western boundary.

There is a network of permissive footpaths, which have been established within the Site. Key routes include a footpath running broadly parallel to the Ellenbrook and running the entire length of the eastern site boundary; and a circular route running between Ellenbrook and Home Covert.

The grassland that is established on the site is maintained by a combination of grazing, cutting and natural regeneration. The area for grazing in within the central part (of the wider Ellenbrook Fields) and cattle fencing is provided around the perimeter of the grazing area.

To the north and south are mineral extraction sites – existing and proposed respectively. Both sites have live planning applications – to the north for an extension and to the south for the establishment of a new quarry. The latter is on land owned by the Applicant. Despite the adjacencies of the existing and proposed extraction sites, the application site subject to this ES has been accepted by Hertfordshire County Council (the minerals planning authority) to be unviable for mineral extraction.

The Design and Access Statement, which forms part of this outline planning application, provides aerial photography of the site and surroundings to assist further.

The site is designated Green Belt by the Welwyn Hatfield Borough Council District Plan, which was adopted in 2005. Whilst Green Belt is a planning land use designation, it is not a ‘sensitive area’ as defined the Interpretation section of Part 1 in the Town and Country Planning (Environmental Impact Assessment) Regulations 2017, which directs the assessment process and therefore contents of this ES.

3 PROPOSALS AND ALTERNATIVES

3.1 PROPOSED DEVELOPMENT

The application submitted to the Welwyn Hatfield Borough Council seeks outline planning permission for:

'Large-scale mixed-use development for 1,100 new homes and supporting infrastructure including a primary school, local centre and open space.'

The illustrative masterplan has been prepared by LDA-Design (Appendix 3.1 of the ES). This has followed an iterative design process, which has been influenced by pre-application consultation with key stakeholders and guided by the various technical assessments that have been undertaken to complete the application submission and the supporting ES.

In addition, ecological designed-in mitigation forms part of the proposals. This designed-in mitigation includes the following avoidance measures:

- Retention of approximately one third of the semi-improved neutral grassland at the Application Site, which is sufficient to allow conservation grazing to continue;
- Retention of the Ellenbrook stream;
- Retention of all mature woodland at the Application Site (i.e. an area of ash woodland in the western part of the Application Site);
- Retention of all mature trees at the Application Site (these are located on the northern and north-eastern boundaries), though there will be some loss of semi-mature and young trees that are of low ecological value; and
- Retention of four ponds at the Application Site (including two ponds that are of high ecological value and support great crested newt), and areas of surrounding terrestrial habitat. The single pond to be lost in the development is of very low ecological value.

The following, in the main, has been taken from the Planning Statement to ensure consistency within the planning application submission and to also expand upon the description of development in terms of the land use ethos as depicted by the masterplan.

3.1.1 Layout/concept

The site sits on a boundary between urban and rural, providing an opportunity to create a new form of urban extension. The proposed development therefore takes a form of a 'Forest Village' concept. The Upper Village is the smallest in size of the three and will primarily consist of residential dwellings.

An area of the development is proposed for a shared village local centre, which will be located within the 'Middle Village', just north of the village green. The exact uses within the local centre will be considered as part of the detailed proposals, but the space allows for business use and small units for local retail which are intended to serve local residents. For quantitative assessments within this ES, the retail element (Use Class A1) is assumed to be 950 square metres (sqm), which will be on the ground floor and 475 sqm of office space (Use Class B1a) on the upper floor.

This space will also incorporate the primary school and other facilities such as a community building and a cricket pitch. The community building could offer flexible office space available for start-up or small businesses in the local area. The site is not intended to accommodate larger businesses, but

instead focus on providing suitable office space for local residents wishing to start up their own business. In terms of the primary school, a two-form entry is proposed (two classes per year group).

The Lower Village will consist of a multi-sports pitch and the pavilion centre, along with the residential dwellings and an area of amenity green space in the centre of the dwellings.

3.1.2 Housing type and mix

The Forest Village will include a mix of housing types, including a good provision of family housing and affordable homes. In terms of housing type and mix, the proposal seeks to be fully policy compliant and the exact mix will be agreed with the Council based on latest evidence of housing need and market demand. For the purposes of assessment within this ES, the following working assumption (and based on experience with similar schemes elsewhere), has been used in terms of the housing types and number of dwellings (total 1,100):

- One-bedroom dwelling – 165 (15% of the total);
- Two-bedroom dwelling – 330 (30%);
- Three or four-bedroom dwelling – 605 (55%).

3.1.3 Access and parking

There will be two vehicular access points proposed as part of the development. The first access point will be to the north of the upper village, along Coopers Green Lane. This will be in the form of a three-arm roundabout and as part of the design, a section of Coopers Green Lane will be diverted into the site to improve the alignment of the road. The second access point will lie to the south of the site, connecting to Albatross Way by extending the existing east-west section of the road to form a new priority junction, just south of the lower village.

The proposed new primary movement route will run through the site across all three villages and will also allow several bus routes to service the site from within. The development has been designed to enable the existing bus services to be diverted through the site and discussions are currently taking place with operators. Bus stop locations will be coordinated with pedestrian routes and will be designed so that each stop is within 400m (approximately 5-minute walk) of the site.

Given this is an outline planning application, the detail of parking provision has not been finalised and will be considered at the Reserved Matters stage. However, the current intention to provide car parking in line with the adopted car parking standards. It is also the intention to provide car parking either on driveways or in garages associated with the proposed houses.

3.1.4 Landscaping

In relation to landscaping, green spaces will surround the Forest Village providing a range of different types of public open space. These include sports pitches, allotments and semi-natural green space. In addition, a series of green links will run from east to west, helping to define the residential areas and connect to the Ellenbrook corridor. These include a northern green link, a central green link and a southern green link. The northern green link will act as a flood plain for the Ellenbrook whilst providing an area of semi-natural green space. The central green link will incorporate the Village Green and school playing fields. This will also provide a pedestrian/cycle connection to the Town Centre and bus station. The southern green link will allow the retention of existing grassland and provide an interface with the publicly accessible open space to the south. The existing Ellenbrook will be retained as a key landscape feature/green corridor.

3.1.5 Amenity space

There are various amenity green spaces proposed throughout the site. Towards the very southern corner of the site by the access point, there will be various sports pitches along with a pavilion centre as part of the sports centre. As confirmed in 3.1.4, a village green/playing pitches also forms part of the proposal, which are located to the right of the Middle Village, adjacent to the existing Ellenbrook Linear Park. This will be available for sports and/or community events. Other amenity spaces include circular pedestrian/cycle routes, water attenuation ponds and informal open spaces.

35.21 ha of amenity/green infrastructure is to be provided, which equates to over half of the site area (52.16%) of the application red line.

3.1.6 Extra care facility

An area of the development is proposed for an extra care facility - a type of retirement housing where residents have their own self-contained home but benefit from on-site communal facilities and care/support.

3.1.7 Phasing

The technical studies within this ES have been predicated on the following application timetable and proposed phasing for construction:

- Outline planning application submission – Autumn 2018;
- Outline planning approval - Spring 2019;
- Reserved matters application for Infrastructure and Phase 1 Homes – Autumn 2019;
- Delivery of Infrastructure and Phase 1 Homes – 2020-2021;
- Reserved matters application for Phase 2 Homes – Autumn 2021;
- Delivery of Phase 2 Homes – 2022-2023;
- Reserved matters application for Phase 3 Homes – Autumn 2023;
- Delivery of Phase 3 Homes – 2024-2025;
- Reserved matters application for Phase 4 Homes – Autumn 2025;
- Delivery of Phase 4 Homes – 2026-2027.

The physical areas for the phases and delivery are shown in Section 3 of the Design and Access Statement.

3.2 ALTERNATIVES

In accordance with the requirements of Schedule 4 of the EIA Regulations, it is necessary to describe the reasonable alternatives studied by the Applicant and project team during the process up to the application stage.

The three main scenarios for considering alternatives associated with the site and the proposed development are as follows:

- A 'do nothing' or 'no change' scenario, which considers no development taking place on the subject site;
- An 'alternative sites' scenario, which considers alternative sites for the proposed development (as relevant); and
- An 'alternative designs' scenario, which considers the alternative designs of the proposed development with respect to issues of location, materials, extent, etc. taking into account the environmental effects which influences the design evolution.

The EIA process is one in which the assessment of various environmental issues influences design and mitigation, and in many respects shapes any alternative options associated with such a development.

3.2.1 Do Nothing Scenario

It is recognised that as an alternative there is a 'do nothing' or 'no change' scenario, which would mean that the development is not promoted or brought forward at this stage. However, as outlined below, this is not considered to be a suitable alternative for this site.

The 'do nothing' scenario would fail to achieve the objectives of the applicant in terms of providing housing and creating a forest village. As such, this scenario would not bring forward the creation of homes and employment nor would this scenario allow for the provision of truly accessible amenity space and green infrastructure in excess of 35ha.

Whilst the 'do nothing' scenario would result in no corresponding adverse or beneficial effects, it is considered to be entirely inappropriate given the benefits that the site could deliver through redevelopment. As such, the 'do something' scenario and its associated benefits are considered to clearly outweigh the 'do nothing' scenario.

3.2.2 Alternative Sites

No alternative sites to the application site have been considered as part of the development process. The applicant owns the land and can bring forward the development of this site in accordance with their development aspirations. As such, it is considered entirely unrealistic for the applicant to have considered alternative sites when the application site is suitable, available and viable.

Given that no other sites have been considered, it is not possible to consider whether this site would have any additional adverse or beneficial effects in comparison to a hypothetical alternative site. As such, this has not been considered further within the EIA and the associated technical reports contained herein.

3.2.3 Alternative Designs

The true consideration of alternatives has focused on the options considered for alternative designs, including the layout and general arrangement of the site in the context of the site constraints and opportunities. The development proposals have also been guided through pre-application consultation with WHBC. As such, the illustrative masterplan must be understood as an iterative one which clearly evolved with the range and depth of information available. The philosophy at the core of the design, which has evolved has highlighted a number of considerations for the design, either as a constraint or opportunity for development. Accordingly, the evolved key design principles are as follows:

- Creation of a Village that contains a number of distinct neighbourhoods, reflecting the existing settlement pattern and morphology.
- Creation of interconnecting east-west green corridors between the neighbourhoods, providing an attractive setting for the residential areas and helping integrate development into the landscape.
- Creation of community facilities within the central part of the Village and orientated along the east-west landscape corridor (already established as part of the original Hatfield Aerodrome redevelopment), where is easily accessible to all existing and future residents.

- Creation of a primary road running through the development, linking the different neighbourhoods and connecting with the existing highway network at the northern and southern ends of the Site. The road will be designed to accommodate bus services.
- Creation of green space along the eastern Site boundary, linking with existing open space provision; incorporating existing grassland, scrub and woodland habitat, and providing a continuous recreational route to the east of the Site.
- Incorporation of a suitable edge treatment along the eastern site boundary, where it adjoins the Hatfield Business Park, to provide noise attenuation and enhance screening function of existing vegetation.
- Creation of a linear green space along the western site boundary, incorporating existing grassland, scrub and woodland habitat, and providing a recreational route. This will also ensure there remains an appropriate buffer between Astwick Manor and the Upper Village.
- Creation of a development structure that ensures that the development fronts onto surrounding open space, thereby providing natural surveillance and creating a positive interaction between the settlement and landscape.
- De-culverting of the remaining piped section of the Ellenbrook, reducing flood risk; increasing surface water drainage capacity; and providing biodiversity and amenity benefits.
- Retention and enhancement of existing woodland through appropriate management and new woodland planting. The local woodland context will also inform the detailed design of the green infrastructure and built environment with new tree planting throughout the Site.
- Potential for mineral extraction to the south and extension of the extant quarry to the north.

3.2.4 Alternatives Conclusion

As outlined above, the consideration of alternatives has principally related to the design of the scheme and how this interacts with the site, its surrounds and the adjoining committed developments (Chapter 4). Whilst these considerations have been briefly outlined above, further information regarding the iterative design process is contained within the supporting Design and Access Statement prepared by LDA-Design.

Furthermore, consideration of this iterative design process has been accounted for within the various technical chapters contained within this ES.

4 COMMITTED DEVELOPMENTS

The site is designated as Green Belt in the current Welwyn Hatfield District Plan, which was adopted in 2005. The Plan is now out of date and is not able to deliver new strategic housing sites. Chapter 5 confirms the applicable planning policies, but the Plan's status is relevant to this Chapter.

The emerging Local Plan has been subject to the examination process since May 2017 and this is ongoing. A number of strategic housing sites have been put forward including the site subject to this application/ES. However, due to the emerging status of the Local Plan, none can be considered as committed development in the context of this ES.

Therefore, those applications/developments that have been considered during this EIA process are listed in Table NTS.1 below:

Table NTS.1: Committed Development

Council Reference	Description	Decision	Date
PL\0755\16 (Hertfordshire County Council)	Application for the establishment of a new quarry on land at the former Hatfield Aerodrome, including a new access onto the A1057, aggregate processing plant, concrete batching plant and other ancillary facilities, together with the importation of inert fill materials for the restoration of the minerals working.	Awaiting decision	Submitted: 26/01/2016
6/2015/2043/OUTLINE (WHBC)	Redevelopment to provide floorspace equivalent to 537 Units of Development (UD) (as set out in Schedule 1) for Use Classes B1, B2, sui generis and hotel use on plots 4100, 5000, 5600 and for Use Classes B1, sui generis and Hotel use on plot 6000 with all matters reserved except access.	Application permitted	Granted 05/07/2016
5/3720-16 (Hertfordshire County Council)	Proposed extension to Hatfield Quarry for the extraction of approximately 0.45 million tonnes of sand and gravel from within 17.7ha of land known as Furze Field, involving retention of the quarry access road and site infrastructure facilities and restoration of the extension area to agricultural land and mixed habitats including wetlands, acid grassland and woodland planting.	Awaiting decision	Submitted: 09/11/2016

As can be noted from the above, these development proposals are at two stages of the planning process – submitted yet undetermined and approved. It is worth noting that the current application (6/2018/1635/OUTLINE – change of use of land to airfield etc.) on this same application site has not been considered for the following reasons:

- Arlington Business Parks GP Ltd is the legal owner of the site and the Applicant of 6/2018/1635/OUTLINE has no legal interest or claim on the site. Arlington Business Parks GP Ltd has no intention to allow use of the land should the application be approved; and
- The proposals cannot be both accommodated on the application site – therefore, it is not relevant to consider this live application.

4.1 TECHNICAL ASSESSMENTS AND CUMULATIVE IMPACTS

Each of the technical assessments undertaken has given due consideration for potential interaction and cumulative impacts with these surrounding development proposals.

It must be appreciated that there is a hierarchy to the consideration of cumulative impacts with adjoining development proposals dependent upon their progress through the planning process:

- Certain – with more available information:
 - Existing developments in situ (baseline);
 - Other influences and trends;
- Greater Certainty – with moderate available information:
 - Approved developments under construction;
 - Approved developments not yet under construction (or fully effective);
- Less Certain / no certainty – limited information / liable to change:
 - Proposed (submitted) developments not yet approved;
 - Emerging proposals for development; and
 - Site allocations or emerging development plan documents.

Given that there is no statutory guidance relating to the application of a cumulative impact assessment, the judgement as to what is ‘reasonably foreseeable’ as an interaction or potential cumulative impact is examined by each technical discipline in turn and is based on professional experience.

Further information relating to the committed developments is provided for reference below, whilst further consideration and a summary of the likely cumulative impacts is contained within Chapter 15 of the ES.

5 PLANNING POLICY CONTEXT

Chapter 5 of the ES has sought to outline the applicable overarching planning policy position associated with the site and the proposed development, whilst policies applicable to the various technical assessments included within this ES are contained within the relevant chapters.

A more detailed assessment of the relevant national and local planning policy is contained within the Planning Statement submitted in support of the application. The applicable planning policy relevant to the ES is listed below:

- National Planning Policy Framework ('NPPF');
- National Planning Practice Guidance;
- Welwyn Hatfield District Plan (2005);
- Emerging Local Plan – adoption forecasted for mid-late 2019.

6 TOPICS NOT CONSIDERED TO HAVE SIGNIFICANT EFFECTS

As stated in Section 1.4, no Screening and/or Scoping requests have been made to WHBC in respect of these proposals. Therefore, this Chapter confirms the topics/technical disciplines that have not been included and why these are not considered to have significant effects. The issue of significance is fundamental and confirmed in Part 1, Regulation 4 (2), which states:

*“The EIA must identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect **significant** [Triptych PD’s emphasis] effects of the proposed development on the following factors –*

- a) Population and human health;*
- b) Biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC(a) and Directive 2009/147/EC(b);*
- c) land, soil, water, air and climate;*
- d) material assets, cultural heritage and the landscape;*
- e) the interaction between the factors referred to in sub-paragraphs (a) to (d).”*

Schedule 4 – Information for Inclusion in Environmental Statements – provides further guidance in paragraph 4 for those factors likely to be significantly affected by the development. Whilst the purpose of the guidance is to ensure all factors of significance are captured/addressed, in this instance it provides a list of factors that can be confirmed to not be significantly affected by the proposals and/or proportionally and appropriately addressed within other topics.

6.1 TOPICS/FACTORS NOT INCLUDED IN THIS ES

For completeness, paragraph 4 of Schedule 4 states:

“A description of the factors specified in regulation 4(2) likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.”

Table NTS.2 lists each of these topics and confirms whether these are included in this ES.

Table NTS.2 – Confirmation of Topics Included

Topic/factor	Included with this ES – Y = yes and N = no.
Population	Y – proportionally and appropriately assessed in Chapter: 10 Socio-economics and Chapter 11: Landscape and Visual Impact Assessment.
Human health	Y – proportionally and appropriately assessed in Chapters 7: Air Quality, 8: Ground Conditions and Contamination and 13: Water Resources, Flood Risk and Drainage.
Biodiversity	Y – Chapter 14: Ecology.
Land	Y – the land use will change - albeit under 50% will contain built development - as will the physical appearance from grazing/scrubland to residential and other built development. The impact of the proposals including mitigation measures have been addressed in Chapter 11: Landscape and Visual Impact Assessment.
Soil	Y – Chapter 8: Ground Conditions and Contamination.

Water	Y – Chapter 13: Water Resources, Flood Risk and Drainage.
Air	Y – Chapter 7: Air Quality.
Climate	Y – proportionally and appropriately assessed in Chapter 13: Water Resources, Flood Risk and Drainage. In addition, although the proposals will result in an increase in energy demand from the new dwellings etc. compared with the existing use, it represents a small percentage of development within the extant context of Hatfield and the Borough as a whole and is therefore, not considered to be significant.
Material Assets	Y – proportionally and appropriately assessed in Chapters 10: Socio-economics, 11: Landscape and Visual Impact Assessment, 12: Transport and 14: Ecology.
Cultural Heritage	N.
Landscape	Y – Chapter 11: Landscape and Visual Impact Assessment.

Therefore, the single topic/factor not included within the ES, due to the impact of the development not being considered significant, is Cultural Heritage.

6.1.1 Cultural Heritage

Astwick Manor is a Grade II listed building to the west of the northern section of the application site accessed via a dead-end road ('Astwick Manor') from Coopers Green Lane.

The online records of Historic England - <https://historicengland.org.uk/listing/the-list/list-entry/1101043> October 2018 - state the description of the building to be as follows:

“Manor house, now college headquarters. Late C17 or early C18, altered and extended both ends C19 and C20. Original house is 5- window centre in chequered red brick. 2 storeys and attics. Plain tiled roof. Floor band. Gabled C19 wooden porch, ground floor segmental heads and 3 gabled attics. C19 casements. 1- window gable-ended extensions. 3 tall chimney stacks either end of range with stepped brick upper courses.”

As confirmed in Section 11.3.7 of Chapter 11: Landscape and Visual Impact Assessment within the ES, the established woodland at Round Wood and Home Covert form the western boundary of the application site and prevent any views further westwards. This includes views to/from Astwick Manor. Therefore, without a visual or physical link to the setting of and/or the actual listed building, it is concluded that the proposals cannot have a significant effect on the setting of or the listed building itself.

7 CUMULATIVE IMPACTS

7.1 INTRODUCTION

Part 5(e) of Schedule 4 of the Regulations states that an ES requires a ‘description of the likely significant effects of the development on the environment resulting from, inter alia the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.’

As confirmed in Section: 4 Committed Developments, the applications/developments in Table NTS.3 have been part of the EIA process in the formulation of this ES.

Table NTS.3: Committed Development

Council Reference	Description	Decision	Date
PL\0755\16 (Hertfordshire County Council)	Application for the establishment of a new quarry on land at the former Hatfield Aerodrome, including a new access onto the A1057, aggregate processing plant, concrete batching plant and other ancillary facilities, together with the importation of inert fill materials for the restoration of the minerals working.	Awaiting decision	Submitted: 26/01/2016
6/2015/2043/OUTLINE (WHBC)	Redevelopment to provide floorspace equivalent to 537 Units of Development (UD) (as set out in Schedule 1) for Use Classes B1, B2, sui generis and hotel use on plots 4100, 5000, 5600 and for Use Classes B1, sui generis and Hotel use on plot 6000 with all matters reserved except access.	Application permitted	Granted 05/07/2016
5/3720-16 (Hertfordshire County Council)	Proposed extension to Hatfield Quarry for the extraction of approximately 0.45 million tonnes of sand and gravel from within 17.7ha of land known as Furze Field, involving retention of the quarry access road and site infrastructure facilities and restoration of the extension area to agricultural land and mixed habitats including wetlands, acid grassland and woodland planting.	Awaiting decision	Submitted: 09/11/2016

In addition, the EIA process has taken an inclusive approach to take account of each applicable topic and the interaction between these. Therefore, a two-element approach in respect of cumulative effects:

1. Committed developments outside the application red line boundary; and
2. Interaction between topics/factors assessed within this EIA process.

Taking account of both elements, only one topic is considered to have a significant effect without mitigation – socio-economic. All other topics when considered cumulatively will not have a significant effect when incorporating the proposed mitigation.

7.2 SOCIO-ECONOMIC

The impact of the construction phase of the proposed development has been assessed to be significant and positive – no mitigation is required. In addition, the contribution of the proposed scheme to the future labour supply for the Borough's economy has been assessed to be significant and positive – no mitigation is required.

8 AIR QUALITY

8.1 RESIDUAL EFFECTS

8.1.1 Construction Phase

On the basis that the mitigation measures outlined in the ES, are implemented, the residual effects from all construction phase activities are predicted to be not significant.

8.1.2 Operational Phase

8.1.2.1 *Traffic Emissions Assessment*

The predicted residual effects of traffic emissions arising from the scheme on existing sensitive receptors are predicted to be not significant without the inclusion of mitigation measures.

8.2 SUMMARY OF EFFECTS

Assuming the implementation of relevant mitigation measures, the overall effect of the development in terms of existing sensitive receptors surrounding the Application Site is predicted to be not significant.

8.3 TECHNICAL CONCLUSION

A qualitative assessment of the potential dust impacts during the construction of the development has been undertaken. Through good practice and implementation of appropriate mitigation measures, it is expected that the release of dust would be effectively controlled and mitigated, with resulting impacts considered to be 'not significant'. All dust impacts are considered to be temporary and short-term in nature.

Due to the low additional number of HDV trips anticipated during the construction phase of the development, there is predicted to be a neutral impact / insignificant effect on air quality from road vehicle emissions. Furthermore, emissions from plant / NRMM on-site is predicted to result in a 'not significant' impact on air quality.

Potential operational phase dust mineral dust impacts from the adjacent proposed Hatfield Quarry site are predicted to result in a 'negligible' risk of impact and 'not significant' effect on disamenity in accordance with the IAQM minerals guidance.

Potential operational phase dust mineral dust impacts from the adjacent proposed Furze Field Hatfield Quarry extension site are predicted to result in a 'slight adverse' impact and 'not significant' effect on disamenity for receptor locations of the Application Site located within 250m of the boundary of the proposed Furze Field Hatfield Quarry extension site. Beyond 250m, potential operational phase dust mineral dust impacts from the adjacent proposed Furze Field Hatfield Quarry extension site are predicted to result in a 'negligible' risk of impact and 'not significant' effect on disamenity in accordance with the IAQM minerals guidance.

Additional development trips arising during the operational phase of the scheme are predicted to result in a negligible impact on annual mean NO₂ and PM₁₀ concentrations at all human receptor locations. There is no new predicted risk of exceedence of the 1-hour mean NO₂ or 24-hour mean PM₁₀ AQOs as a result of the development proposals. As such, the overall effect is considered to be 'not significant'.

As such, it is not considered that air quality represents a material constraint to the development proposals, which conform to the principles of National Planning Policy Framework and accompany Planning Practice Guidance, the Hertfordshire Health and Wellbeing Planning Guidance and saved policies of the Welwyn Hatfield District Plan.

On the basis that the mitigation measures outlined within the Air Quality chapter are implemented, the residual effects from all construction phase activities are predicted to be not significant.

On the basis that the mitigation measures outlined within the Air Quality chapter are implemented, the residual effects on future inhabitants of the proposed development are predicted to be not significant.

The predicted residual effects of traffic emissions arising from the scheme on existing sensitive receptors are predicted to be not significant without the inclusion of mitigation measures.

The assessment has concluded that a 'very high' level of odour control is required for the proposed kitchen units. On the basis that such mitigation measures are implemented, the residual effects of odour from the proposed kitchen units is predicted to be not significant.

9 GROUND CONDITIONS AND CONTAMINATION

9.1 RESIDUAL EFFECTS

It is considered that, following the implementation of the construction phase mitigation measures outlined above, the residual effects associated with the post-construction phase of the proposed site will be reduced to negligible and not significant.

It is usually the case that no investigation can cover the whole of a site, therefore the possibility remains that contaminants maybe present in previously unexplored areas. The likelihood of encountering unidentified contamination is significantly reduced upon completion of this assessment of risks arising from contamination and remediation requirements when considering the basis of both the current use and circumstances and its proposed use. The potential residual effect presented to future end users of the site is considered to be negligible significance. If contaminated material is encountered in previously unexplored areas of the site remedial measures would be required, appropriate to the source-pathway-receptor pollutant linkage determined.

9.2 SUMMARY OF EFFECTS

9.2.1 Impacts of the Development upon the Land

An assessment of the potential impacts of the development upon the land judged that the excavation and haulage aspect of the development has the potential to bring about nuisance-type impacts (e.g. dust, mud, etc.) at both the development site and the site(s) receiving the made ground and Natural Strata. That assessment also predicted slight or moderately significant adverse impacts upon the quality of the Made Ground and Clay being handled during the construction stage of the development if mitigation measures were not employed.

Impacts of the land upon the development in the construction and operational stages are likely to be fully resolved by the formation and implementation of:

- a Construction Management Plan (CMP) with the core objective of minimising environmental impacts from the development works; and
- a Site Waste Management Plan (SWMP) which will include a Materials Management Plan (MMP).

9.2.2 Impacts of the Land on the Development

An assessment of the impacts of the land upon the development in the construction and operational stages will assist in the identification of a number of potential pollutant linkages:

9.2.2.1 Construction Stage

- Potential Harm to Health of Construction Workers and Neighbours during Construction from Exposure to Potential PCB in Made Ground (on site but in vicinity of off-site transformer);
- Potential Harm to Health of Construction Workers and Neighbours during Construction from Exposure to Airborne Contaminants in Dust;
- Potential Harm to Health of Construction Workers and Neighbours during Construction from Exposure to Airborne Asbestos in Dust;
- Potential Harm to Health of Construction Workers within Deep Excavation from Exposure to Gases especially Carbon Dioxide;
- PPL 4 (d): Potential Harm to Health of Construction Workers and Neighbours from Potential Contaminants in Imported Landscaping Soils;

- Potential Risks to Health or the Environment from Unidentified Sources Discovered during Construction; PPL UXO

9.2.2.2 *Operational Stage*

- Potential Harm to Health of Future Residents, Workers and Visitors from Exposure to (off site) Contaminants Entering Water Supply Pipework;
- Potential Damage to Future Buildings from Exposure to Aggressive Acids/Sulphates in Made Ground (off-site) and London Clay;
- Potential for Harm to Health of Future Residents, Workers and Visitors and Building Damage from Hazardous Gases (from off-site);
- Potential Harm to Human Health in future from Potential Contaminants in Imported Landscaping Soils.

The harm which could arise should these potential linkage form in the construction and operational stages can be avoided or at least minimized by the formation and implementation of:

- a Health & Safety Plan including an assessment of the potential risk to construction workers from asbestos and ground gases entering excavations, plus plans with respect to UXO based on a Site Specific Unexploded Ordnance Risk Assessment;
- Materials Management Plan including details of any supplementary testing and a section setting out procedures should the contractor unexpectedly encounter potentially hazardous materials (which would trigger production of a Land Quality Validation Report setting out any additional remedial measures volunteered to deal with unexpectedly contamination);
- Construction Management Plan;
- Site Assessment Report leading to the specification of suitably protective water pipe material;
- a Designer's Risk Assessment concerning the potential damage to future buildings from exposure to aggressive ground leading to the specification of suitably resistant concrete structures; and
- new buildings which will be inherently gas-resistant and afford all users fresh air without special precaution regarding ground gas.

Health and Safety Plans are not a matter for the planning authority but are produced in response to legislation.

Overall, following completion of the Unexploded Ordnance Risk Assessment, Site Assessment Report and Designer's Risk Assessment and via adoption of the various Plans recommended herein, it is anticipated that the developer will be able to:

- minimise construction-stage nuisance;
- maintain the quality of materials being taken off-site for reuse; and
- implement measures designed to avoid the formation of pollutant linkages thereby:
 - protecting the health of construction workers and neighbours during construction;
 - safeguarding the local environment and that of the site(s) receiving the Made Ground and clay;
 - protecting the health of future residents, workers and visitors during the life of the development; and
 - ensuring that future buildings are not damaged by ground conditions.

9.3 TECHNICAL CONCLUSION

An assessment of the potential impacts of the development upon the land judged that the development has the potential to bring about nuisance-type impacts at both the development site

and the site(s) receiving excavated materials, and adversely impact the quality of the Made Ground and underlying strata if they are mishandled.

An assessment of the impacts of the land upon the development identified a number of potential pollutant linkages which could result in harm to health in the construction period and harm health and damage property during the lifespan of the development.

A small number of further risk assessment are recommended:

- Unexploded Ordnance Risk Assessment;
- Site Assessment Report regarding water pipes; and
- Designer's Risk Assessment regarding buried concrete.

All of these supplementary assessments are likely to bring about recommendations to control risk, none of the options are likely to be unusual or overly costly to implement considering the overall construction costs.

A number of plans are recommended:

- Health & Safety Plan;
- Construction Management Plan;
- Site Waste Management Plan including Materials Management Plan.

The Materials Management Plan will include details of any supplementary testing required and a section setting out procedures should the contractor unexpectedly encounter potentially hazardous materials.

If remedial measures are volunteered to deal with unexpected contamination the developer will undertake to produce a Land Quality Validation Report.

By acting upon the recommendations of specialists with regard to UXO and the specification of water pipes and concrete, and via adoption of the various Plans recommended the developer will:

- minimize construction-stage nuisance;
- maintain the quality of materials being taken off-site for re-use; and
- implement measures designed to avoid the formation of harmful or damaging pollutant linkages - locally and at the site(s) receiving the Made Ground and clay.

The development should also:

- enhance the natural and local environment by preventing the new development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil pollution; and
- ensure that the site is suitable for its new mixed commercial and residential use taking account of ground conditions and pollution arising from previous uses and any proposals for mitigation including land remediation or impacts on the natural environment arising from that remediation.

In addition, the development should bring about conditions meeting Category 3 or 4 making the site incapable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990.

It has been found through this assessment that, with the mitigation measures described above, anticipated effect of ground conditions would be negligible. This has been assessed both during and post-construction.

10 NOISE AND VIBRATION

10.1 RESIDUAL EFFECTS

10.1.1 Residual Construction Effects

The good practice mitigation measures are likely to provide a small reduction in the overall level of construction noise. It is considered that a medium magnitude of impact will remain after mitigation, resulting in a minor residual effect. This is considered to be not significant.

10.1.2 Residual Operational Effect

No operational mitigation is necessary, so the Proposed Development would result in a negligible residual effect, which is not significant.

10.1.3 Residual Effect of Site Suitability

Will appropriate screening, glazing and ventilation discussed above, the noise levels within dwellings across the Site would be reasonable and therefore, considered to be appropriate for the intended use.

10.2 SUMMARY OF EFFECTS

A summary of effects is presented in Table Table NTS.4.

Table NTS.4 – Summary of Effects

Stage	Pre-mitigation			Mitigation description	Residual	
	Magnitude	Sensitivity	Effect		Magnitude	Effect
Construction activity	Medium	High	Minor	Good practice	Medium	Minor
Construction traffic	Low	High	Negligible	n/a	Low	Negligible
Operational plant	Low	High	Negligible	n/a	Low	Negligible
Operational traffic	Low	High	Negligible	n/a	Low	Negligible

10.3 TECHNICAL CONCLUSION

The potential noise impacts from the Proposed Development upon existing sensitive receptors have been assessed using criteria derived from national policy and guidance documents. In addition, the existing noise climate across the development site has been assessed for the suitability of the proposed residential use against Effect Levels set out in policy.

Assessment of noise from construction of the Proposed Development shows that, although there is potential for short-term high levels of noise when activity is taking place close to receiver locations, these events will be infrequency and temporary. Overall, the construction noise levels have a medium magnitude of impact upon high sensitive receptors results in a minor significant effect, which is considered not significant in EIA terms.

Potential operational noise impacts from the Proposed Development is limited to noise from any plant and increased levels of traffic producing increased levels of traffic noise. The Proposed represents a low magnitude of impact. This magnitude of impact on high sensitive receptors corresponds to a negligible significant effect, which is not significant in EIA terms.

When assessing the suitability of the site considering road traffic noise, the assessments have concluded that for all but the few elevations overlooking Coopers Green Lane to the north of the site noise levels are below the LOAEL during both the day and night. No further consideration is required in these areas for this type of noise. For more exposed elevations overlooking Coopers Green Lane mitigation has been discussed for achieving suitable internal noise levels in line with current British Standard guidance.

In the assessments considering site suitability due to operational noise associated with the mineral extraction facilities and proposed extensions to these, the assessments have concluded that noise is predicted to be within all criteria at all times during the proposed operating hours and are not expected to have a significant adverse impact nor give rise to significant noise intrusion. No further consideration to this noise is required on this basis.

For the commercial operations associated with the units to the east of the Proposed Development, the assessments have concluded that with the embedded mitigation of the proposed acoustic screening along the boundary commercial noise is predicted to be below the LOAEL threshold during both the day and night throughout the site. No further consideration to this noise is required on this basis.

For all but the few elevations overlooking Coopers Green Lane to the north of the site, total combined noise levels have been calculated to be below the LOAEL threshold for each period. No further consideration is required in these areas of the Proposed Development. For the few elevations overlooking Coopers Green Lane subject to elevated levels the predictions are below the SOAEL threshold during both the day and night. This is generally due to road traffic. Mitigation options are discussed for achieving suitable internal conditions within these dwellings in line with current British Standard guidance.

11 SOCIO-ECONOMICS

11.1 RESIDUAL EFFECTS

As there are no expected adverse residual effects there is no requirement for additional mitigation.

11.2 SUMMARY OF EFFECTS

During the construction phase, the proposed development would be expected to create 1,440 net additional person-years of local construction phase employment and £42.4 million of GVA in the local economy (i.e. at the spatial level of Welwyn Hatfield) over a 7-year construction period.

This effect is assessed to be Significant (and positive).

During the operational phase, the proposed development would be expected to create 136 gross FTE permanent jobs at the spatial level of Borough of Welwyn Hatfield.

This effect is assessed to be Insignificant (but positive).

In addition, during the operational phase, the expected aggregate level of increased annual household expenditure arising from the 1,100 new homes proposed by the development is expected to be sufficient to support 234 gross jobs in total, of which 82 would be expected to accrue to residents of the Borough of Welwyn Hatfield. However, it is inadvisable to add these numbers to the employment assessment, as the commercial floorspace may be supported by resident household expenditure; and some of the jobs in the commercial floorspace jobs may be filled by residents of the scheme.

This effect is assessed to be Insignificant (but positive).

Furthermore, during the operational phase the proposed development would be expected to contribute an additional 1,480 economically active adult residents to the local supply of labour.

This effect is assessed to be Significant (and positive).

11.3 TECHNICAL CONCLUSION

The proposed development would lead to beneficial effects on employment and the generation of additional economic output for the local economy of the Borough of Welwyn Hatfield. Moreover, the scale of two types of positive effects are assessed to be Significant:

- The demand for workers and stimulus to the local construction sector during the construction phase is assessed to be Significant (and positive); and
- The contribution of the scheme to the future supply of labour for the economy of Welwyn Hatfield is also assessed to be Significant (and positive).

There are not expected to be any significant adverse socio-economic effects from the proposed scheme.

12 LANDSCAPE AND VISUAL IMPACT

12.1 RESIDUAL EFFECTS

The mitigation measures required to reduce the effect of the proposed development on landscape character and views has been incorporated into the design of the project and the assessment of effects assumes that this mitigation is delivered.

No further primary mitigation measures are proposed, and as such, the residual effects will be the same as those described in relation to the Permanent effects of the proposed development.

12.2 SUMMARY OF EFFECTS

Effects on the receptors assessed in Section 11.4 are summarised in the following table:

Table NTS.5: Summary of Effects.

Receptor	Comments	Distance / Direction	Sensitivity	Magnitude	Significance	Positive / Neutral / Adverse
Landscape Character						
LCA31: de Havilland Plain	Effects on Ellenbrook Fields	/	Local District	Medium	Major - Moderate	Adverse
	Effects on landscape immediately surrounding the Site			Low	Slight	
	Effect on the wider character area			Negligible	Negligible	
Visual Receptor Groups						
Ellenbrook Fields and the Eastern Edge of Hatfield	Within Ellenbrook Fields	0m east	High - Medium	High	Major - Moderate	Adverse
	Area within approximately 100m of Ellenbrook Fields	100m east		Medium-low	Moderate	
	Elsewhere within receptor group	>100m east		Negligible	Minimal	

Receptor	Comments	Distance / Direction	Sensitivity	Magnitude	Significance	Positive / Neutral / Adverse
Astwick Manor, Cooper's Green, Beeches Farm and Cooper's Green Lane	Overall visual effect on receptor group	0m west	High - Medium	Low	Slight	Adverse
Popefield Farm and Footpath Colney Heath 14 / 15	Overall visual effect on receptor group	200m southwest	High - Medium	Negligible	Minimal	Adverse

12.3 TECHNICAL CONCLUSION

This assessment considers the effects of the Proposed Development on the existing landscape and visual baseline environments. The LVIA has also been an important component of the masterplanning process, ensuring landscape and visual considerations have informed the design of the Proposed Development from the outset.

In relation to landscape character, it is predicated that there will be major-moderate adverse effects on the Ellenbrook Fields itself, due to its change from an undeveloped site to built development. However, this is in part mitigated by the design of the Proposed Development, which will create a series of three well defined neighbourhoods that sit within a strong Green Infrastructure framework. Beyond Ellenbrook Fields, the effects rapidly reduce to slight-negligible, and there are unlikely to be any discernible effects on the wider character of the de Havilland Plain.

The Proposed Development also relates well to the existing settlement form and context. It is considered that the Proposed Development would represent a logical extension to Hatfield, relating well to the existing Salisbury Village to the east and being well contained to the west by existing / enhanced boundary vegetation and woodland. Importantly, the Proposed Development creates an opportunity to enhance the existing urban edge, which is currently defined by a combination of industrial units and residential properties, some of which back on to or are fenced off from the Ellenbrook Fields.

In relation to views, it is predicated that there will be major-moderate adverse effects on recreation users of Ellenbrook Fields itself, due to its change from undeveloped site to built development. However, this is in part mitigated by the design of the Proposed Development, with the proposed tree and woodland planting helping to assimilate the development into the landscape and softening views of the built form. The proposed Green Infrastructure will also provide a range of different types of publicly accessible open space. The effects reduce to moderate for the limited number of recreational and residential receptors along the immediate eastern Site boundary, who will have relatively open views of the Proposed Development. Beyond this, effects are considered to be slight-minimal and there are unlikely to be any discernible effects on views towards the Site from with Hatfield or the surrounding countryside.

Overall it is concluded that the effects of the Proposed Development are well contained and limited to a small number of receptors within and immediately adjacent to the Site. There will be a large

degree of change to character and views as a result of the changing land-use within the Site, but the Proposed Development has been sensitively designed to respond to local context.

13 TRANSPORT

13.1 RESIDUAL EFFECTS

13.1.1 During Construction

The residual effects of the Proposed Development during the construction phase, following mitigation outlined previously, are unchanged from those presented in Table 12.21 of the ES. It should be noted that these residual effects are Temporary. The residual effects are summarised below in Table NTS.6.

Table NTS.6: Summary of Residual Effects during Construction

Description of Effect	Significance of Effect
Severance	Minor Adverse (Temporary) (not significant)
Pedestrian Delay	Negligible (Temporary) (not significant)
Pedestrian Amenity	Negligible (Temporary) (not significant)
Driver Delay	Negligible (Temporary) (not significant)
Accidents & Safety	Negligible (Temporary) (not significant)
Public Transport	Negligible (Temporary) (not significant)

13.1.2 During Operation

The residual effects of the Proposed Development during the construction phase, following mitigation outlined previously, are unchanged from those presented in Table 12.25 of the ES. It should be noted that these residual effects are Temporary. The residual effects are summarised below in Table NTS.7.

Table NTS.7: Summary of Residual Effects of the Completed Development

Description of Effect	Significance of Effect
Severance	Minor Adverse (not significant)
Pedestrian Delay	Negligible (not significant)
Pedestrian Amenity	Minor Adverse (not significant)
Driver Delay	Negligible (not significant)
Accidents & Safety	Negligible (not significant)
Public Transport	Negligible (not significant)

13.2 SUMMARY OF EFFECTS

The potential transport impacts have been assessed using established methodologies set out in the IEMA Guidelines.

A summary of the effects during the construction phase and during operation is presented in Table NTS.8.

Table NTS.8: Summary of Effects

Description of Effect	Effect	Mitigation	Residual Effect
During Construction (Temporary)			
Severance	Minor Adverse (not significant)	CTMP	Minor Adverse (not significant)
Pedestrian Delay	Negligible (not significant)		Negligible (not significant)
Pedestrian Amenity	Negligible (not significant)		Negligible (not significant)
Driver Delay	Negligible (not significant)		Negligible (not significant)
Accidents & Safety	Negligible (not significant)		Negligible (not significant)
Public Transport	Negligible (not significant)		Negligible (not significant)
During Operation (Permanent)			
Severance	Minor Adverse (not significant)	Cycle parking, diversion of bus services, pedestrian and cycle links, Travel Plans	Minor Adverse (not significant)
Pedestrian Delay	Negligible (not significant)		Negligible (not significant)
Pedestrian Amenity	Minor Adverse (not significant)		Minor Adverse (not significant)
Driver Delay	Negligible (not significant)		Negligible (not significant)
Accidents & Safety	Negligible (not significant)		Negligible (not significant)
Public Transport	Negligible (not significant)		Negligible (not significant)

13.3 TECHNICAL CONCLUSION

In conclusion, the assessment demonstrates that during the operation of the Development the residual impact will be negligible in relation to pedestrian delay, accidents and safety and public transport, and will be Minor Adverse in relation to severance and pedestrian amenity.

14 WATER RESOURCES, FLOOD RISK AND DRAINAGE

14.1 RESIDUAL EFFECTS

With mitigation the new development site will be maintained at a low flood risk, providing a small beneficial change and a negligible environmental impact. The residual effects are insignificant.

The construction impact will be managed through a Construction Environmental Management Plan with method statements which will include a detailed monitoring programme, and will therefore be minimal. With this mitigation in place the magnitude of any water quality impacts will be negligible and the overall impact negligible.

The drainage system will provide treatment for the hard-standing area, which will remove solids and oil pollution. With this mitigation in place the magnitude of any post-construction water quality impacts will be negligible and the overall impact negligible.

14.2 TECHNICAL CONCLUSION

It has been found through this assessment that, with the mitigation measures described above and within the FRA and drainage strategy, effect on the water environment would be negligible from this development proposal in terms of the risk and water resources. This has been assessed both during and post-construction.

15 ECOLOGY

15.1 RESIDUAL EFFECTS

Table NTS.9 lists the residual effects following the implementation of the further mitigation measures outlined in Table 14.14 of Chapter 14 and identifies whether these are significant.

One significant residual effect remains, which is the loss of the majority of semi-improved grassland at the Application Site, which meets the criteria for a Hertfordshire Local Wildlife Site. It is not possible to mitigate this effect within the Proposed Development.

Five further adverse residual effects have been identified, all of which are local / minor effects and are not considered significant.

There are also four beneficial residual effects, all of which are local / minor and not significant.

Table NTS.9: Residual effects. Neutral or negligible effects are indicated in white. Adverse effects are indicated in yellow (for local/minor effects that are not significant) or orange (for district/moderate effects that are significant). Beneficial effects are indicated in green.

Feature	Effects from construction and occupation phases				
	Residual Effects	Effect type	Geographic scale	Severity	Significance
1. Symondshyde Great Wood LWS and Ancient Woodland	None. There is no conflict with policy or legislation.	Neutral	N/A	N/A	Not significant
2. Home Covert and Round Wood LWS	After the mitigation measures described above, very limited additional recreational pressure is anticipated at the LWS. The residual adverse effect is therefore considered to be negligible, and hence there is no conflict with local policy <i>R15 Wildlife sites</i> , or other policy or legislation.	Adverse	Site	Negligible	Not significant
3. Semi-improved neutral grassland	Loss of two thirds of semi-improved neutral grassland is unavoidable in the Proposed Development, though a sufficient area will be retained to allow good conservation management, and habitat connectivity will be retained. Overall, there is a residual loss which, on reference to the NPPF and Welwyn Hatfield Local Plan Policy R11, results in a significant effect.	Adverse	District	Moderate	Significant
4. Scrub	The above mitigation, which will retain some scrub at the Site and will maximise its biodiversity value. This effect does not conflict with policy or legislation.	Adverse	Site	Negligible	Not significant
5. Semi-natural broadleaved woodland	With fencing protection, no effects during construction and negligible effects from recreational pressure during occupation are anticipated. There is no conflict with policy or legislation.	Neutral	N/A	N/A	Not significant
6. Ellenbrook stream	Potential damage during construction and hydrological and pollution effects of new surface water discharges. The adverse effects are partially compensated for by an increase in the amount of new stream habitat created via de-culverting, and mitigated for by additional protection	Adverse	Local	Minor	Not significant

	measures during construction and by pollution control through treatment. A potential local effect remains due to flow variation and water quality impacts from surface water discharges. There is no conflict with policy or legislation.				
7. Hedgerows	With the above mitigation, overall effects on hedgerows will be neutral. There is no conflict with policy or legislation.	Neutral	N/A	N/A	Not significant
8. Mature trees	With the above mitigation, no effects on mature trees are anticipated. There is no conflict with policy or legislation.	Neutral	N/A	N/A	Not significant
9. Ponds	With the above mitigation, the overall effect on ponds is considered likely to be beneficial, due to the creation of four new ponds of good quality in place of the two poor-quality ponds that will be lost. There will also be beneficial management to increase the quality of retained ponds. This effect is in line with the NPPF and Welwyn Hatfield Local Plan Policy <i>R11 - Biodiversity and Development</i> .	Beneficial	Local	Minor	Not significant
10. Badger	With the above mitigation, there is no conflict with policy or legislation.	Neutral	N/A	N/A	Not significant
11. Bats	With the above mitigation, in particular the retention of dark habitat corridors at the east and west of the Application Site, and across the centre of the Application Site, the retention of dark grassland habitat at the South, an increase in the area of wetland habitats, and in increase in the number of roosting sites, a local benefit to bats is anticipated, and there is no conflict with policy or legislation, including Local Welwyn Hatfield Local Plan Policy <i>R20 - Light Pollution</i> .	Beneficial	Local	Minor	Not significant
12. Brown hare	Adverse effects on the small population of brown hare likely to be present at the Site is unavoidable. Given this species is relatively widespread in Hertfordshire, this will result in an adverse effect at the Local level. There is no conflict with policy or legislation. There is a duty on local authorities to have due regard to SPI species in carrying out their	Adverse	Local	Minor	Not significant

	functions, and this assessment provides the information required for this.				
13. Harvest mouse	Given the loss of some suitable habitat for this species (primarily at the west of the Application Site), an adverse effect at the local level is unavoidable. There is no conflict with policy or legislation. There is a duty on local authorities to have due regard to SPI species in carrying out their functions, and this assessment provides the information required for this.	Adverse	Local	Minor	Not significant
14. Hedgehog	The area of suitable foraging habitat for this species is likely to decrease in the Proposed Development, and there is likely to be an increase in mortality from new roads and increased traffic flows locally. The hedgehog in the vicinity of the Application site is likely to be limited by the availability of cover and/or hibernation sites, rather than foraging habitat (because the area is dominated by open grassland). Therefore, the mitigation included above (provision and maintenance of habitat piles) is likely to offset these adverse effects to some extent. However, overall, a minor adverse effect on this species is considered unavoidable. There is no conflict with policy or legislation. There is a duty on local authorities to have due regard to SPI species in carrying out their functions, and this assessment provides the information required for this.	Adverse	Local	Minor	Not significant
15. Breeding birds	With the above mitigation, no potential breach of wildlife legislation is anticipated. The residual effect will be the loss of two pairs of breeding lapwing (i.e. a complete loss of this species from the Application Site), and a reduction in the number of skylark at the Application Site. Both of these species are red-listed due to national declines in their populations and are SPIs, however they remain numerically abundant nationally and are both described as common in Hertfordshire in Birds of Hertfordshire (Smith et al. 2015). The overall effect on birds is therefore considered to be an adverse effect at the local level. There is no conflict with policy or legislation. There is a duty on local authorities to have due regard to SPI species in carrying out their functions, and this assessment provides the information required for this.	Adverse	Local	Minor	Not significant

16. Great crested newt	With the above mitigation, and considering the increase in breeding and hibernation habitat that will result from the Proposed Development, an overall beneficial effect at the local level is anticipated. This effect is in line with the NPPF and the Hertfordshire Biodiversity Action Plan.	Beneficial	Local	Minor	Not significant
17. Common toad	With the above mitigation, and considering the increase in breeding and hibernation habitat that will result from the Proposed Development, an overall positive effect at the local level is anticipated. There is no conflict with policy or legislation.	Beneficial	Local	Minor	Not significant

15.2 SUMMARY OF EFFECTS

Based on the nature and location of the Proposed Development, including designed-in mitigation described in the Ecology Strategy, no significant adverse effects on statutory designated sites are anticipated.

Without additional mitigation, and including cumulative effects with other planned or proposed developments, there will be significant adverse effects (at the district / moderate level) on the following features: (1) Home Covert and Round Wood LWS (due to the potential for accidental damage during construction and recreational pressure during occupation); (2) Semi-improved neutral grassland (because the majority of this habitat, which meets the Hertfordshire criteria for Local Wildlife Sites, will be lost from the Application Site); (3) Semi-natural broadleaved woodland within the west of the Application Site (because there is potential for accidental damage during construction and recreational pressure during occupation); (4) Bats (due primarily to the potential for light spillage from new street and external lighting to reduce the value of commuting and foraging habitat at and near the Application Site); and (5) Breeding birds (due to potential impacts during construction and the extent of the loss of open grassland habitat at the site, currently supporting breeding lapwing and skylark).

There will be ten non-significant effects (at the local /minor level), on scrub habitat, the Ellenbrook stream, hedgerows, mature trees, ponds, brown hare, harvest mouse, hedgehog, great crested newt and common toad.

Given the identified effects, additional mitigation and enhancement measures have been proposed in this assessment. These reduce the impact of the Proposed Development, such that one significant residual adverse effect remains: an adverse effect on semi-improved neutral grassland at the district/moderate level. There will also be non-significant residual adverse effects (at the local / minor level) on the Ellenbrook stream, brown hare, harvest mouse, hedgehog and breeding birds.

There will be non-significant residual minor beneficial effects on ponds, bats, great crested newt and common toad. All other effects are considered to be neutral or negligible.

15.3 TECHNICAL CONCLUSION

The Proposed Development will incorporate extensive ecological mitigation, and will retain much of the ecological value of the site, including for protected species such as great crested newts and bats, and habitats such as open grassland, woodland, the Ellenbrook stream and ponds.

The Proposed Development will have a moderate residual adverse effect on semi-improved neutral grassland at the Site, because approximately one third of this habitat will be retained and two thirds will be lost. In relation to the provisions set out within the NPPF and Welwyn Hatfield Local Plan Policy R11, the Proposed Development has sought to minimise impacts on habitats, although the residual effect on semi-improved neutral grassland is considered to be significant.

The Proposed Development will also have minor residual adverse effects (on the Ellenbrook stream, brown hare, harvest mouse, hedgehog and breeding birds) that are not considered to conflict within any legislation or policy and are not considered to be significant. There is, however, a duty on local authorities to have due regard to SPI species (e.g. brown hare, harvest mouse and hedgehog) in carrying

out their functions, and this assessment provides the information required for them to discharge this duty.

16 CONCLUSION

The general conclusion reached by the ES and replicated in this NTS is that there are adequate mitigation measures available to ensure that the development described could proceed without giving rise to unacceptable environmental effects, even in combination with other committed developments in the immediate vicinity. The mitigation measures proposed would not have any adverse residual effect on the existing environment or local amenity.

As such, on balance, the development is considered to be entirely suitable from an EIA perspective.