

6.0 BIODIVERSITY

Introduction

- 6.1 This chapter of the ES assesses the likely significant effects of the Development on the environment in respect of biodiversity and ecology.
- 6.2 This chapter was prepared by Jodie Southgate BA MSc (Hons) ACIEEM and Dr Rebecca Brookbank BSc (Hons) PhD MCIEEM of Ecological Planning and Research Ltd (EPR), the Applicant's retained ecological consultants.

Policy Context

Full details of the planning policy referred to in preparing this chapter are described in full in **Appendix 6.1**. Key items include:

- National Planning Policy Framework 2019ⁱ
- Government Circular 06/05: Biodiversity and Geological Conservationⁱⁱ
- Planning Practice Guidanceⁱⁱⁱ
- Guildford Borough Council Local Plan: Strategy and Sites 2015-2034; Policies P5 and ID4^{iv}
- Emerging GBC Local Plan: Development Management Policies (Regulation 18 consultation version, April 2020); Policies P6, P7, P8, P9^v
- Saved Policies of 2003 Guildford Borough Local Plan; Policies NE4, NE5 and NE6^{vi}
- Draft Lovelace Neighbourhood Plan 2019-2034 (Referendum Version, August 2020).^{vii}

Legislative Context

Full details of the legislation referred to in preparing this chapter are described in full in **Appendix 6.1**. Key items include:

- Conservation of Habitats and Species Regulations 2017 (as amended)^{viii}
- Wildlife and Countryside Act 1981 (as amended)^{ix}
- Natural Environmental and Rural Communities Act 2006^x
- Protection of Badgers Act 1992.^{xi}

Consultation

- 6.3 GBC was consulted on the Development through a series of pre-application meetings between May and September 2020. Natural England (NE), the statutory adviser for nature conservation, confirmed at a meeting on 12 June 2020 that they have no objection in principle to the Development.

- 6.4 Natural England were consulted on the draft version of the Ecological Impact Assessment set out in this chapter in September 2020 and had no comments at the time.
- 6.5 In their formal consultation response dated 4th December 2020, NE advised that they had no objection to the Development, but advised that:

"In regards to the Construction Environmental Environment Plan document (CEMP), Natural England is of the opinion as it currently stands, it requires more detail in relation to impacts on the nearby SSSI/SPA. All construction works must implement relevant controls to ensure that there will be no impact on the adjacent SSSI/SPA from construction activities. The CEMP should detail specifically how impacts to the adjacent SSSI/SPA will be avoided e.g. from dust, spillages, polluted runoff, where materials and machinery will be stored, potential noise disturbance on the SPA birds etc. We advise that an appropriate planning condition or obligation is attached to any planning permission to secure these measures."

- 6.6 Full copies of all correspondence with NE are included at **Appendix 6.2**.
- 6.7 Further to the Screening Direction issued by the Secretary of State confirming the need for an EIA (See **Appendix 1.6**), Barton Willmore wrote to GBC on the 11th December 2020 to confirm the scope of the ES. GBC confirmed in a letter (See **Appendix 1.8**) dated 17th December 2020 that:

"It is acknowledged the ES will focus on hydrology, landscape and visual, and biodiversity. We note the suggestion in the letter from Barton Willmore that the scope of the biodiversity chapter will be limited to providing only the additional information requested by Natural England however, as this is a statutory ES, each technical chapter should present a full description and assessment of impacts and mitigation measures, including the sensitivity of receptors and criteria used to assess the magnitude and significance of impacts. This is in order that the planning authority is provided with sufficient information to make an informed decision on the environmental effects of the proposed development and ensure compliance with the EIA Regulations and best practice."

- 6.8 This chapter therefore presents a full impact assessment in respect of biodiversity.

Limitations and Assumptions

- 6.9 It is assumed that in the absence of the Development, the majority of the land within the Site would continue to be used for agricultural purposes as it is now.
- 6.10 Any specific limitations and assumptions, where relevant, are described in the Baseline Conditions section below.

Assessment Methodology

- 6.11 The approach to Ecological Impact Assessment (EcIA) taken in this chapter accords with guidance set out in the Chartered Institute of Ecology and Environmental Management (CIEEM) *Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland Version 1.1*.^{xii} (CIEEM, 2019).
- 6.12 In summary, EPR takes the following step-wise approach to EcIA:
- Prediction of the activities associated with a proposed scheme that are likely to generate biophysical changes which may lead to significant effects (either positive or negative) upon Important Ecological Features (IEFs);
 - Identification of the likely Zone of Influence (ZoI) of those activities;
 - Scoping to select the ecological features (habitats, species, ecosystems and their functions/processes) that are likely to fall within the predicted ZoIs and be affected by the activities;
 - Evaluation of IEFs likely to be affected – both negatively and positively;
 - Identification of likely impacts (positive and negative) on IEFs, together with an assessment of the geographic level at which effects are likely to be significant;
 - Refinement of the proposed scheme to incorporate mitigation for negative effects on IEFs, and enhancements in order to deliver net gains;
 - Assessment of the significance of residual effects and identification of any policy drivers for additional mitigation or compensation in the event of residual significant negative effects; and
 - Advice on conformance with policy.
- 6.13 Further information regarding the methods for ecological evaluation and impact assessment are provided in **Appendix 6.3**.

Significance Criteria

- 6.14 The criteria used by CIEEM to define a 'significant' effect are slightly different to those set out in **Chapter 2.0** of this ES, however they are based on the same general principles that take into account the importance of the feature or receptor, its sensitivity to change, and the magnitude, duration and reversibility of the predicted impact.
- 6.15 The CIEEM EcIA Guidelines state that:

"Significance is a concept related to the weight that should be attached to effects when decisions are made. For the purpose of EcIA, 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general (...) in broad terms, significant effects

encompass impacts on structure and function of defined sites, habitats or ecosystems and the conservation status of habitats and species (including extent, abundance and distribution)."

- 6.16 Put simply, an effect is considered significant if it is likely to change the structure and function of defined sites and ecosystems, or the conservation status of habitats and species.
- 6.17 In this chapter, once a significant effect is identified, it is then characterised as either positive or negative, and assigned a geographic level of importance (e.g. local, county, national etc). For consistency with other assessments, this is also translated into the equivalent significance category (e.g. Major/Moderate/Minor and Adverse/Beneficial) in summary **Table 6.5**, according to the methodology set out in **Chapter 2.0**.

Likely Biophysical Changes and Zone of Influence

- 6.18 The activities associated with the Development which are likely to lead to biophysical changes, and could accordingly give rise to ecological impacts, are summarised in **Table 6.1** below, which is drawn from Box 9 of the EcIA Guidelines.

- 6.19 The Zone of Influence (ZoI) of a proposed development is defined by the EcIA Guidelines as:

"...the area(s) over which ecological features may be affected by the biophysical changes caused by the proposed project and associated activities."

- 6.20 A ZoI can encompass different areas, and thus potentially impact upon different ecological receptors, depending upon the spatial extent of the relevant biophysical change. The ZoI(s) relevant to this assessment are summarised in **Table 6.1** below.

Table 6.1: Activities, potential ecological impacts, and associated Zone(s) of Influence.

Activity	Potential Impact(s)	Zone of Influence
<i>Site Clearance and Construction Phase</i>		
Access and travel on/off site	Temporary noise / visual / lighting disturbance of vulnerable species	Site and immediate surroundings
Assembly and storage areas for machines and materials; construction compounds	Temporary loss and fragmentation of habitats Temporary noise / dust / visual / lighting disturbance to vulnerable species Potential for environmental accidents e.g. spillages to cause permanent damage to vulnerable habitats	Site and immediate surroundings; functionally linked watercourses
Clearance of arable crops and ruderal vegetation; Earthworks to include excavations, landforming and landscaping	Permanent loss and fragmentation of habitats Permanent damage to vulnerable habitats Direct harm to vulnerable species Hydrological changes Temporary noise/visual/dust/vibration/lighting disturbance to vulnerable species	Site and immediate surroundings; functionally linked watercourses
<i>Operational Phase</i>		
Management of newly seeded grassland habitats, to include weed pulling and mowing	Direct harm to vulnerable species Temporary noise / visual disturbance to vulnerable species	Site and immediate surroundings

Baseline Conditions

Overview

- 6.21 The ecological baseline described below is drawn from extensive desktop study and field survey work carried out by EPR across the wider FWA site (including the Site area) between 2015 and 2020. Reference has also been made to survey data and reports produced by RPS from 2006-2014, and Atkins between 2016 and 2019 (the latter as part of the proposed Highways England M25 Junction 10/A3 Wisley Interchange scheme, which includes an area at the western end of the FWA site).
- 6.22 A summary of the survey work undertaken by EPR is provided in **Table 6.2**. Survey methods, metadata and detailed results tables (where relevant) are set out in **Appendix 6.4**.

Table 6.2: Summary of survey work undertaken by EPR at the Former Wisley Airfield site since 2015

Survey Type	Year(s)	Comment
Environmental records searches	2015, 2019, 2020	
Ecological Appraisal and Phase 1 Habitat Survey	2015, 2019, 2020	
Phase 2 botanical survey (areas of interest identified in Phase 1 survey)	2016, 2019	
Badger walkover survey and bait marking of active setts	2015, 2019	
Bat tree inspections and activity surveys	2015, 2016, 2019	
Breeding birds	2015, 2019	
Great Crested Newts	2015, 2019, 2020	Surveys of on and off-site ponds within 250m of the FWA boundary.
Hazel Dormice	2019	Survey demonstrated likely absence from suitable habitat within the site – not considered further.
Invertebrate scoping	2016	
Reptiles	2015, 2016, 2019	
Water Vole	2016	Survey demonstrated likely absence from suitable habitat within the site – not considered further.
Wintering birds	2018/19	

6.23 With reference to the assessment methodology set out above, the following sections describe the Important Ecological Features that fall within the predicted ZoI of the Development. Features which fall below the threshold for detailed impact assessment are considered as part of the biodiversity of the site as a whole under 'Biodiversity Net Gain' below.

Statutory Designated Sites

Thames Basin Heaths SPA and Ockham and Wisley Commons SSSI

6.24 As shown on **Figure 6.1**, at its closest point the Site lies approximately 63m to the south of Ockham and Wisley Commons Site of Special Scientific Interest (SSSI), which is a component site within the wider Thames Basin Heaths Special Protection Area (SPA) network of protected heathland sites.

6.25 The Thames Basin Heaths SPA is designated for its internationally important populations of three ground-nesting bird species: Nightjar *Caprimulgus europaeus*, Woodlark *Lullula arborea*

and Dartford Warbler *Sylvia undata*. Habitats supporting these species include lowland heathland, scrub, young woodland, and clearings.

- 6.26 The SPA is made up of 13 component SSSIs, of which Ockham and Wisley Commons SSSI is the closest to the Site. The two commons were designated as SSSIs due to their rich assemblages of important heathland plants and animals, particularly rare insects.
- 6.27 The SPA and SSSI are important features at the **International** and **National** levels respectively.

Ockham and Wisley Local Nature Reserve (LNR)

- 6.28 The Ockham and Wisley Local Nature Reserve (LNR) covers the area designated as Ockham and Wisley Commons SSSI, and also extends southwards beyond the SSSI to border the northern boundary of the Site (**Figure 6.1**). The areas adjacent to the Site, and therefore considered to fall within the ZoI of the Development, include Elm Corner Woods Site of Nature Conservation Importance (SNCI), Hunts Copse SNCI and areas of grassland to the east of Elm Corner (see below), all of which are managed by Surrey Wildlife Trust.
- 6.29 The grassland areas include two fields known as 'Barnish Meadow' and 'Snakes Field', which comprise semi-improved neutral grassland with scattered trees and scrub. Both are open access land. Snakes Field is bisected by a public footpath and bridleway known as Hatch Lane, and forms part of the wider Wisley Airfield SNCI described below.
- 6.30 The two woodland SNCIs within the LNR are also discussed separately below.
- 6.31 Local Nature Reserves are described by Natural England as being "for both people and wildlife" and owing to their designation type are considered to be of importance at the **County** level.

Non-Statutory Designated Sites

Wisley Airfield SNCI

- 6.32 As shown on **Figure 6.2**, Wisley Airfield SNCI falls partly within the wider FWA site boundary, including a narrow strip that runs along the northern boundary of the Site. The SNCI as a whole was selected for the variety of habitats it supports, plus species criteria including its assemblage of rare or notable vascular plants, foraging areas for bats and amphibians and reptile populations. Snakes Field to the north is also part of the Wisley Airfield SNCI.
- 6.33 The northern strip that falls within the Site was added when the SNCI boundary was revised as part of the SNCI Review carried out by the Surrey Nature Partnership to inform the (now

adopted) Local Plan preparation process. This area was added due to its role in supporting amphibian and reptile populations.

- 6.34 The SNCI habitats within the Site include a small parcel of woodland west of Elm Corner, an area of rank neutral grassland with scattered scrub east of Elm Corner, a ruderal field margin comprising mainly Bracken and Stinging Nettles *Urtica dioica* along the northern boundary, and a strip of arable land. The ruderal margin acts as a dispersal corridor for amphibians and reptiles between the wider FWA site and habitat to the north within the LNR and offsite SNCIs.
- 6.35 The SNCI habitats are in an unfavourable condition due to lack of management and the influence of the neighbouring intensive arable operations. As a whole, Wisley Airfield SNCI is of **County** level importance.

Elm Corner Woods SNCI

- 6.36 Elm Corner Woods SNCI lies to the north-west of the Site boundary (**Figure 6.2**) and borders it along a section around 80m in length. The SNCI is open access and consists of mixed woodland that is referable to the National Vegetation Classification (NVC)^{xiii} W10 *Quercus robur* – *Pteridium aquilinum* - *Rubus fruticosus* community. It is dominated by Pedunculate Oak *Quercus robur* and Silver Birch *Betula pendula* over patches of Bracken *Pteridium aquilinum*, Bramble *Rubus fruticosus* and Ivy *Hedera helix*. Some wetter areas associated with drains are also present.
- 6.37 The western part of the SNCI, around 250m from the edge of the Site boundary to the west, is also shown on Natural England's Provisional Ancient Woodland Inventory as ancient semi-natural. Given the nature of the works and the physical separation from the Site, this part of the SNCI is considered to fall outside of the ZoI.
- 6.38 As well as forming part of the Ockham and Wisley LNR, the SNCI is well connected to other designated nature conservation sites, including Wisley Airfield SNCI (discussed above), Ockham and Wisley Commons SSSI and the Thames Basin Heaths SPA. It is therefore considered to be of **County** importance.

Hunts Copse SNCI

- 6.39 Hunts Copse SNCI is located adjacent to the northern boundary of the Site, between Snakes Field and Barnish Meadow, and is part of the Ockham and Wisley LNR (**Figure 6.2**). It consists of broadleaved woodland dominated by Pedunculate Oak and Silver Birch (NVC W10) on open access land, managed by Surrey Wildlife Trust. Hunts Copse is shown on Natural England's Provisional Ancient Woodland Inventory.

- 6.40 As well as forming part of the Ockham and Wisley LNR, Hunts Copse SNCI is well connected to other designated nature conservation sites, including Wisley Airfield SNCI (discussed above), Ockham and Wisley Commons SSSI and the Thames Basin Heaths SPA. It is therefore considered to be of **County** importance.

Habitats and Vegetation

Agricultural Land / Arable Plant Assemblage

- 6.41 As shown on **Figure 6.3**, the vast majority of the Site is currently agricultural land, used to grow cereal crops. These crops are sown up to the field edges leaving virtually no margins, and are sprayed regularly with herbicides, fungicides, growth regulators and fertilisers.
- 6.42 The agricultural land is generally of limited value for biodiversity, but Cornflower *Centaurea cyanus* has been recorded in scattered clumps across the three main fields within the Site on several occasions between 2014 and 2020, both within and outside the Site boundary. Cornflower is listed on the Surrey Rare Plant Register^{xiv} and is also a S41 Species of Principal Importance for Conservation in England under the NERC Act 2006. Only a handful of native Cornflower populations are thought to occur in Surrey, but it is a common species found in commercial wildflower seed mixes and is widely naturalised across the county. The origin of the population at Wisley is unknown, and could therefore be of importance at either the Zone Influence or County level. Taking a precautionary approach for the purposes of this assessment, it is considered to be of **County** importance.
- 6.43 More generally, arable plants are cited as one of the reasons for the selection of the Wisley Airfield SNCI. Specific surveys were carried out by EPR and Surrey Wildlife Trust in 2016 to search for important arable plant species for which historical records exist for the wider FWA site (mainly from 2007 or earlier). The majority of these species were not found, although some, such as Common Cudweed *Filago vulgaris*, were recorded in low numbers outside of the Site boundary. Taking a precautionary approach, the potential for these species to be present in the seed bank within the Site means that the arable plant assemblage as a whole could potentially be of **County** importance, although no firm evidence for this has been collected to date.

TPO Woodland

- 6.44 A strip of woodland approximately 0.6ha in size is present in the north-western part of the Site (**Figure 6.3**), bordering residential properties at Elm Corner (NB – this is a different woodland to Elm Corner Woods SNCI described above). It is covered by a Tree Preservation Order (TPO).

- 6.45 This woodland is referable to the NVC W10 *Quercus robur* - *Pteridium aquilinum* – *Rubus fruticosus* community. It is unmanaged, and consists mainly of Pedunculate Oak, Silver Birch and Sycamore *Acer pseudoplatanus* trees of medium age, over a sparse understorey of Hazel *Corylus avellana*, Hawthorn *Crataegus monogyna*, Willow *Salix spp.*, and the non-native Butterfly Bush *Buddleia davidii*.
- 6.46 The ground layer is highly shaded and includes large areas of bare ground and leaf litter. Species present include Bracken and Bramble, along with patches of the non-native Green Alkanet *Pentaglottis sempervirens* and Small Balsam *Impatiens parviflora* and species indicative of nutrient enrichment such as Stinging Nettle, Ground Ivy *Glechoma hederacea* and Cleavers *Galium aparine*.
- 6.47 This woodland is best described as an unremarkable strip of Lowland Mixed Deciduous Woodland that is in poor condition due to the lack of management and presence of non-native species. It is not listed on Natural England's Provisional Ancient Woodland Inventory. It is considered to be of ecological importance **within the Zone of Influence**.

Line of Trees

- 6.48 A line of semi-mature trees and scrub on a raised bank, mostly Pedunculate Oak, Goat Willow *Salix caprea* and Silver Birch, falls partly within the south-western area of the Site (**Figure 6.3**). These trees form a strong east-west linear feature connecting to the scrub habitats of the Wisley Airfield SNCI to the west, and are considered to be of ecological importance **within the Zone of Influence**.

Scrub

- 6.49 Small patches of scrub are present within the Site, primarily along the boundary with Elm Corner. As shown on **Figure 6.3**, these areas are very small and of ecological importance **within the Zone of Influence**.

Rough Grassland

- 6.50 A small area of rank, unmanaged grassland approximately 0.7 ha in size is present on the northern boundary of the Site, adjacent to Elm Corner (**Figure 6.3**). The grassland consists mainly of robust grasses such as False Oat Grass *Arrhenatherum elatius* and Cock's-Foot *Dactylis glomerata* with few forbs present. It is considered to be of ecological importance **within the Zone of Influence**.

Hardstanding and Associated Ruderal Vegetation

- 6.51 The remaining habitats within the Site boundary consist of hardstanding associated with the former airfield, including parts of an old taxiway and hangar area. The taxiway is largely devoid of vegetation, but some vegetation has started to colonise cracks in the tarmac within the hangar area (**Figure 6.3**). This includes typical ruderal species such as Teasel *Dipsacus fullonum*, Biting Stonecrop *Sedum acre*, Butterfly Bush, Evening Primrose *Oenothera spp.*, Scarlet Pimpernel *Anagallis arvensis ssp. arvensis*, Hemlock *Conium maculatum*, Prickly Sowthistle *Sonchus asper* and Weld *Reseda luteola*.
- 6.52 No plant species of conservation interest (including Surrey Rare species) were recorded. The hardstanding and associated ruderal vegetation areas are therefore of ecological importance **within the Zone of Influence** only.

Fauna

Badgers

- 6.53 Survey work carried out in 2015 and 2019 identified an active main Badger sett within Hunts Copse to the north of the Site, and other active setts are present within the wider FWA site and surroundings. At least three Badger clans are thought to use the FWA site as part of their territory, although bait marking studies carried out in 2015 and 2019 indicate that the Site area is used primarily by the Hunts Copse clan, with the runway acting as a territory boundary.
- 6.54 Very little evidence of foraging was recorded within the Site area. The habitats present offer limited foraging opportunities for Badgers, as the intensively managed arable crops will be low in invertebrate biomass. Badgers may use the mature crops for bedding in late summer, but this is unlikely to be an important resource for them in the context of the more favourable woodland and grassland habitats off-site to the north.
- 6.55 Badgers are not a species of conservation concern, and the population is of ecological importance **within the Zone of Influence** only. However, potential impacts on Badgers are addressed under 'Legal Considerations' below in light of their protection under the Protection of Badgers Act 1992.

Bat Assemblage

- 6.56 Walked transects and automated detector surveys carried out across the wider FWA site in 2016, 2018 and 2019 recorded low number of bats using the northern and eastern boundaries of the Site for foraging and commuting purposes. The majority of bats were the relatively common and widespread Common Pipistrelle *Pipistrellus pipistrellus*. No roosts have been

identified within the Site. Five trees assessed as having 'moderate' suitability to support roosting bats are present along the boundaries, but will not be affected by the Development.

- 6.57 As with Badgers, the habitats within the Site are suboptimal for bats due to the lack of invertebrate prey. The bat assemblage within the Zone of Influence is therefore considered to be of **Local** importance.

Breeding Bird Assemblage

- 6.58 Breeding bird surveys carried out in 2015 and 2019 recorded 37 bird species likely to be breeding within the wider FWA site. This included relatively common and widespread species associated with the boundary trees and scrub such as Dunnock *Prunella modularis*, Song Thrush *Turdus philomelos*, Woodpigeon *Columba palumbus*, Nuthatch *Sitta europaea* and Blue Tit *Cyanistes caeruleus*, as well as approximately six to eight Skylark *Alauda arvensis* territories within the arable fields of the Site. A full species list is provided in **Appendix 6.4**.

- 6.59 Skylark are a red-listed species of conservation concern^{xv}. They need to raise at least two, ideally three broods per year in order to maintain a stable population, and so the breeding success of the population supported by the Site is largely dependent on farming practices which can vary between years. For example, when the fields are sown to Maize or winter-sown cereals as part of their rotation, the crops grow too tall for Skylark to raise more than one or two broods. Regular spraying with chemicals will also have a detrimental impact on prey availability and breeding success.

- 6.60 Given the presence of Skylark, the breeding bird assemblage within the Zone of Influence is considered to be of **Local** importance.

Great Crested Newts

- 6.61 Population surveys carried out in 2015, 2019 and 2020 by EPR, supplemented by survey data from Atkins for the Highways England DCO scheme, have identified small Great Crested Newt (GCN) populations in four off-site ponds. These include three ponds within 500m of the northern boundary of the Site (of which the closest is in Barnish Meadow), and a fourth just over 500m to the south, at Bridge End Farm.

- 6.62 It is likely that GCN use habitats within the Site during their terrestrial phase, although this is thought to be primarily limited to the vegetated field margin along the northern boundary and woodland/grassland around Elm Corner, as the hardstanding and arable areas are of limited value to GCN for foraging or shelter.

- 6.63 Given the low numbers involved and limited amount of suitable habitat to be affected within the Site itself, the GCN population supported by the Zone of Influence is considered to be of **Local** importance.

Invertebrates

- 6.64 A scoping survey carried out in 2016 (and earlier by RPS in 2013) found that the habitats within the Site area are of very limited value to invertebrates, with the majority consisting of intensively managed arable fields. Only common and widespread species were recorded. The main invertebrate interest is confined to the small pockets of scrub and grassland, and the ruderal plants that have begun to colonise the hangar area. The invertebrate interest is likely to be of no more than **within the Zone of Influence** importance and is therefore not taken forward for detailed impact assessment.

Reptiles

- 6.65 Grass Snake *Natrix helvetica*, Slow-worm *Anguis fragilis* and Common Lizard *Zootoca vivipara* were recorded within the Site area during presence/likely absence surveys in 2015, 2016 and 2019. In all cases these species were found only in the rough grassland to the east of Elm Corner and the vegetated field margins along the northern boundary. The arable fields and hardstanding are largely unsuitable for reptiles.
- 6.66 Populations of all three species are also present in other areas of the wider FWA site, and Adder *Vipera berus* has been recorded in the past but no evidence has been found in recent years. Reptile populations are also present within Snakes Field to the north, and Ockham and Wisley Commons beyond.
- 6.67 These areas all offer higher quality habitat for reptiles than the Site, including hibernation opportunities, and it is likely that the northern edge of the Site represents a dispersal corridor for animals moving between these locations. The reptile population within the Zone of Influence is therefore considered to be of **Local** importance.

Wintering Bird Assemblage

- 6.68 Depending on the rotational management of the arable crops, the fields within the Site have the potential to support overwintering bird species. Surveys carried out in 2018/19 found that the majority of the fields were fallow, and flocks of species including Skylark, Linnet, Carrion Crow *Corvus corone* and Woodpigeon were feeding on the arable weed seeds amongst the stubble. The largest flock recorded was a mixed group of Skylark and Linnet totalling round 80 birds. In total 41 species were recorded across the FWA site as a whole, the majority of which were common and widespread species.

- 6.69 As with the breeding bird assemblage, the availability of this resource for wintering birds is unreliable, but is likely to be an important food source in the years when conditions are suitable. On this basis, and given the presence of the red-listed Skylark and Linnet, the wintering bird assemblage is considered to be of **Local** importance.

Summary of Important Ecological Features

- 6.70 With reference to the assessment criteria set out in **Appendix 6.3**, the Important Ecological Features to be taken forward for detailed impact assessment are summarised in **Table 6.3** below. Features scoped out of further assessment are listed in **Table 6.4**.

Table 6.3. Important Ecological Features to be considered further in this Chapter

Feature	Importance
Thames Basin Heaths SPA	International
Ockham and Wisley Commons SSSI	National
Ockham and Wisley LNR	County
Wisley Airfield SNCI	County
Elm Corner Woods SNCI	County
Hunts Copse SNCI	County
Arable Plant Assemblage	County
Badgers	Legal Protection – see 'Legal Considerations'
Bat assemblage	Local
Breeding Bird assemblage	Local
Great Crested Newts	Local
Reptiles	Local
Wintering Bird assemblage	Local

Table 6.4 Features scoped out of detailed impact assessment

Feature Scoped Out	Reason
TPO Woodland	Zone of Influence importance
Line of Trees	Zone of Influence importance
Scrub	Zone of Influence importance
Rough Grassland	Zone of Influence importance
Hardstanding and Ruderal Vegetation	Zone of Influence importance
Invertebrates	Zone of Influence importance

Likely Significant Effects

- 6.71 This section examines the potential for significant ecological impacts and effects on IEFs as a result of the biophysical changes arising from the Development, during both the Site preparation/construction and operational phases, in the absence of avoidance or mitigation measures.
- 6.72 The assessment is based on the Description of Development provided in **Chapter 3** and relevant figures and appendices of this ES.

Construction Phase

Thames Basin Heaths SPA and Ockham and Wisley Commons SSSI

Damage to Interest Features

- 6.73 In the absence of mitigation, the earthworks associated with the Development have the potential to cause damage to the qualifying interest features of these sites of International and National importance through accidental pollution, dust generation and hydrological changes. This could be reversible or permanent depending on the nature of the damage. Given that any negative impacts of this nature would be unlikely to destroy the interest features completely, they would be **significant at the National or Regional level** depending on factors such as reversibility, spatial scale and the features affected.

Ockham and Wisley LNR, Elm Corner Woods SNCI, Hunts Copse SNCI

Damage to Interest Features

- 6.74 These off-site designations of County importance are considered together here to avoid duplication, as the potential impacts and proposed mitigation are the same.
- 6.75 As for the International/National designations above, in the absence of mitigation, the earthworks associated with the Development have the potential to cause damage to the qualifying interest features of these sites through accidental pollution, dust generation, hydrological changes and, as these sites are directly adjacent to the Site, damage to tree roots. Again, this could be reversible or permanent depending on the nature of the damage, but any negative impacts of this nature would be unlikely to destroy the interest features completely and would therefore be **significant at no more than the Local level only** depending on factors such as reversibility, spatial scale and the features affected.

- 6.76 The potential access road route from Elm Lane would be on existing hardstanding, and outside of the root protection zones of trees associated with Elm Corner Woods. **No impacts** are therefore predicted on Elm Corner Woods SNCI.

Wisley Airfield SNCI

Direct Loss of Interest Features

- 6.77 The only part of the Wisley Airfield SNCI that will be directly affected by the Development is a strip of arable land beyond the ecological buffer zone, total lying around 0.13 ha. This amounts to less than 0.5% of the SNCI as a whole. It is possible that some important arable plants associated with the SNCI designation could be present within this small strip.
- 6.78 If the topsoil containing the arable plant seedbank is removed and/or buried under the subsoil, there is a risk that important arable plants associated with this part of the SNCI, if present, could be lost. In the absence of mitigation, this could have a **permanent significant negative effect on Wisley Airfield SNCI at the Local, rather than County level**, due to the very small proportion of the SNCI that would be affected.

Harm/Disturbance to Interest Features

- 6.79 The Wisley Airfield SNCI is also designated for its bat, amphibian and reptile populations. To avoid duplication, the potential for disturbance or harm to these features is addressed below under '*Bat Assemblage*', '*Great Crested Newts*' and '*Reptiles*' respectively.

Arable Plant Assemblage

Direct Loss

- 6.80 As shown on **Figure 6.5**, in total, 17.5 ha of arable land is to be affected by the Development (including the 0.13 ha in the SNCI area discussed above). As discussed above under Wisley Airfield SNCI, in the absence of mitigation, there is a risk that the earthworks associated with the Development could bury or destroy the arable plant seedbank within the Site, which could potentially contain important arable plants, including those associated with the SNCI.
- 6.81 The confirmed Cornflower population scattered through the Site area would also be lost. Around 24% (5.7 ha) of the total area of the fields within which the Cornflower has been recorded fall outside of the Site boundary and therefore will not be affected by the Development, however given the rarity of this plant in Surrey, and taking a precautionary approach, it is still considered that without mitigation, the loss of part of the arable plant assemblage could constitute a **permanent significant negative effect at the County level**.

*Bat Assemblage*Loss of Foraging Habitat

- 6.82 As described under Baseline Conditions, relatively low numbers of common and widespread bats utilise the northern and eastern boundaries of the Site for foraging and commuting purposes. These areas are to be retained as part of the ecological buffer zone, and the arable fields are of minimal value to bats as a foraging resource, therefore **no significant effects** are predicted in respect of loss of foraging habitat. This also applies to the bat assemblage associated with the Wisley Airfield SSSI designation.

Disturbance from Construction Activity

- 6.83 In the absence of mitigation, the Development have the potential to disturb bats foraging and commuting along the northern boundary through noise, vibrations and light pollution. Without mitigation, this could temporarily disrupt foraging and commuting behaviour and have a **significant negative effect at the Local level**.

*Breeding Bird Assemblage*Direct Harm; Destruction of Active Nests

- 6.84 The removal of arable vegetation as part of the enabling works has the potential to harm ground nesting birds and damage or destroy their nests. In the absence of mitigation, this would constitute an offence under the Wildlife and Countryside Act 1981 (as amended) and a **significant negative effect on the overall breeding bird assemblage at the Local level**.

Loss of Foraging and Nesting Habitat

- 6.85 The removal of arable crops, and their replacement with newly-seeded grassland, represents a temporary loss of foraging and nesting habitat for Skylark during the 2021 breeding season.
- 6.86 Studies have shown that Skylarks occur at higher densities in fields of set-aside and grassland, than in winter and spring-sown cereals^{xvi}. As such, the temporary loss of arable nesting habitat will be more than compensated for by the creation and ongoing management of species-rich grassland in its place. The grassland will also support a higher abundance and diversity of invertebrates, thus enhancing foraging opportunities for Skylark and other birds.
- 6.87 The disruption of one breeding season while the enabling works take place is unlikely to affect the conservation status of the Skylark assemblage in the long-term, particularly given that the nesting suitability of the arable fields already fluctuates from year to year depending on the

crop rotation. As such, the effects of the temporary loss of nesting and foraging habitat are **not significant**.

Disturbance from Construction Activity

- 6.88 In the absence of mitigation, the noise, vibration and movement of people and vehicles associated with the Development has the potential to disturb breeding birds in retained habitat. This could disrupt nesting behaviour and result in nest abandonment, potentially a **significant negative effect at the Local level**.

Great Crested Newts

Direct Harm to Individuals

- 6.89 In the absence of mitigation, vegetation clearance and earthworks have the potential to result in the killing or injury of any GCN that are occupying affected habitats, dispersing through the works area or colonising spoil heaps. This would constitute a **permanent significant negative effect at the Local level** and also a **legal offence** under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulation 2017 (as amended).

Habitat Loss and Fragmentation

- 6.90 Core GCN habitat is to be retained and protected as described above. Approximately 17.5 ha of arable land within 500m of GCN breeding ponds will be lost to the Development and replaced with species-rich grassland. The arable habitat is of low value to GCN, particularly in light of the suitable habitat closer to their breeding ponds, and its loss is therefore not significant in EcIA terms. The creation of species-rich grassland will have a **positive effect** on GCN in the long term (discussed under 'Operational Phase' below).
- 6.91 The exclusion fence will temporarily exclude GCN from the Site area while works are ongoing. This will limit their movements north to south, but not east to west. Again, this is unlikely to affect the favourable conservation status of the GCN population as the most suitable habitat for them will be north of the exclusion fence, closer to their breeding ponds. This temporary impact is therefore **not significant** in terms of effects on the GCN population, but the obstruction of their movements would constitute a **legal offence**.

Disturbance from Construction Activity

- 6.92 In the absence of mitigation, the earthworks have the potential to disturb GCN and disrupt their movements around the Site. If this were severe enough to affect their breeding success,

in the absence of mitigation, this could result in a **significant negative effect at the Local level and a legal offence.**

Reptiles

Direct Harm to Individuals

- 6.93 Reptiles have only been recorded outside of the works area and the existing arable habitat is largely unsuitable for them, but there is a small risk that they could enter the works area and be harmed. This is **unlikely to result in a significant effect** on the overall reptile assemblage given the low risk and low numbers of animals affected, but in the absence of mitigation could constitute a **legal offence.**

Habitat Loss and Fragmentation

- 6.94 Suitable reptile habitat is to be retained and protected as part of the Development. The exclusion fence will temporarily limit north/south movements, but the key east/west dispersal corridor will be retained and protected within the ecological buffer zone. As such, **no impacts are predicted** in respect of habitat loss and fragmentation. This also applies to the reptile assemblage associated with the Wisley Airfield SNCI.

Disturbance from Construction Activity

- 6.95 In the absence of mitigation, the enabling earthworks and increased presence of people and machinery could cause disturbance to reptiles using adjacent habitats and potentially disrupt their breeding success. This has the potential to result in a **temporary significant negative effect at the Local level.**

Wintering Bird Assemblage

Loss of Foraging Habitat

- 6.96 Although it is not known how the arable fields would have been managed for agricultural purposes in the absence of the Development (and therefore whether they would have provided a food source for wintering birds), on a precautionary basis it is assumed that the Development will result in the temporary loss of around 17.5 ha of potential foraging habitat for wintering birds in winter 2021/22 (see **Figure 6.5**). If this application is approved, in winter 2021/22 these areas will be newly seeded and will be largely bare ground. In the absence of mitigation, this could result in a **temporary significant negative effect at the Local level.**

Disturbance from Construction Activities

- 6.97 The enabling works activities are anticipated to take place from spring to autumn, therefore **no impacts are predicted** in respect of disturbance to wintering birds.

Operational Phase

Thames Basin Heaths SPA, Ockham and Wisley Commons SSSI, Ockham and Wisley LNR, Elm Corner Woods SNCI, Hunts Copse SNCI

Implementation of Habitat Creation and Management Plan

- 6.98 As set out in the Habitat Creation and Management Plan^{xvii} submitted with the application, upon completion of the enabling works, the land will be managed as species-rich grassland. Existing levels of public access will not change. The cessation of agricultural operations, particularly the spraying of fertiliser and herbicides which may drift to adjacent land, may have a positive effect but this is **unlikely to be significant**.

Wisley Airfield SNCI

Implementation of Habitat Creation and Management Plan

- 6.99 The implementation of the Habitat Creation and Management Plan is predicted to have a positive impact on the bat, amphibian and reptile interest features of the Wisley Airfield SNCI through the provision of enhanced foraging habitat (see **Figure 6.6**). The introduction of favourable management for the retained arable plant assemblage within the SNCI is also an improvement on the status quo. Given the small proportion of the overall SNCI affected, this is predicted to be a **significant positive effect at the Local (rather than County) level**.

Arable Plant Assemblage

Implementation of Habitat Creation and Management Plan

- 6.100 As described above, the Habitat Creation and Management Plan includes measures to preserve arable plant populations both within and adjacent to the Site. Although this covers a smaller area than the arable land to be lost (12.4 ha compared to 17.5 ha), this commitment to ongoing favourable management and monitoring is an improvement on the current intensive agricultural management, which includes the regular application of herbicide and uncontrolled farming activity.
- 6.101 On balance, and through active focused management interventions, the implementation of the Habitat Creation and Management Plan is likely to have a **significant positive effect** on the arable plant assemblage **at the Local (rather than County) level**.

*Bat, Breeding Bird, Great Crested Newt, Reptile and Wintering Bird Assemblages*Implementation of Habitat Creation and Management Plan

- 6.102 The management of the newly-seeded grasslands to encourage the establishment of a species rich, invertebrate-rich sward will have a positive effect on all of the above species by providing around 17.5 ha of new high quality habitat for foraging and/or dispersal (**Figure 6.6**). The creation of vegetated mounds will also provide basking areas for reptiles, and the management of the grasslands will improve conditions for ground-nesting birds. These benefits are predicted to generate a **significant positive effect** on all of these features **at the Local level**.

Mitigation Measures

- 6.103 The sections below set out the measures proposed to mitigate the potential significant effects of the Development on important ecological features, as identified above.

Impact Avoidance by Design

- 6.104 In accordance with the principle of the mitigation hierarchy, the Development has been designed to avoid ecological impacts as far as possible in the first instance, thus reducing the need for extensive mitigation measures. These measures are therefore part of the Development and have been taken into account within the 'Likely Significant Effects' assessment above. For example:

- The works footprint only includes the arable fields. All other habitats, including woodland, scrub, lines of trees, grassland and hardstanding will be unaffected;
- A 15m buffer is included around the edge of the Provisional Ancient Woodland at Hunts Copse within which no works shall take place; and
- The width of the vegetated field margin along the northern boundary has been mapped, and the works footprint set back from the southern edge of this margin by at least 2m, resulting in a buffer zone of between 4m and 15m in width. This 'ecological buffer zone' will avoid direct damage to these habitats, reduce the likelihood and severity of indirect impacts such as pollution and disturbance to offsite habitats, and maintain a vegetated dispersal corridor for wildlife including GCN and reptile populations of Local importance.

Construction Phase

Thames Basin Heaths SPA, Ockham and Wisley Commons SSSI, Ockham and Wisley LNR, Elm Corner Woods SSSI, Hunts Copse SSSI

- 6.105 The above designations are considered together here to avoid duplication, as the impact avoidance and mitigation measures are the same.

Damage to Interest Features

- 6.106 A Flood Risk Assessment and Drainage Strategy (FRADS)^{xviii} has been produced (refer to **Chapter 7.0** and **Appendix 7.1**) that will ensure that discharges from the Site will maintain or improve the current levels of water quality, and prevent the migration of pollutants and sediments off site.
- 6.107 The FRADS also describes how water quantity will be maintained at current greenfield runoff rates, such that there will be no effect on volume or flows within the SPA/SSSI or other offsite designations.
- 6.108 As detailed above, a minimum 15m buffer zone will be implemented from the boundary of Hunts Copse SNCI, and an additional buffer varying from 4m to 15m in width will run along the inside of the northern boundary east of Elm Corner, within which no works will take place, or machinery/materials stored. This will be delineated with Heras fencing (or similar) and will protect Hunts Copse and this part of the Ockham and Wisley LNR from accidental damage.
- 6.109 Detailed dust, noise and pollution prevention measures are detailed within the Construction Environmental Management Plan (CEMP)^{xix} submitted with the application and included at **Appendix 3.2**). This includes adhering to regulatory requirements and good practice protocols in respect of the storage and transportation of chemicals and materials and the disposal of waste. Key measures are summarised below:
- Dust will be controlled by damping down or covering loose materials during windy conditions, and dust levels along the Site boundaries will be regularly monitored. Road cleaning and wheel washing procedures will also be in place;
 - No burning will be permitted on Site, to control smoke and noxious fumes;
 - All surface water drainage from impermeable areas and tarmac will pass through trapped gullies prior to being discharged into any watercourse. As appropriate, gullies will be protected with terram or straw bales, and will be regularly inspected and replaced or cleaned as necessary;
 - Silt protection measures will also be installed to new drainage features (such as the new ponds to be formed as part of the Development) as the works progress. TW will ensure the Principal Contractor details their intended silt protection measures within the Construction Phase Plan, prior to works commencing;
 - There will be no discharge of foul or contaminated drainage or trade effluent from the site into either groundwater or any surface waters, whether direct or via soakaways. No pumped water will be discharged into the live drainage system without having been filtered through a silt interceptor;

- Storage compound locations are identified in the CEMP. Any facilities for the storage of oils, fuels or chemicals will be sited on impervious bases and surrounded by impervious bund walls. Tanks will be sited in a safe area, away from manholes and surface water gullies; and
- To minimise noise disturbance, all plant and equipment brought to Site will be well maintained and operated in accordance with the manufacturer's instructions and will comply with the Control of Noise at Work Regulations 2005^{xx} as well as the recommendations of *BS 5228 Code of Practice for Noise and Vibration Control on Construction and Open Sites*^{xxi}. Any compressors, percussion tools and vehicles will be fitted with effective silencers of a type recommended by manufacturers, and all plant will be switched off or reduced to idle when not in use.
- Working hours will be restricted to 08:00-18:00 Monday to Friday and 08:00-13:00 on Saturdays to minimise disturbance and the need for artificial lighting; and
- Any temporary artificial lighting will be directed away from the site boundaries and specifications will be agreed in advance by a suitably qualified and experienced ecologist.

6.110 The following general principles will apply in respect of artificial lighting:

- Only using artificial lighting where absolutely necessary, using timers and/or motion sensors where possible, and keeping levels as low as is necessary to ensure human safety and as guidelines permit;
- Avoiding lighting that emits light at the blue/white end of the electromagnetic spectrum and using LED lighting wherever possible as this typically has no UV emissions;
- Employing flatbed optics wherever possible with the main light exit positioned parallel to the ground to direct light spill downwards and reduce sky glow; otherwise baffles, hoods and/or cowls will be fitted to external lights; and
- Directing lighting away from boundary features.

6.111 With mitigation, **no significant residual effects** on the Thames Basin Heaths SPA, Ockham and Wisley Commons SSSI, Ockham and Wisley LNR, Elm Corner Woods SNCI or Hunts Copse SNCI are predicted.

Wisley Airfield SNCI

Direct Loss of Interest Features

6.112 To avoid duplication, the mitigation proposed for arable plants, including those within the SNCI area, is described and assessed under '**Arable Plant Assemblage**' below.

Harm/Disturbance to Interest Features

6.113 To avoid duplication, the mitigation proposed for SNCI interest features is addressed below under '**Bat Assemblage**', '**Great Crested Newts**' and '**Reptiles**' respectively.

Arable Plant Assemblage

Direct Loss

6.114 A three-pronged approach will be taken to mitigate this potential impact, as follows:

- Creation and management of 'temporary arable weed reserves' in non-affected areas;
- Storage and translocation of any topsoil confirmed as containing important arable plants within the earthworks footprint; and
- Targeted management and/or seed harvesting of any important plants that germinate within the wildflower grassland area.

6.115 In all cases, the aim of the mitigation measures will be to preserve (and ideally increase) the seedbank of important arable plants, either for retention in situ or as a seed source for use in any future green space proposed for The Proposed Wisley New Settlement (WNS) (noting that the Enabling Works are independent of any future WNS application and effects will be mitigated regardless of whether or not an application for the WNS is submitted and approved).

6.116 Firstly, as set out in the Habitat Creation and Management Plan, the portions of the arable fields that will not be affected by the earthworks will be managed from 2021 onwards to encourage the germination of annual arable plants, and then regularly monitored for the appearance of species of conservation importance. This includes around 6.5 ha within the Site boundary but outside of the earthworks footprint, and a further 5.9 ha outside of the Site boundary and within the Applicant's ownership (**Figure 6.6**).

6.117 To create suitable conditions for these temporary 'arable plant reserves', the soil will be cultivated after the growing season to mimic normal agricultural practices, but no crop will be sown, and no herbicide, fertiliser or pesticides will be applied. Some control of injurious and highly competitive weeds such as Creeping Thistle *Cirsium arvense* may be required to create sufficient space for any rarer plants to thrive^{xxii}.

6.118 It is likely that Cornflower will germinate in these 'reserve' areas. EPR botanists will also monitor carefully for other important arable species which may emerge from the seedbank. At the end of the flowering season the seeds of important species will be either harvested and stored, or allowed to drop so that the process can be repeated the following year. Either way, the arable plant assemblage will be maintained, and the temporary reserve areas will provide

a source population that can later be used to seed arable plant areas in The Proposed Wisley New Settlement, if required.

- 6.119 Secondly, surveys will be undertaken by an experienced botanist prior to the onset of earthworks (expected to commence in early summer 2021) to identify and mark out any young Cornflower or other important arable plants that are growing within the works area, particularly where these occur in clumps. Where appropriate, topsoil from these areas will be stripped and stored close by, for example on a retained area of hardstanding. Once the earthworks are complete, the topsoil will be redistributed in suitable locations on top of the subsoil within the Site.
- 6.120 Again, depending on the status of any future planning application for The Proposed Wisley New Settlement, and under the direction of a botanist, any species of interest that reach maturity in 2021 will then either be retained in situ and managed appropriately by means of soil disturbance once they have set seed, or mature seeds will be harvested and stored for future use.
- 6.121 Finally, it is possible that some important arable plants within the seedbank will grow amongst the wildflower grassland, at least in the first few years of management before the sward closes over (see **Figure 6.6**). Depending on the abundance and distribution of any such plants, their seeds will be harvested and stored as above, or the ongoing wildflower grassland management can include targeted disturbance to maintain suitable conditions for arable plants in localised areas.
- 6.122 This is also set out in the Habitat Creation and Management Plan for the Development (**Appendix 6.6**).
- 6.123 It is therefore considered that with mitigation, the arable plant interest of the Site can be maintained, and potentially even enhanced through more favourable management. As such, **no significant residual effects** upon the arable plant assemblage, including that associated with the Wisley Airfield SSCI, are predicted.

Bat Assemblage

Disturbance from Construction Activity

- 6.124 Disturbance will be avoided and minimised through the implementation of the CEMP. This specifies that works will only be undertaken during daylight hours, thus virtually eliminating the risk of disturbance to bats. The CEMP also sets out measures to minimise noise and light spill. It is therefore considered that with mitigation, **no significant residual effects** in respect of disturbance to bats remain.

*Breeding Bird Assemblage*Direct Harm; Destruction of Active Nests

- 6.125 Given that the enabling earthworks are anticipated to take place during the breeding season, this impact will be avoided by means of pre-commencement walkover surveys by experienced ecologists early in the morning before works are due to take place in a given area. This may require more than one ecologist depending on the size of the area. The ecologist(s) will observe bird behaviour (chiefly Skylark) to identify potential nest sites, and carry out a careful visual inspection of any such areas. Should any active nests be suspected or confirmed, a cordon of at least 10m around the nest will be implemented and the ecologist(s) shall liaise with the contractors on site to ensure that no works take place in this area until any dependent young have fledged.
- 6.126 With mitigation, **no significant residual effects** in respect of direct harm to nesting birds or damage/destruction of nests are predicted, and **a legal offence will be avoided**.

Disturbance from Construction Activity

- 6.127 In most cases, the ecological buffer zone along the northern boundary, combined with the offset from root protection zones along the woodland at Elm Corner and line of trees at the western end of the Site, will prevent disturbance in close proximity of retained nesting bird habitat. Together with the implementation of the CEMP, any residual disturbance is likely to be minimal and temporary in nature. It is therefore unlikely that disturbance would be of sufficient magnitude to affect the conservation status of the breeding bird assemblage, and as such, **no residual significant effects** are predicted.

*Great Crested Newts*Direct Harm to Individuals

- 6.128 In order for the Development to proceed legally, a European Protected Species Mitigation Licence (EPSML) will be required should planning consent be granted. The EPSML will include a method statement to ensure that site works are undertaken in a manner which will not cause harm or death of GCN, and will secure appropriate replacement habitat to ensure no detrimental effect on the conservation status of GCN.
- 6.129 Natural England has been consulted on a draft version of the EPSML via their Pre-Screening Service (PSS), and has confirmed that the relevant planning tests (that there are Imperative Reasons of Overriding Public Interest and No Satisfactory Alternatives) under the Habitats Regulations would be met, such that it would not be unlikely for the EPSML to be granted once the relevant planning consents are in place.

- 6.130 The most suitable GCN habitat within the Site lies within areas that will not be affected by the earthworks, for example the woodland, rough grassland and northern field margin. A herpetofauna exclusion fence will therefore be installed along the inner (southern) edge of these areas prior to the commencement of works, to prevent GCN from entering the works area (although it is expected that most GCN would be moving northwards away from the Site towards their breeding ponds in spring 2021).
- 6.131 Any remaining GCN on the southern side of the exclusion fence will be captured by hand as they move northwards towards their breeding ponds. In line with best practice guidelines^{xxiii}, this will be achieved by placing carpet tiles along the inner (southern) edge of the exclusion fence to provide shelter for animals along the fence line. These will be checked by a licenced ecologist in the early morning for at least 30 consecutive days during suitable weather conditions in spring 2021, continuing until there have been five clear days with no captures. Any animals found will be released immediately on the other side of the exclusion fence, underneath log piles to be provided for shelter.
- 6.132 Heras fencing (or similar) around the works area will protect the exclusion fence from contractor access and accidental damage, and the exclusion fence will be maintained and subject to weekly checks while it is in place. No earthworks shall take place until the capture exercise is complete. As GCN may hibernate at the base of the exclusion fence it will only be removed during the months of April to September inclusive, outside of the hibernation season.
- 6.133 With mitigation, including works carried out under EPSML, **no significant residual effects** in respect of harm to GCN are predicted and **a legal offence will be avoided**.
- 6.134 The mitigation measures proposed for GCN would also by extension protect and conserve the wider amphibian assemblage within the ZoI, including that associated with the Wisley Airfield SNCI.

Disturbance from Construction Activity

- 6.135 The risk of disturbance will be mitigated by means of the capture and exclusion exercise described above (carried out under EPSML), along with the implementation of the CEMP. It is therefore considered that with mitigation, **no significant residual effects** in respect of disturbance to GCN remain.

Reptiles

Direct Harm to Individuals

- 6.136 The installation and maintenance of the herpetofauna exclusion fence described above under 'Great Crested Newts' will prevent reptiles from entering the works area. Reptiles will also be

captured alongside GCN as part of the above-described capture exercise and released into log piles beyond the exclusion fence. Additional refugia known to be favoured by reptiles (such as roofing felt, corrugated tin and onduline) will be placed along the fence line alongside the carpet tiles for GCN to aid this process. The exclusion fence will be removed between the months of April and September inclusive to avoid harm to hibernating reptiles (and GCN).

- 6.137 These measures will reduce the risk of harm to reptiles to a negligible level, such that **a legal offence will be avoided**.

Disturbance from Construction Activity

- 6.138 Disturbance will be minimised by means of the physical barrier of the exclusion fence and the measures set out in the CEMP. **No significant residual effects** are therefore predicted in respect of disturbance to reptiles.

Wintering Bird Assemblage

Loss of Foraging Habitat

- 6.139 As described above under 'Arable Plant Assemblage', temporary arable weed reserves are to be created in unaffected areas of the Site and adjacent land, and managed to allow arable plants to complete their life cycle and set seed (**Figure 6.6**). This will ensure a continued food source for the wintering bird assemblage through winter 2021/22. The following winter the newly seeded grasslands will have produced mature plants and seed, and as set out in the Habitat Creation and Management Plan, margins will be left uncut to provide food for wintering birds.
- 6.140 With mitigation, therefore, **no significant residual effects** in respect of the temporary foraging habitat loss are predicted.

Operational Phase

- 6.141 No significant negative impacts requiring mitigation have been identified for the operational phase.

Residual Effects

- 6.142 No significant residual negative effects requiring compensation are predicted.

Cumulative Effects

- 6.143 Other committed developments which could potentially act cumulatively with the Development to generate significant cumulative effects are listed in **Chapter 2.0**.

- 6.144 Given that the ecological Zone of Influence of the Development is considered to be limited to the Site and immediate surroundings, the only committed developments considered to have the potential to act cumulatively with this Development in respect of biodiversity are:
- 19/P/00377 amendment to approved drawings for a new building at Royal Horticultural Society Wisley Gardens approximately 350m to the north-west;
 - M25 Junction 10/A3 DCO Wisley Interchange Improvements within the wider FWA site boundary to the west; and
 - The Proposed Wisley New Settlement (allocation A35 of GBC Local Plan).
- 6.145 The Proposed Wisley New Settlement will be designed and delivered by the same Applicant, meaning that there can be a high level of confidence that the potential for significant negative cumulative effects, where applicable, will be avoided.
- 6.146 The extant planning permission for an in-vessel composting facilities at the wider FWA site (planning reference 08/P/01472) is scoped out of cumulative assessment, as the Applicant has confirmed this project would not go ahead should the Development be consented.

Construction Phase

Thames Basin Heaths SPA, Ockham and Wisley Commons SSSI, Ockham and Wisley LNR, Elm Corner Woods SNCI, Hunts Copse SNCI

Damage to Interest Features

- 6.147 All three of the above committed developments have the potential to act cumulatively with the Development in respect of damage to interest features through dust, noise and water pollution.
- 6.148 The element of the RHS Wisley Gardens scheme that is most likely to generate noise, dust and water pollution is the demolition of existing buildings, which has already taken place. RHS Wisley lies on the opposite side of the A3 dual carriageway and as such it is unlikely that with mitigation measures in place, any dust, noise or water pollution during construction would affect the above sites to a degree that could be considered significant when taken cumulatively with the Development.
- 6.149 The M25 J10/A3 scheme will be constructed by Highways England, subject to an extensive package of mitigation measures that will ensure no adverse effect on the integrity of the SPA either alone or in combination (as is required by the Habitats Regulations), which includes a CEMP. EPR is working collaboratively with Highways England's appointed ecological consultants to share knowledge and input to detailed plans for the element of the scheme that falls within the wider FWA site. With mitigation, it is unlikely that significant cumulative effects will occur.

- 6.150 The Proposed Wisley New Settlement scheme would be subject to similarly robust mitigation measures proposed for this Development, in line with relevant nature conservation legislation and planning policy requirements, and as such no significant residual effects are likely to occur.
- 6.151 In summary, with mitigation, **no significant residual cumulative effects** are predicted in respect of damage to the interest features of the above sites.

Wisley Airfield SNCI

- 6.152 Potential cumulative impacts on the interest features of the Wisley Airfield SNCI are discussed below to avoid duplication.

Arable Plant Assemblage

Direct Loss

- 6.153 The RHS Wisley Gardens scheme is off-site and therefore the potential for a cumulative effect in respect of direct loss of the arable plant assemblage within the Site (including the Wisley Airfield SNCI) can be ruled out.
- 6.154 The footprint of the M25 J10/A3 scheme falls within areas of dense scrub and secondary woodland, and will not affect any arable areas. The potential for the Development to result in cumulative effects alongside this scheme can therefore also be ruled out.
- 6.155 The Proposed Wisley New Settlement scheme would affect arable areas in a similar way to the Development, and would be mitigated in the same way such that cumulative effects would be avoided.
- 6.156 As such, **no significant residual cumulative effects** in respect of the arable plant assemblage are predicted.

Bat, Breeding Bird, Great Crested Newt, Reptile and Wintering Bird Assemblages

- 6.157 Potential cumulative effects on all of these important ecological features (including those associated with the Wisley Airfield SNCI) are considered together for brevity.

Direct Harm

- 6.158 The RHS Wisley Gardens scheme is over 350m distant from the Development and can therefore be ruled out in respect of the potential for cumulative harm to individual animals.

- 6.159 The M25 J10/A3 scheme, if consented, will have a robust mitigation scheme in place to avoid direct harm to individual animals, including the use of herptile exclusion fencing where appropriate.
- 6.160 The Proposed Wisley New Settlement scheme would also be subject to the same robust mitigation measures to avoid harm as those for the Development, as set out above under 'Mitigation Measures' and below under 'Legal Considerations'.
- 6.161 As such, with mitigation, **no significant residual cumulative effects** are predicted in respect of direct harm to the above species assemblages.

Habitat Loss and Fragmentation

- 6.162 It is possible that the breeding bird, wintering bird and bat assemblages supported by the Site also make use of habitats at RHS Wisley. However, with mitigation, the construction of a single new building is unlikely to result in significant loss or fragmentation of habitat used by these species, and a significant cumulative effect is unlikely to occur.
- 6.163 The M25 J10/A3 scheme is likely to result in the loss of a small amount of habitat for breeding birds, wintering birds, GCN and reptiles within the Site. This is to be compensated by the creation of extensive areas of new habitat within the wider scheme and is not considered to be significant in the context of the wider DCO proposals. The potential for habitat fragmentation for GCN and reptiles is to be addressed through culverts underneath the Wisley Lane diversion. In respect of the Development, as set out under 'Likely Significant Effects' the effects of habitat loss and fragmentation are only considered to be significant (and temporary) for the wintering bird assemblage, and with mitigation this is reduced to a level that is not significant. Cumulative effects with the M25 J10/A3 scheme are therefore unlikely to occur.
- 6.164 As a matter of planning policy and in order to meet the requirements of the Habitats Regulations, the Proposed Wisley New Settlement scheme would include an extensive area of Suitable Alternative Natural Greenspace (SANG) within which extensive areas of new habitat for all of the above species assemblages would be created. The scheme would also be required to deliver Biodiversity Net Gain, and in achieving this would need to create further diverse semi-natural habitats suitable for supporting the above species assemblages. As such, significant effects in respect of habitat loss and fragmentation that could act cumulatively with this Development are unlikely to occur.
- 6.165 In summary, with mitigation, **no significant residual cumulative effects** in respect of habitat loss and fragmentation are predicted for the above species assemblages.

Disturbance from Construction Activity

- 6.166 It is possible that highly mobile species such as bats and birds that are disturbed by the RHS Wisley scheme may relocate to the Site and vice versa, where they may be disturbed again. However, given the nature and scale of both the RHS Wisley proposals and the Development and the mitigation proposed, this is considered unlikely to occur, and even less likely to give rise to effects at the population level that could be considered significant.
- 6.167 Construction of the M25 J10/A3 scheme within the wider FWA site is more likely to cause displacement of animals to the Site and vice-versa. This will be carefully managed by way of a coordinated approach to the design and implementation of mitigation measures including those set out in the CEMP for both schemes – as mentioned above, this is and will continue to be achieved through close liaison with Highways England's appointed ecological consultants.
- 6.168 The Proposed Wisley New Settlement will be subject to the same robust mitigation measures to avoid disturbance to the above species assemblages as those for the Development.
- 6.169 In summary, with mitigation, **no significant residual cumulative effects** in respect of construction disturbance are predicted for the above species assemblages.

Operational Phase

All Features: Implementation of Habitat Creation and Management Plan

- 6.170 Implementation of the Habitat Creation and Management Plan is predicted to have either a neutral or positive effect on the important ecological features above.
- 6.171 The implementation of the Habitat Creation and Management Plan would not be affected by the RHS Wisley Gardens or M25 J10/A3 schemes owing to their physical separation from the Site.
- 6.172 The Proposed Wisley New Settlement scheme will be required to address all relevant biodiversity requirements, including planning and phasing the development in such a way as to ensure that the newly created habitats within the WNS site are protected and enhanced. As such, **no significant residual cumulative effects** are predicted.

Biodiversity Net Gain

- 6.173 The following paragraphs describe the way in which the Development will achieve biodiversity net gain, in accordance with the relevant national and local biodiversity policies and strategies summarised in **Appendix 6.1**.

- 6.174 A completed version of the DEFRA Metric 2.0 biodiversity net gain calculation tool is provided with the planning application, and a summary and explanatory note is included at **Appendix 6.5**. This shows that the Development will achieve a net gain of approximately 157%, or 121.54 biodiversity units.
- 6.175 This substantial gain is largely derived from the conversion of species-poor intensive arable fields into species-rich wildflower grassland. This will greatly increase the extent, quality and connectivity of habitat for birds, bats, reptiles and amphibians, and also benefit species that were scoped out of detailed impact assessment but nevertheless contribute to local biodiversity, such as Badgers, small mammals and invertebrates.
- 6.176 Emerging national policy, in the form of the Draft Environment Bill, stipulates a mandatory requirement for 10% net gain, while emerging GBC Development Management Policy P7 goes beyond this and requires (at the time of writing this report) a minimum 20% net gain. Notwithstanding the fact that these percentage requirements are yet to be formalised within adopted legislation and policy, TW propose to accredit 15.48 biodiversity units to this Development (unless an alternative figure is agreed with GBC based on revised policy), in order to meet GBC's emerging policy requirement for 20% net gain. Detailed calculations are set out in **Appendix 6.5**.
- 6.177 Although the Development will be implemented in full, in accordance with the submitted documentation, the surplus 105.23 biodiversity units beyond the stated 20% provision is proposed to be 'banked' for future accreditation or 'offsetting' against the Proposed Wisley New Settlement scheme that will be subject to a separate outline planning application in the near future.

Legal Considerations

- 6.178 Should planning permission be granted for the Development, the following legal considerations will apply, in accordance with the following items of legislation:
- The Conservation of Habitats and Species Regulations 2017 (as amended);
 - The Wildlife and Countryside Act 1981 (as amended); and
 - The Protection of Badgers Act 1992.

Badgers

- 6.179 As described under 'Baseline Conditions', a Badger sett is present off-site within Hunts Copse and Badgers are known to use the Site area and wider FWA site for foraging. The sett within Hunts Copse is over 35m from the edge of the works area, therefore the risk of damage or disturbance is negligible, however Badgers are highly mobile creatures and it is possible that

they may excavate new setts within the Zone of Influence of the Development before works begin.

6.180 Badgers are protected by the Protection of Badgers Act 1992. It is an offence to wilfully kill, injure, take, possess or cruelly ill-treat a Badger, to destroy, damage or obstruct access to a sett, and to disturb a Badger whilst it is occupying a sett.

6.181 To prevent a legal offence from occurring, the following working methods will be implemented:

- An experienced ecologist will carry out an update walkover within one month prior to the commencement of excavation works (including the installation of the herptile exclusion fence), to check for the presence of newly dug setts or other active mammal holes which could be used by Badger;
- Should any new setts or active mammal holes be found, works will not take place until a mitigation strategy has been put in place. In the first instance, efforts will be made to adjust the location, timing or working methods to avoid affecting setts where possible. As a last resort, it may be necessary to apply to Natural England for a sett closure licence;
- Where any newly dug setts or mammal holes can be retained in situ, a suitable 'no dig' buffer zone (up to 30m depending on the species and nature of the hole) will be marked out on the ground;
- All excavations within which Badgers could become trapped will be backfilled on the same day or covered overnight and checked the following morning;
- Should any new mammal holes be discovered during the works, works will stop until an ecologist has advised on appropriate actions; and
- An experienced ecologist will deliver a Toolbox Talk to all site personnel on the first day of any excavation works to ensure that contractors understand the protection afforded to Badgers, the location of any no-dig areas and the working methods they must use, as outlined above.

6.182 The implementation of the CEMP will also further reduce the effects on disturbance to Badgers through controls on noise and vibrations, and restricting working to daylight hours only.

6.183 Adherence to the above measures should ensure that **no legal offences** are committed in respect of Badgers.

Nesting Birds

6.184 All wild birds are protected whilst nesting under the Wildlife and Countryside Act (1981), making it an offence to intentionally kill, injure or take any wild bird and to take, damage or destroy their nests or eggs, while the nest is in use.

- 6.185 As set out above, the only nesting habitat to be affected by the Development is the arable fields. Observations and walkover checks for ground-nesting birds in the arable areas will be undertaken by an experienced ecologist(s) each morning prior to the commencement of works. Should evidence of active nesting be found, the area will be cordoned off with a minimum 10m buffer zone, and no works will take place in this area until any dependent young have fledged.
- 6.186 An experienced ecologist will also deliver a Toolbox Talk to all site personnel on the first day of clearance works to ensure that contractors understand the protection afforded to nesting birds, and why they must stop and contact the ecologist should they find (or suspect they have found) an active nest.
- 6.187 Adherence to these measures will ensure that **no legal offences** are committed in respect of nesting birds.

Great Crested Newts

- 6.188 GCN are protected from killing, injury, disturbance and damage or obstruction to their habitat under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended).
- 6.189 As set out above, works will not commence until an EPSML has been obtained from Natural England, and the Method Statement and Schedule of Works associated with the EPSML will be followed throughout the works. Any deviation from the methods or timings set out in the EPSML must first be agreed with Natural England through a licence amendment.
- 6.190 Adherence to the requirements of the EPSML will ensure that **no legal offences** are committed in respect of GCN. An experienced ecologist will also deliver a Toolbox Talk to all site personnel on the first day of clearance works, to ensure that contractors understand the protection afforded to GCN, what they look like, the working methods stipulated in the EPSML and its legally binding nature, and why they must stop and contact the ecologist should they find (or suspect they have found) a GCN.

Reptiles

- 6.191 Slow-worm, Grass Snake and Common Lizard are all protected from killing and injury under the Wildlife and Countryside Act 1981 (as amended).
- 6.192 As described above, potential legal offences in respect of these species will be avoided through the installation of a herpetofauna exclusion fence along the northern edge of the works area, and the capture and relocation exercise carried out under the GCN EPSML, which will also allow any reptiles to be moved to safety.

- 6.193 An experienced ecologist will also deliver a Toolbox Talk to all site personnel on the first day of clearance works, to ensure that contractors understand the protection afforded to reptiles, what they look like, and why they must stop and contact the ecologist should they find (or suspect they have found) a reptile.
- 6.194 Adherence to these measures will ensure that **no legal offences** are committed in respect of common reptiles.

Summary

- 6.195 This chapter has set out the methodology used to assess potential impacts on biodiversity (known as Ecological Impact Assessment) arising from the Development in the context of applicable legislation, policy and guidance. This assessment has been informed by the findings of desktop study work and an extensive suite of ecological field surveys undertaken at the wider FWA site since 2006.
- 6.196 Several important ecological features have the potential to be affected by the Development, including both on and off-site designated sites for nature conservation, and on-site habitats and protected and notable species. These are:
- Off-site: Thames Basin Heaths SPA, Ockham and Wisley Commons SSSI, Ockham and Wisley LNR, Elm Corner Woods SNCI and Hunts Copse SNCI; and
 - On-site: Wisley Airfield SNCI, plus assemblages of arable plants, Badger, bats, breeding and wintering birds, Great Crested Newts and reptiles.
- 6.197 The potential for significant effects on these features to arise in the absence of mitigation are largely restricted to the construction phase, and include direct/indirect damage to habitats, direct harm to individual animals, loss and fragmentation of habitats, and disturbance.
- 6.198 Mitigation measures include maintenance of an ecological buffer zone around important habitats, the implementation of pollution prevention measures set out in the CEMP, the creation and management of temporary 'arable plant reserves' to build up a seed bank of important plants, pre-construction surveys, adherence to strict working method statements, ecological supervision of site works, and the installation of a temporary exclusion fence for reptiles and GCN followed by a capture/relocation exercise. Some of these measures will require a European Protected Species Mitigation Licence (EPSML) from Natural England in respect of Great Crested Newts (GCN), which will be applied for following Development consent.
- 6.199 Likely significant effects during the operational phase are predicted to be either neutral or positive for all features due to implementation of the Habitat Creation and Management Plan prescribed for the creation of extensive areas of wildflower grassland and arable plant reserves.

6.200 The potential for cumulative impacts to arise from the Development and other committed schemes has been assessed, and with mitigation, no significant residual cumulative impacts are predicted.

6.201 The Development is predicted to result in a significant and measurable Biodiversity Net Gain of 157%, according to the DEFRA/Natural England calculator tool. 20% gain is proposed to be accredited to the Development, in line with emerging GBC policy, with the remainder available to serve future delivery of the Proposed Wisley New Settlement by way of an onsite biodiversity banking (or offsetting) scheme.

Mechanisms to Secure Impact Avoidance, Mitigation and Compensation Measures

6.202 A planning condition(s) will be used to require and secure the implementation of and adherence to the ecological mitigation measures set out in the following documents:

- The 'Mitigation Measures' and 'Legal Considerations' sections of this Chapter;
- Habitat Creation and Management Plan;
- Construction Environmental Management Plan; and
- Flood Risk Assessment and Drainage Strategy.

6.203 Since these documents have already been produced and submitted with the application and reproduced as chapters and appendices within this ES, any such condition(s) should be worded in terms of a requirement for compliance, as opposed to submission of information prior to commencement.

Conclusion

6.204 This assessment has predicted that, subject to the implementation of the impact avoidance and mitigation measures set out above, the Development will not have any residual significant negative effects on Important Ecological Features, either alone or cumulatively with other committed developments, and will conform to all applicable nature conservation related legislation and policy, as listed in **Appendix 6.1**.

6.205 The Development will also deliver substantial biodiversity net gains that will benefit a variety of species. This includes the creation, management and monitoring of both an extensive area of species-rich wildflower grassland, and temporary arable plant reserves aimed at boosting and conserving the seedbank of any important arable plants within the ZoI of the Development.

6.206 **Table 6.5** contains a summary of the likely significant effects of the Development.

Table 6.5: Table of Significance – Biodiversity

Potential Effect	Nature of Effect (Permanent/Temporary)	Significance	Geographical Importance*							Mitigation / Enhancement Measures	Residual Effects
			I	UK	E	R	C	B	L		
Construction											
<i>TBH SPA, Ockham and Wisley Commons SSSI</i>											
Damage to interest features	Permanent	Significant negative			X	X				Ecological buffer zone; implementation of CEMP	None
<i>Ockham & Wisley LNR, Elm Corner Woods SNCI, Hunts Copse SNCI</i>											
Damage to interest features	Permanent	Significant negative							X	Ecological buffer zone; implementation of CEMP	None
<i>Wisley Airfield SNCI</i>											
Direct loss of interest features	Permanent	Significant negative							X	Targeted storage and translocation of topsoil, management of temporary 'arable plant reserves' to build up seed bank within wider FWA site	None
Harm/disturbance to interest features	Covered under Bat Assemblage, GCN and Reptiles									n/a	
<i>Arable Plant Assemblage</i>											
Direct loss	Permanent	Significant negative					X			Targeted storage and translocation of topsoil, management of temporary 'arable plant reserves' to build up seed bank within wider FWA site	None
<i>Bat Assemblage</i>											
Loss of foraging habitat	Temporary	Not significant								n/a	n/a
Disturbance from construction activity	Temporary	Significant negative							X	Ecological buffer zone, implementation of CEMP	None

<i>Breeding Bird Assemblage</i>												
Direct harm, destruction of nests	Permanent	Significant negative								X	Pre-works nesting bird checks, implementation of CEMP	None
Loss of foraging/nesting habitat	Temporary	Not significant									n/a	n/a
Disturbance from construction activity	Temporary	Significant negative								X	Ecological buffer zone, implementation of CEMP	None
<i>Great Crested Newts</i>												
Direct harm to individuals	Permanent	Significant negative								X	Ecological buffer zone, exclusion fence and capture/ relocation along fence line under EPSML	None
Habitat loss and fragmentation	Temporary	Not significant (but potential legal offence)									Exclusion fence implemented under EPSML	Legal offence avoided
Disturbance from construction activity	Temporary	Significant negative								X	Ecological buffer zone, exclusion fence under EPSML, implementation of CEMP	None
<i>Reptiles</i>												
Direct harm	Permanent	Not significant (but potential legal offence)									Ecological buffer zone, exclusion fence, capture/relocation along fence line	Legal offence avoided
Disturbance from construction activity	Temporary	Significant negative								X	Exclusion fence, implementation of CEMP	None
<i>Wintering Bird Assemblage</i>												
Loss of foraging habitat	Temporary	Significant negative								X	Creation of temporary arable weed reserves	None
Completed Development												
<i>TBH SPA, Ockham & Wisley Commons SSSI, Ockham & Wisley LNR, Elm Corner Woods SNCI, Hunts Copse SNCI</i>												

Implementation of Habitat Creation and Management Plan	Permanent	Not significant/neutral										n/a	n/a
<i>Wisley Airfield SNCI, Arable Plant Assemblage, Bat, Breeding Bird, Great Crested Newt, Reptile, Wintering Bird Assemblages</i>													
Implementation of Habitat Creation and Management Plan	Permanent	Significant positive									X	n/a	Significant positive effect at Local level
Cumulative Effects													
Construction													
<i>TBH SPA, Ockham & Wisley Commons SSSI</i>													
Damage to interest features	Permanent	Significant negative	X	X								Implementation of CEMPs; ecological buffer zone	None
<i>Ockham & Wisley LNR, Elm Corner Woods SNCI, Hunts Copse SNCI</i>													
Damage to interest features	Permanent	Significant negative							X			Implementation of CEMPs; ecological buffer zone	None
<i>Arable Plant Assemblage (including Wisley Airfield SNCI)</i>													
Direct Loss	Permanent	Significant negative							X			As above	None
<i>Bat, Breeding Bird, Great Crested Newt, Reptile and Wintering Bird Assemblages (including Wisley Airfield SNCI)</i>													
Direct Harm	Permanent	Significant negative									X	Implementation of CEMPs, ecological buffer zone, pre-works nesting bird checks, exclusion fencing, capture/relocation as above (GCN/reptiles)	None
Habitat loss/fragmentation	Temporary	Significant negative									X	Creation of temporary arable weed reserves as above; culverts; provision of SANG	None
Disturbance from construction activity	Temporary	Significant negative									X	Implementation of CEMPs; ecological buffer zone	None

Completed Development												
No cumulative effects predicted												

*** Geographical Level of Importance (of impact, in the absence of mitigation)**

I = International; UK = United Kingdom; E = England; R = Regional; C = County; B = Borough; L = Local

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