Homes England

The Housing and Regeneration Agency

West of Ifield, Crawley
Environmental Statement: Volume 1: Main Report

CHAPTER 8: BIODIVERSITY
Version 1 - Planning submission

July 2025

8 BIODIVERSITY

8.1 Introduction

8.1.1 This chapter of the ES reports on the identification and assessment of likely significant biodiversity effects to arise from the demolition and construction stage and operational stage of the Proposed Development.

8.1.2 The chapter describes the biodiversity legislation, policy and guidance framework; the methods used to assess the potential impacts and likely effects; the baseline conditions at the Site and within the study area; the likely biodiversity effects and the setting out of proposed mitigation measures, where feasible, in respect of any identified likely significant effects; proposed additional mitigation and any enhancement measures where applicable; the significance of residual effects; and inter-project cumulative effects.

8.1.3 The chapter is supported by the following technical appendices in ES Volume 2:

- Appendix 8.1: West of Ifield – Biodiversity Net Gain Assessment Report (June 2025);
- Appendix 8.2: Land West of Ifield – Extended Phase 1 Habitat Survey Report (October 2019)
- Appendix 8.3: Sussex Biodiversity Records Centre – Ecological Data Search SxBRC/22/1027 – Summary Report;
- Appendix 8.4: Surrey Biodiversity Information Centre – Summary of Results;
- Appendix 8.5: UKHab Baseline Map – Ifield;
- Appendix 8.6: Habitats Regulations Screening Assessment – West of Ifield (June 2025);
- Appendix 8.7: Land West of Ifield – Invertebrate Survey Report (September 2023);
- Appendix 8.8: Land West of Ifield – Invertebrate Survey Report (October 2019);
- Appendix 8.9: Land West of Ifield – Great Crested Newt Survey Report 2024 (July 2024);
- Appendix 8.10: Land West of Ifield – Great Crested Newt Survey Report 2023 (August 2023);
- Appendix 8.11: Land West of Ifield – Great Crested Newt Survey Report 2022 (December 2022);
- Appendix 8.12: Land West of Ifield – Great Crested Newt Survey Report (October 2019);
- Appendix 8.13: Land West of Ifield – Reptile Survey Report (November 2022);
- Appendix 8.14: Land West of Ifield – Reptile Survey Report 2020 (July 2020);
- Appendix 8.15: Land West of Ifield – Reptile Survey Report (October 2019);
- Appendix 8.16: Bird Hazard Management Plan – West of Ifield (July 2021);
- Appendix 8.17: Land West of Ifield – Early Breeding Bird Survey March to April 2020 (July 2020);
- Appendix 8.18: Land West of Ifield – Breeding Bird Survey Report including Barn Owl Assessment (November 2019);
- Appendix 8.19: Land West of Ifield – Wintering Bird Survey (November 2019);
- Appendix 8.20: Land West of Ifield – Barn Owl Survey 2020 (August 2020);
- Appendix 8.21: Land West of Ifield – Bat Survey Report 2024 (January 2025);
- Appendix 8.22: Land West of Ifield – Bat Survey Report 2023 (December 2023);
- Appendix 8.23: Land West of Ifield – Bat Survey Report (February 2023);
- Appendix 8.24: Land West of Ifield – Bat Activity Survey Report (Transect 5) (April 2023);

- Appendix 8.25: Land West of Ifield, Crawley – Bat Trapping and Radio-tracking (October 2024);
- Appendix 8.26: Bat Trapping and Radio-tracking Baseline Report and Evaluation for Land West of Ifield, Crawley for Ramboll (September 2022);
- Appendix 8.27: Advanced Bat Survey Report – Baseline Trapping and Radiotracking Survey Results – Land West of Ifield (November 2021);
- Appendix 8.28: Land West of Ifield – Non-technical Advice Note (Bats) (February 2024);
- Appendix 8.29: Land West of Ifield Environmental Statement – Bat Survey Report (November 2019);
- Appendix 8.30: Land West of Ifield – Hazel Dormouse Survey Report (November 2022);
- Appendix 8.31: Land West of Ifield – Dormouse Survey Report (October 2019);
- Appendix 8.32: Land West of Ifield – Otter and Water Vole Survey Report (October 2019);
- Appendix 8.35: Land West of Ifield – Hedgerow Survey Report (October 2019);
- Appendix 8.37: Land West of Ifield – Bat Survey Report (November 2019);

8.1.4 An additional three Confidential Badger Appendices (Appendices 8.33, 8.34 and 8.36) have been prepared which provide baseline information and assessment in relation to badgers. As requested by Horsham District Council and as per common practice, the Appendices have been submitted to Horsham District Council but are not intended to be made public due to concerns around welfare of badgers from the identification of the location of badger setts.

8.1.5 This chapter is based on the Proposed Development as described in ES Volume 1 Chapter 4: Proposed Development Description. The chapter has been written by Ramboll ecologists. Surveyor details can be found within the technical reports within ES Volume 2 Technical Appendices. Desk and field survey work was also undertaken by Ramboll surveyors with appropriate professional ecological consultancy experience. All field surveys were led by surveyors with Associate or Member level of Chartered Institute of Ecology and Environmental Management (CIEEM) membership.

8.2 Policy Context and Guidance

8.2.1 The assessment has been informed by the following legislation, policies and published guidance:

- International Legislation:
  - Directive 2014/52/EU of the European Parliament and of the Council, of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment[1].
- National Legislation and Policy:
  - National Planning Policy Framework (NPPF), 2024[2];
  - Environment Act 2021[3];
  - Conservation of Habitats and Species Regulations, 2017 and 2019, as Amended[4] [5] (Habs Regs);

[1] The European Parliament and the Council of the European Union, Directive 2014/52/EA, assessment of the effects of certain public and private projects on the environment, of 16 April 2014

[2] Ministry of Housing, Communities and Local Government, 2024. National Planning Policy Framework. London. HMSO.

[3] Secretary of State, 2021, Environment Act. London. HMSO.

[4] Secretary of State, 2017. The Conservation of Habitats and Species (Amendment) Regulations. London. HMSO.

[5] Secretary of State, 2019. The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. London. HMSO

- Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services, 2011[6].
- Natural Environmental and Rural Communities Act, 2006[7] (NERC);
- Circular 06/2005: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System[8];
- Countryside and Rights of Way Act, 2000[9];
- Hedgerows Regulations (1997)[10];
- Wild Mammals (Protection) Act (1996)[11];
- Protection of Badgers Act 1992[12]; and
- Wildlife and Countryside Act, 1981, as Amended[13] (WCA).

- Local Policy:
  - Horsham District Planning Framework[14];
  - The Rusper Neighbourhood Plan 2018 - 2031[15]
- National and local guidance and industry standards:
  - Planning Practice Guidance (PPG) – Natural Environment, 2025[16]
  - Horsham Nature Recovery Network Report[17];
  - Horsham District Planning Framework – Green Infrastructure Strategy[18];
  - Sussex Biodiversity Partnership – Rusper Ridge Biodiversity Opportunity Area 36[19]; and
  - Sussex Biodiversity Partnership – Ifield Brook Biodiversity Opportunity Area 37[20].
  - UK Habitat Classification Working Group, 2023, Habitat Classification Version 2.01[21];
  - Collins, J. (BCT), 2023, Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition)[22];
  - Reason, P.R. and Wray, S. 2023. Bat Mitigation Guidelines[23];
  - Badger Trust, 2023, Badger Protection: Best Practice Guidance for Developers, Ecologists and Planners (England)[24];

6 Department for Environment, Food and Rural Affairs, 2011. Biodiversity 2020: A Strategy for England's wildlife and Ecosystem Services. Defra.
7 Secretary of State, 2006. Natural Environment and Rural Communities Act. London. HMSO.
8 Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services, 2011.
9 Secretary of State, 2000. The Countryside and Rights of Way Act. London. HMSO.
10 Secretary of State, 1997. The Hedgerows Regulations 1997. London. HMSO.
11 Secretary of State, 1996. Wild Mammals (Protection) Act 1996. London. HMSO.
12 Her Majesty's Stationery Office (HMSO), 1992. Protection of Badgers Act 1992.London. HMSO.
13 Secretary of State, 1981. Wildlife and Countryside Act. London. Her Majesty's Stationary Office (HMSO).
14 Horsham District Council, 2015. Horsham District Planning Framework (excluding South Downs National Park). Available at: https://www.horsham.gov.uk/__data/assets/pdf_file/0016/60190/Horsham-District-Planning-Framework-November-2015.pdf .
15 Available at: https://www.horsham.gov.uk/__data/assets/pdf_file/0011/108488/Rusper_Neighbourhood_Plan_2020_Final-1.pd f
16 Ministry of Housing, Communities & Local Government (Live Document). Planning Practice Guidance [online]. Available at: http://planningguidance.communities.gov.uk/
17 Horsham District Council, 2021. Horsham Nature Recovery Network. Available at: https://www.horsham.gov.uk/climate-and-environment/wilderhorshamdistrict/horsham-district-nature-recovery-networks/horsham-district-nature-recovery-network-report
18 Horsham District Council, 2014. Green Infrastructure Strategy: Horsham District Planning Framework. Available at: https://www.horsham.gov.uk/__data/assets/pdf_file/0007/66544/Green-Infrastructure-Study.pdf
19 Sussex Biodiversity Partnership (Year unknown). Rusper Ridge Biodiversity Opportunity Area 36.
20 Sussex Biodiversity Partnership (Year unknown). Ifield Brook Biodiversity Opportunity Area 37.
21 UK Hab., 2023. UK Habitat Classification Version 2.01 at http://www.ukhab.org/ .
22 Collins, J, (ed.), 2023. Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). London. The Bat Conservation Trust.
23 Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Version 1.1.
24 Badgers Trust, 2023. Badger Protection: Best Practice Guidance for Developers, Ecologists and Planners (England).

- BCT and Institution of Lighting Professionals (ILP), 2023, Guidance Note 08/23 Bats and artificial lighting at night[25] ;
- Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I., 2021. Birds of Conservation Concern 5 (BOCC) [26];
- Mathews F, and Harrower C., 2020. Red List for Britain's Terrestrial Mammals (2020)[27];
- British Trust for Ornithology (BTO), 2019, JNCC, and RSPB's Breeding Bird Survey Instructions[28];
- Chartered Institute of Ecology and Environmental Management's (CIEEM), 2018 (Version 1.3 updated September 2024), Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland: Terrestrial, Freshwater Coastal and Marine[29];
- UK Habitat Classification Working Group, 2018, UK Habitat Classification User Manual[30]
- Collins, J. (BCT), 2016, Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition)[31];
- Dean, m., *et al.,* 2016, The Water Vole Mitigation Handbook[32];
- Froglife, 2015, Surveying for Reptiles: Tips, techniques and skills to help you survey for reptiles[33]
- Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, R.A. Foster, J., Wilkinson, J., Arnett, A., Williams, P. and Dunn, F., 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA [34];
- Biggs, J., *et al.*,2014*,* Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA.[35];
- Shawyer, C., (Wildlife Conservation Partnership), 2012, Barn Owl *Tyto alba* Survey Methodology and Techniques for use in Ecological Assessment[36];

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25 BCT, 2023. Guidance Note 08/23, Bats and artificial lighting at night. Available at: https://www.bats.org.uk/news/2023/08/bats-and-artificial-lighting-at-night-ilp-guidance-note-update-released .

26 Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I., 2021. The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114: 723-747. Available at: https://britishbirds.co.uk/content/status-our-bird-populations . Accessed 15/05/2024.

27 Mathews F, and Harrower C., 2020. IUCN – compliant Red List for Britain's Terrestrial Mammals. Assessment by the Mammal Society under contract to Natural England, Natural Resources Wales and Scottish Natural Heritage. Natural England. Peterborough.

28 BTO, JNCC, & RSPB. 2018. Breeding Bird Survey Instructions. Available at: https://www.bto.org/sites/default/files/bbs_instructions_2018.pdf

29 Chartered Institute of Ecology and Environmental Management, 2018. Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3. Winchester. CIEEM.

30 UK Habitat Classification Working Group, 2018. UK Habitat Classification User Manal. Available at http://ecountability.co.uk/ukhabworkinggroup-ukhab.

31 Collins, J, (ed.), 2016. Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). London. The Bat Conservation Trust.

32 Dean, M., Strachan, R., Gow, D., & Andrews, R.,2016. The Water Vole Mitigation Handbook.

33 Friglife, 2015. Surveying for Reptiles: Tips, techniques and skills to help you survey for reptiles

34 Biggs, J., Ewald, N., Valentini, A., Gaboriaud, C., Griffiths, R.A. Foster, J., Wilkinson, J., Arnett, A., Williams, P. and Dunn, F., 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA. Oxford: Freshwater Habitats Trust.

35 Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F (2014) Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (Triturus cristatus) environmental DNA. Freshwater Habitats Trust, Oxford.
https://adas.co.uk/wp-content/uploads/2021/01/Natural-England-Technical-Advice-Note-2.pdf

36 36 Shawyer C. 2012. Barn Owl Tyto alba Survey Methodology and Techniques for use in Ecological Assessment. Wildlife Conservation Partnership. https://cieem.net/resource/barn-owl-survey-methodology-and-techniques-for-use-in-ecological-assessment/

- Wray, S., Well, D., Long, E. & Mitchell-Jones, T, 2010, Valuing Bats in Ecological Impact Assessment. CIEEM In Practice. December 2010: 23-25.
- Drake, C., *et al.*, 2007, Surveying terrestrial and freshwater invertebrates for conservation evaluation[37];
- English Nature, 2006, Dormouse Conservation Handbook[38];
- Froglife, 1999, Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation, [39] ;
- Gilbert *et al.*, 1998, Bird Monitoring Methods[40];
- Department for Environment, Food and Rural Affairs' (DEFRA), 1997, The Hedgerows Regulations 1997: A Guide to the Law and Good Practice, 1997[41].
- BTO, 1996, Common Bird Census[42];
- Neal, E. & Cheeseman, C., 1996, Badgers[43]; and
- Harris, S., *et al.*, 1989, (The Mammal Society) Surveying Badgers. Occasional Publication No. 9.[44].

8.2.2 Further details relating to the Biodiversity Net Gain Assessment are provided in ES Volume 2 Technical Appendix 8.1.

8.3 Consultation

8.3.1 Horsham District Council (HDC) originally adopted a scoping opinion for a potential, outline planning application in November 2020 (HDC ref. EIA/19/0004). A revised scoping opinion request was submitted to HDC for a proposed hybrid planning application on 19th October2023. On 27th November HDC issued a revised scoping opinion (HDC ref. EIA/23/0007). An updated scoping opinion request was submitted to HDC to take account of changes to development proposals on 21st May 2024. A formal ES Scoping Opinion for the updated proposed hybrid planning application was issued in July 2024 (HDC ref. EIA/24/0003). For the purpose of the evolution of this chapter, all of the relevant scoping responses have been considered. Table 8-1 summarises the key ES Scoping Opinion responses and separate consultations that have been undertaken with respect to the Terrestrial Ecology assessment.

Table 8-1: Summary of Consultation

Consultee and Form/ Date of Consultation	Summary of Comments Relevant to Ecology	Where in this Chapter Comments are addressed
Horsham District Council EIA Scoping Opinion 30/11/20	HDC do not consider 2020 an appropriate existing baseline given the impacts of the COVID-19 pandemic.	Ecological surveys have been ongoing over several years to inform the baseline, up to the time of submission.
	Further consultation is proposed to be undertaken with the WSCC tree Officer to request information	Effects on Ancient Woodland and ancient and veteran trees are

[37] Drake, C. M., Lott, D. A., Alexander, K. N. A., & Webb, J., 2007. Surveying terrestrial and freshwater invertebrates for conservation evaluation. Available at: https://publications.naturalengland.org.uk/publication/36002.

[38] English Nature. 2006. The Dormouse Conservation Handbook. Available at https://cieem.net/resource/the-dormouse-conservation-handbook-english-nature/

[39] Froglife. 1999. Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.

[40] Gilbert, G., Gibbons, D.G. and Evans, J., 1998. Bird Monitoring Methods, p.386-388. RSPB

[41] DEFRA, 1997. The Hedgerows Regulations 1997: A Guide to the Law and Good Practice. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/438652/hedgerow__guide_part_1.pdf

[42] BTO, 1996. Common Bird Census Instructions. Available at: https://www.bto.org/sites/default/files/u31/downloads/details/CBC-instructions-g100.pdf .

[43] Neal, E. & Cheeseman, C., 1996. Badgers. T & AD Poyser Ltd, London.

[44] Harris, S., Cresswell, P. & Jeffories, D., 1989. Surveying Badgers. Occasional Publication No. 9. The Mammal Society, London.

Table 8-1: Summary of Consultation		
	on tree preservation orders (TPOs) and approach to tree survey and mitigation. This would include an assessement for Ancient Woodland	addressed in the Assessment of Effects section 8.10. The Applicant's team have liaised with HDC's tree officer. An Arobricultural Impact Assessment has also been prepared (WOI-HPA-DOC-AIA-01) and is submitted with the planning application.
Crawley Borough Council (CBC) EIA Scoping Opinion 27/10/20	CBC has concerns in using 2020 as the existing baseline given the impacts of the COVID-19 pandemic. Baselines should be agreed with CBC and HDC for each of the technical topics.	Ecological surveys have been ongoing over several years to inform the baseline, up to the time of submission.
Horsham District Council Ecology 03/04/2020	Requirement for Defra metric to be used to deliver Biodiversity Net Gain (BNG). Discussion on validity of 2020 data given pandemic. Issue of District Level Licensing (DLL) in the area. Discussion on potential cycle path within Ifield Brook Wood and Meadows Local Wildlife Sites (LWS), and requirement for clarity on proposed compensation measures for habitat loss. HDC requested Habitats Regulations (HRA) screening to include information on potential visitor pressure and air quality pathways.	BNG Assessment report provided in ES Volume 2 Technical Appendix 8.1. Ecological surveys have been ongoing over several years up to the time of submission. DLL is discussed in the Assessment of Effects section 8.10. Compensation measures for any loss of habitat have been proposed with like for like or like for better habitat wherever possible, and suitable buffers around more important habitat features. A BNG of over 10 % will be achieved across the Site. HRA screening document provided in ES Volume 2 Technical Appendix 8.6.
Horsham District Council Landscape 05/11/2020	The parameter plan 'Public Real, Open and Play Space' needs to reflect the landscape and ecology strategy for the Site. The parameter plans should clearly identify the existing landscape fabric, buffer zones, tree lined routes, key panoramic views or view cones to be protected, the distinction between public green spaces and inaccessible areas such as Ancient Woodland or other ecological sensitive enhancement areas, existing water courses and attenuation areas. This is also expected to be coordinated with the walking and cycling strategy presented under Vehicular Access, Pedestrian Access and Servicing parameter plan.	The parameter plans are provided together withthe Development Specification and Parameter Plan Framework (WOI-HPA-DOC-DSPPF-01).
Natural England 26/10/2020	The development Site is within close proximity to Buchan Hill Ponds Sites of Special Scientific Interest (SSSI), Glover's Wood SSSI and House Copse SSSI. The ES should fully consider the potential for any direct and indirect impacts to these sites.The EIA	Effects on designated sites including these SSSIs are addressed in the Assessment of Effects section 8.10.

Table 8-1: Summary of Consultation		
	will need to consider any impacts upon local wildlife and geological sites.	
	The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts (GCN) *Triturus cristatus*, reptiles, birds, water voles *Arvicola amphibius*, badgers *Meles meles* and bats). The ES should thoroughly assess the impact of the proposals on habitats and/or species listed as 'Habitats and Species of Principal Importance' within the England Biodiversity List, published under the requireements of Section 41 (S41) of NERC.	Included in the Assessment of Effects section 8.10.
	Ancient Woodland is an irreplaceable resource of great importance for its wildlife, its history and the contribution it makes to our diverse landscapes. The ES should have regard to the requirements under the NPPF: c) development resulting in the loss or deterioration of irreplaceable habitats (such as Ancient Woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons, and a suitable compensation strategy exists.	Effects on Ancient Woodland and ancient and veteran trees are addressed in the Assessment of Effects section 8.10. The wholly exceptional circumstances for the loss of one veteran tree are detailed in the Planning Statement.
Environment Agency 02/11/2020	In regard to Chapter 7 of the submitted report, there is a significant lack of consideration with regard to the aquatic environment, predominantly invertebrates, fish and supporting habitat (submerged and marginal). The chapter mainly focuses on the terrestrial environment. There is a brief reference to aquatic life (fish and invertebrates) and habitat as they are recognised as sensitive receptors, but they do not appear to be mentioned or considered elsewhere, specifically in relation to the significant effects and mitigation sections. Specific impacts on the aquatic environment and relevant mitigation needs to be considered and included as part of the ES. We would recommend that baseline survey data is collected on aquatic invertebrates and fish. There is data available on fish populations that is collected by us and available to the public. There are three sites for monitoring located within or very close to the Proposed Development boundary. This is also likely to be the case for invertebrates. The Applicant should consider the inclusion of a desk-based study for establishing baseline data, although physical surveys may also be helpful.	Effects on aquatic invertebrates and aquatic habitats are addressed in the Assessment of Effects section 8.10, and a River Condition Assessment[45] has been undertaken as part of the BNG assessment. Fish have been scoped out of the assessment, as described in Table 8-11 of this ES chapter.
Horsham District Council - Planning Officer 27/11/2023	Reference should be made to the Ancient Woodland within Ifield Brook to the south-east corner of the Site.	Reference to the area of Ancient Woodland within the Ifield Brook can be found in the Baseline

[45] Ramboll. (2023). Land West of Ifield - River Condition Assessment. May 2023

Table 8-1: Summary of Consultation		
		Conditions section of this chapter (8.9).
	Comments of the HDC Ecologists and Natural England.	Addressed herein in this table.
	Note that Horsham District Council has been issued with a District-wide licence.	Noted. No further comment necessary.
Natural England 11/8/2023	General standard ES requirements for ecology.	General standard ecology requirements have been set out within the Methodology and Policy Context 8.6, Assessment Scope 8.1.2, Baseline Characterisation Methodology 8.5 and Assessment Method sections of this ES chapter (8.6.
	The development site is within or may impact on the following Site of Special Scientific Interest: Buchan Hill Ponds Site of Special Scientific Interest.	Effects on Buchan Hill Ponds SSSI have been assessed in Designated Sites Demolition and Construction Effects and Completed Development Effects section 8.10.
	The development site is within an area of Ancient Woodland. Ancient Woodland is an irreplaceable habitat of great importance for its wildlife, its history, and the contribution it makes to our diverse landscapes. Paragraph 180 of the NPPF sets out the highest level of protection for irreplaceable habitats and development should be refused unless there are wholly exceptional reasons and a suitable compensation strategy exists.	Ancient woodland borders the Site boundary, but there are no areas of Ancient Woodland on-Site, Effects on the surrounding Ancient Woodland and the mitigation put in place to protect the sensitive habitat are described in the Assessment of Effects section 8.10.
	The assessment of the impacts of all phases of the proposal on protected species, with records of protected species obtained from appropriate local biological records centres. Species surveys should be carried out at optimal survey time periods and in line with the current guidance.	The methodology regarding data searches and surveys for protected species can be found in the Baseline Characterisation Method section 8.6. Results of desk survey and site surveys can be found within the Baseline Conditions section (8.9). The assessment of the effects on all protected species can be found in the Assessment of Effects section 8.10.
	District Level Licensing (DLL) for great crested newts.	DLL is discussed in the Assessment of Effects section8.10.
	The details of priority habitats and species, including the appropriate level of habitat survey to identify habitats present on site as well as orthinological, botanical and invertebrate surveys. Biodiversity net gain, completed using an appropriate biodiversity metric.	The methodology of habitat surveys and orthinoloical, botanical and invertebrate surveys can be found in the Baseline Characterisation Method 8.6. The effects on priority habitat and species can be found within the Assessment of Effects section 8.10.

Table 8-1: Summary of Consultation		
		The BNG report can be found in ES Volume 2 Technical Appendix 8.1.
Horsham District Council Ecology Officer 7/11/2023	*Summary of comments:* Further consideration for impacts on priority species is required, including amphibians and plants which are not currently present within the scope. The SSSI's Impact Risk Zones (IRZs) should be included as part of the SSSI assessments, and in the absence of survey data, further assessment will be required regarding impacts on the habitats within the Core Sustenence Zone (CSZ) of the Bechstein's bats maternity roost. Other areas of potential mitigation measures and enhancements should also be regarded, as outlined below.	Effects on priority species and SSSI IRZs can be found in the Assessment of Effects section 8.10. Effects on bats, including Bechstein's bats and their CSZs, are detailed in the Assessment of Effects section 9.10 within the bat subsection.
	Designated sites methodology: The zone of influence has been identified as 2km around the Site, as per para 7.3.4, and a standard study area of 2km from the boundary of the Site was used for identification of designated sites and important habitats and species (5km for bats; para 7.3.5). Whilst the EIA scoping report biodiversity chapter (7) refers to two SSSI's being identified within 2km of the Site and scoped into the assessment, it would be helpful to highlight whether the Site is located within the SSSI's IRZ, as shown on DEFRA's MAGIC mapping website. This informs the need for consultation with Natural England, depending on the zone in which the Site is located, the development type and its associated impacts. Any mitigation necessary to avoid any potential adverse impacts on the SSSIs will need to be agreed with Natural England.	Effects on SSSI IRZs can be found in the Assessment of Effects section 8.10.
	European Protected Species Scope - Bats Bechstein's bats are protected by Habitats Regulations, the WCA and listed under Annexes II and IV of the European Habitat Directive making it a European Protected Species. According to the Applicant, radio-tracking studies undertaken in 2020 and 2022 on the Bechstein's maternity roost in Hyde Hill LWS suggest that most of the core areas for foraging Bechstein's bats are outside of the Site, focussing on woodland parcels nearby. However, further information is required with regards to whether these bats are using habitats on site for foraging and/or commuting. In the absence of this information, and alongside Myotis bats having been included within the assemblage of bats utilising the Site, the impacts on all suitable commuting and foraging habitats within the CSZ should also be included within the assessment. The CSZ will need to extend to 3km from the identified maternity roost as per BCT guidelines for Bechstein's bats. The associated mitigation measures should ensure that there is no net	Effects on bats, including Bechstein's bats and their CSZ, are detailed in the Assessment of Effects section 8.10 within the bat subsection. SAC designation for Bechstein's bats has been considered, and has been discussed with Natural England. The number of individuals recorded and the importance of the roosts identified within and adjacent to the Site do not meet published selection criteria for SAC designation. Natural England have confirmed that they have no plans to bring the Site (or Hyde Hill Wood) forward for SAC or SSSI designation currently.

Table 8-1: Summary of Consultation		
	reduction in the quality and availability of foraging and commuting habitat for the colony, in addition to mitigation measures required as a result of ecological survey work. Please note, that this site has potential to meet published selection criteria for SAC designation if there is sufficient evidence to support that the Bechstein's bat maternity roosts in this area and the surrounding area are of, or could be restored to, favourable conservation status. This is something that the Applicant will need to consider. As per CIEEM Ecological Impact Assessment guidelines, this may require future discussions relating to the assessment of importance and how the Site should be treated.	
	Priority Species In line with Para. 179 of the NPPF, the development should "b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity". The ES should thoroughly assess the impact of proposed development on habitats and species listed as Habitats and Species of Principal Importance under S41 of NERC. Amphibians (excluding great crested newt) are not currently present within the current scope. Priority and notable species, for example common toad (priority species), are likely on site given the habitats present, and therefore potential impacts assessed as part of the ES. Desk study records should be stated if available. Similarly, plants (including fungi and lichens) are not specified within the scoping report. Whilst the habitats identified on site have been noted to have potential or are known to support a variety of protected and notable species (para 7.4.2; particularly within the priority habitats lowland mixed deciduous woodland, ponds, other rivers and streams, arable field margins and hedgerows), it is not clear whether records of protected/priority/notable plant species have been returned from the desk study, or if any have been noted on Site. If so, the potential impacts on these species should be assessed. The proposed development contains areas of the Ifield Brook Biodiversity Opportunity Area (BOA), and as a result the ES will consider the potential impacts of the development upon achieving the targets as identified for the BOA. This is positive to see. It would also be welcomed for any information on records of harvest mouse (priority species) under 'other mammals' to be shared if available,	Desk study and survey results on priority species can be found in the Baseline Conditions section 8 9. of the ES chapter. Effects on priority species including harvest mice can be found in the Assessment of Effects section 8.10 of this this ES chapter. BOAs are discussed in the Baseline Conditions section 8.9 and further in the BNG report in ES Volume 2 Technical Appendix 8.1.

Table 8-1: Summary of Consultation		
	given previous records within the BOA. If present, impacts on harvest mouse should be assessed.	
	It is acknowledged that a desk study for species records was requested from the local record centre Sussex BRC (SxBRC), and these records alongside preliminary site assessments have subsequently informed survey requirements and potential mitigation measures. Providing the SxBRC with all new and updated findings as a result of these surveys is strongly encouraged	Desk study methodology is discribed in the Baseline Characterisation Method section 8.5, and later results detailed in the Baseline Conditions section 8.9.
	In addition to the EIA report, the Applicant will also be required to provide sufficient information on non-significant impacts on protected/priority/notable habitats and species, so all likely impacts and effects are known	Effects on habitats and species (including non-significant effects) can be found within Assessment of Effects section 8.10.
	It is good practice to refer to the relevant legislation for each protected species assessed (e.g., bats, breeding birds, badgers etc). This may be presented within an Appendix within the EIA.	Protection levels for species is included in the Baseline Conditions section 8.9, where relevant.
	The proposed potential mitigation measures outlined are considered appropriate, although it needs to include priority species, not just protected and notable ones. It is also advised that an Ecological Clerk of Work be present on site during the construction phase, particularly when working near sensitive habitats and during vegetation clearance. The following comments relate to areas that will need further consideration.	Mitigation for relevant Priority Species is included within the Assessment of Effects section 8.10. Mitigation for the construction phase is detailed in the outline construction environmental management plan (OCEMP) (ES Volume 2 Technical Appendix 5.1), and this includes provision of presence of an Ecological Clerk of Work for work near sensitive habitats and species.
	It is welcomed that the maintenance of the integrity of the Site's existing wetland habitats, including Ifield Brook and River Mole and pond habitats where possible, have been regarded within the potential mitigation measures. However, further in-depth consideration and mitigation measures will be needed with respect to the construction of the bridge over the River Mole (para 3.1.3), as this has potential to alter the ecological function and have knock-on effects.	Effects on wetland habitats can be found within the Assessment of Effects section 8.10, and mitigation measures for construction effects for the bridge over the River Mole are detailed in the Phase 1 OCEMP (10051123-ARC-XXX-ZZ-TR-CM-00001-P02).
	With reference to para 7.6.1 (potential mitigation measures and BNG during construction), BNG will not be considered a measure of mitigation for any potential adverse effects on biodiversity. As recognised earlier in the document (para 7.5.1), BNG should be additional to mitigation measures, as per BNG principles. If BNG is implemented on top of habitat created for the purpose of mitigating impacts on protected/priority/notable species (for example), then the distinction between mitigation and BNG should be made clear in the Biodiversity	The methology of the BNG can be found in the BNG report in ES Volume 2 Technical Appendix 8.1. Buffer areas required for mitigation have been excluded from the BNG calculations, as described in the report.Habitats recorded during the UKHab survey are described in the Baseline Conditions section 8.9 and likely effects on them are dicussed in

Table 8-1: Summary of Consultation		
	Net Gain Statement upon submission. It is encouraged that two separate biodiversity metrics are submitted to help illustrate habitats created for mitigation purposes, and those that contribute towards BNG. Furthermore, feasibility of habitat creation will also need to be presented in the Biodiversity Net Gain Statement, particularly for the proposed lowland meadow grassland.	the Assessment of Effects section 8.10. The feasibility of creating habitat including lowland meadow grassland is presented in the Biodiversity Net Gain Assessment Report (ES Volume 2 Technical Appendix 8.1).
	It is supported that buffer zones of 25 – 30m (and 35m for Hyde Hill Wood LWS) will be implemented around areas of sensitive habitat (para 7.6.1). However, it is not explicitly clear whether these will be vegetated, which is essential. Furthermore, where vegetated buffer zones are implemented for irreplaceable habitat, such as for impacts on Ancient Woodland, these buffer zones act as mitigation and therefore cannot contribute towards BNG. It is also important to note that SuDS (see para 7.5.1) should not be installed within any buffer areas for Ancient Woodland.	Buffer zones of Ancient Woodland are discussed within the Assessment of Effects section 8.10. In line with government guidance, 15m buffers will be implemented which will be vegetated, with no SuDS, and will not count towards BNG above no net loss. Buffer areas greater than this 15m distance will provide further protection for Ancient Woodland habitat and will be vegetated, and may have SuDS within them, but not within 0m – 15m. At this distance, no significant effects on Ancient Woodland as a result of the presence of SuDS is predicted to occur.
	To mitigate the potential adverse impacts on protected species, the timings of works should be considered e.g., vegetation clearance outside of breeding bird season. Pre-assessments may also be necessary, for example, walk-over surveys by an Ecological Clerk of Works and preliminary tree assessments prior to works commencing. For any European Protected Species Licences granted, the targeted mitigation measures for that species must be adhered to. In the scenario where a protected species is found on Site, where an European Protected Species Licence (EPSL) is not already in place, the works must stop, and advice sought by an ecologist immediately.	Effects on protected species and mitigation can be found within the Assessment of Effects section 8.10.
	Badger - Where appropriate and when mitigation cannot be undertaken in situ, protected species found on Site will be translocated to alternative areas of suitable habitat. However, as physical translocations are not possible for badgers (protected under the Protection of Badgers Act 1992), further targeted mitigation measures will need to be considered (para 7.4.5). It is highly recommended that any survey and assessment of badgers is provided in a separate confidential appendix to avoid publication of sensitive information.	A full assessment in relation to badgers is found in the Confidential Badger Appendix (ES Volume 2 Technical Appendix 8.33) and in the Confidential Badger Report (ES Volume 2 Technical Appendix 8.34) .

Table 8-1: Summary of Consultation		
	New habitat will be created when a parcel is developed, and this habitat will be maturing / mature before other parcels are cleared of existing habitats (assuming this is excluding woodland creation, given the habitats long time to reach maturity). However, the Applicant should consider whether habitat creations/enhancements mentioned in para 7.6.1 as a mitigation measure will be installed prior to the commencement of construction within each phase (i.e., advanced planting). This will further mitigate impacts of severing connecting habitats and disrupting animal dispersal.	Effects on habitats and habitat creation can be found within the Assessment of Effects section 8.10. Habitat creation is further discussed in the BNG report in ES Volume 2 Technical Appendix 8.1.
	It is positive to see that biodiversity enhancements are being considered as part of the development design in the built-up areas in line with Policy 38 of the Horsham District Planning Framework 2015, through landscape planting and green infrastructure. It is also advised that in-keeping with retaining connectivity across the Site, enhancements such as hedgehog friendly fencing could be implemented to further reduce the effects of physical barriers on hindering animal movement. Building designs can also incorporate wildlife friendly enhancements, such as bird and bat tiles / bricks / boxes etc. Please see Policy 30 in the emerging Horsham Local Plan.	Biodiversity enhancements listed within individual species Additional Mitigation in the Assessment of Effects section 8.10.
Horsham District Council – Ecology Consultant, Place Services 13/11/2023	The development Site is within close proximity to Buchan Hill Ponds Sites of Special Scientific Interest (SSSI), Glover's Wood SSSI and House Copse SSSI. The ES should fully consider the potential for any direct and indirect effects to these sites. We note that the Site lies outside the 12km wide conservation area for The Men's SAC as identified in the Sussex Bat Special Area of Conservation Planning and Landscape Scale Enhancement Protocol. We are therefore satisfied that this designated site is out of scope for the ES	Effects on designated sites within 2 km of the Site have been assessed in Designated Sites Demolition and Construction Effects and Completed Development Effects in the Assessment of Effects section 8.10.
	No up-to-date ecological surveys and assessment have currently been provided to support the EIA scoping opinion. However, we understand that ecological surveys have been undertaken and that protected species including bats, Great Crested Newt and common reptiles are known to be present, as well as breeding and wintering birds and terrestrial and aquatic invertebrates (EIA Scoping Opinion Request Report (Homes England, October 2023).All survey results and full details of mitigation and any compensation measures will need to be submitted prior to determination to provide the LPA with certainty of likely impacts and inform the need for any licences from Natural England. We agree that it is reasonable to assume	Survey results for protected species can be found in the Baseline Conditions section 8.9.

Table 8-1: Summary of Consultation		
	that dormice are absent from the Site and are therefore scoped out of full assessment, but appropriate mitigation in case they are found to be present would be implemented and is described in the ES	
	We highlight that where bats form part of a Habitats site citation (for example designated Special Area of Conservation) or population meeting the criteria for a candidate SAC, then a study area radius of 30 km would need to be used for this specific issue to identify the core sustenance zone	Place Services confirmed by email, dated 13th December 2023, that the study area for bats should be stated as 3 km and not 30 km. Effects on bats, including Bechstein's bats and their CSZ, are detailed in the Assessment of Effects section 8.10.
	All Ancient Woodland to be retained through design and the Ancient Woodlands of Ifield Mill Stream, Hyde Hill, The Grove and Ifield Wood need to be adequately protected and enhanced. Appropriate buffer zones around areas of Ancient Woodland from the development need to be implemented to prevent impact on Ancient Woodland habitats.	Buffer zones of Ancient Woodland are discussed within the Assessment of Effects section 8.10.
Horsham District Council – Ecology Consultant, Place Services 28/06/2024	It is recommended that records from new or updated surveys undertaken should be shared with the relevant record centre when available.	Information is provided in this chapter and as technical appendices. These are publically available documents.
	It is supported that the ES needs to refer to Priority habitats and species in order for the LPA to demonstrate compliance with its strengthened biodiversity duty to conserve and enhance biodiversity under S40 of the NERC Act 2006 (as amended).	Priority habitats are discussed and priority species are discussed in the Baseline Conditions 8.9.
	The development Site is within close proximity to Buchan Hill Ponds Sites of Special Scientific Interest (SSSI), Glover's Wood SSSI and House Copse SSSI. The ES should fully consider the potential for any direct and indirect effects to these sites. We note that the Site lies outside the 12km wide conservation area for The Men's SAC as identified in the Sussex Bat Special Area of Conservation Planning and Landscape Scale Enhancement Protocol. We are therefore satisfied that this designated site is out of scope for the ES.	Effects on designated sites within 2 km of the Site have been assessed in the Assessment of Effects section 8.10.
	We note that four trees were identified as being veteran trees (T365, T368, T394 and T449) and there are areas of Ancient Woodland immediately adjacent to the north-western, western, south-western and south-eastern Site boundary. We highlight that any impacts on these irreplaceable habitats will require assessment in line with Government Standing Advice and will not be acceptable unless there are wholly exceptional reasons and there is a suitable compensation	The Applicant's team have liaised with HDC's tree officer. An Arboricultural Impact Assessment has been prepared (WOI-HPA-DOC-AIA-01) and is submitted with the planning application. The location of built development has avoided significant harm to the majority of the veteran trees and ancient woodlands on and surrounding the

Table 8-1: Summary of Consultation		
	strategy in place. Any losses will need to be excluded from the BNG calculations.	Site, except for veteran tree T368 that will be removed. The 'wholly exceptional' circumstances for this removal is described in the Planning Statement. Effects on Ancient Woodland and ancient and veteran trees are addressed in the Assessment of Effects section 8.10. Buffer Zones will not count towards BNG. The Biodiversity Net Gain Assessment Report is contained in ES Volume 2 Technical Appendix 8.1 of this chapter.
	No up-to-date ecological surveys and assessment have currently been provided to support the EIA scoping opinion. However, we understand that ecological surveys have been undertaken and that protected species including bats, Great Crested Newt and common reptiles are known to be present, as well as breeding and wintering birds and terrestrial and aquatic invertebrates (EIA Scoping Opinion Request Report (Homes England, October 2023). We note reference to a requirement for advanced techniques (trapping and radio-tracking) are to be employed during bat surveys to inform the Environmental Statement and are programmed to be undertaken during 2024. These will inform the mitigation to be embedded into the emerging masterplan following consultation with Natural England. All survey results and full details of mitigation and any compensation measures will need to be submitted prior to determination to provide the LPA with certainty of likely impacts and inform the need for any licences from Natural England. We agree that it is reasonable to assume that dormice are absent from the Site and are therefore scoped out of full assessment, but appropriate mitigation in case they are found to be present would be implemented and will be described in the ES.	Survey results for protected species can be found in the Baseline Conditions section 8.9. A full methodology of the 2024 Ramboll bat surveys of buildings and trees can be found in ES Volume 2 Technical Appendix 8.21 of this chapter. Effects on protected species and mitigation can be found within the Assessment of Effects section 8.10.
	We note that the zone of influence describes the area over which the activities associated with the Proposed Development could result in impacts on ecological features. We accept that the study area and zone of influence have been established on the basis of a desk-based review of ecological features in the general vicinity of the Site boundary (up to date data for a 2km radius (5km for bats) around the Site have been obtained), together with the results of field surveys, and a review of the likely areas affected by the Proposed Development. We highlight that where bats form part of a Habitats site citation (for example	The zone of influence selection is discussed in the Baseline Characterisation section 8.9. Place Services confirmed by email, dated 13th December 2023, that the study area for bats should be stated as 3 km and not 30 km. The spatial scope is 5km. Effects on bats, including Bechstein's bats and their CSZ, are detailed in the Assessment of Effects section 8.10.

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	designated Special Area of Conservation) or population meeting the criteria for a candidate SAC, then a study area radius of 30 km would need to be used for this specific issue to identify the core sustenance zone.	
	We highlight that all Ancient Woodland will be retained through design and that the Ancient Woodlands at Ifield Mill Stream, Hyde Hill, The Grove and Ifield Wood need to be adequately protected and enhanced, as they are classified as irreplaceable and Priority habitat, and appropriate buffer zones from development will need to be implemented to prevent impact on this important habitat.	Effects on Ancient Woodland and ancient and veteran trees are addressed in the Assessment of Effects section 8.10.Buffer Zones will not count towards BNG. The Biodiversity Net Gain Assessment Report is contained in ES Volume 2 Technical Appendix 8.1 of this chapter.
	Nationally agreed guidelines should be followed for the ecology surveys and all survey work should be undertaken in the appropriate season by appropriately qualified ecological consultants. In accordance with Regulation 14 of the EIA Regulations, we request a statement that information on Home England's lead EIA practitioners as well as the technical contributors to the EIA, will be included within the ES to demonstrate that they have relevant expertise or qualifications to act as competent experts involved in its preparation.	All methodologies of the undertaken ecological surveys including the qualifications of the responsible ecological consultants are contained within the technical appendices of this chapter. This Environmental Statement has also been prepared by competent experts, as shown in ES Volume 2 Technical Appendix 1.2: Regulation 18(5)(b) Statement.
	Any report on badgers should be submitted as a separate confidential appendix clearly marked as containing sensitive information.	Confidential Badger Appendices (Appendix 8.33 and 8.34) has been prepared and submitted to Horsham District Council.
	We highlight that Biodiversity Net Gain (BNG) calculations will need to be provided using the Statutory Metric and meet all mandatory requirements as set out in The Biodiversity Net Gain Planning Practice Guidance (PPG). This will support a transparent and robust quantitative measure of biodiversity change and include calculations for habitat, linear and river units. The findings of these surveys and calculation will be fed back to the design team and recommendations will be made to increase habitat value throughout the site to minimise any potential offsite BNG requirements. We welcome the commitment made for the proposed development to achieve a 10% plus additional 2% (i.e. 12%) BNG and expect to see how this will be delivered on Site. Given certain elements of the proposed development will be based on outline parameters, a detailed BNG statement will be prepared separately in support of each phase of development. This will need to be secured by the mandatory Biodiversity Gain condition as a pre-commencement requirement as required by paragraph 13 of Schedule 7A of the Town and	The Biodiversity Net Gain Assessment Report can be found in ES Volume 2 Technical Appendix 8.1 of this chapter.

Table 8-1: Summary of Consultation		
	Country Planning Act 1990. In addition, a Habitat Management and Monitoring Plan should be secured for all significant on-Site enhancements, as well as off-Site enhancements. This should be in line with the approved Biodiversity Gain Plan, with the maintenance and monitoring secured via legal obligation or a condition of any consent for a period of up to 30 years. The monitoring of the post-development habitat creation / enhancement will need be provided to the LPA at years 2, 5, 10, 15, 20, 25, 30 any remedial action or adaptive management will then be agreed with the LPA to ensure the aims and objectives of the Biodiversity Gain Plan are achieved.	
Natural England 04/07/2024	The ES should assess the impact of all phases of the proposal on protected species (including, for example, great crested newts, reptiles, birds, water voles, and bats). Natural England does not hold comprehensive information regarding the locations of species protected by law. Records of protected species should be obtained from appropriate local biological record centres, nature conservation organisations and local groups. Consideration should be given to the wider context of the Site, for example in terms of habitat linkages and protected species populations in the wider area. The area likely to be affected by the development should be thoroughly surveyed by competent ecologists at appropriate times of year for relevant species and the survey results, impact assessments and appropriate accompanying mitigation strategies included as part of the ES. Surveys should always be carried out in optimal survey time periods and to current guidance by suitably qualified and, where necessary, licensed, consultants. Natural England has adopted standing advice for protected species, which includes guidance on survey and mitigation measures. A separate protected species licence from Natural England or Defra may also be required	Survey results for protected species can be found in the baseline Characterisation Method section 8.9. All methodologies of the undertaken ecological surveys are contained within the technical appendices of this chapter.
	Priority Habitats and Species are of particular importance for nature conservation and included in the England Biodiversity List published under section 41 of the Natural Environment and Rural Communities Act 2006. Most priority habitats will be mapped either as Sites of Special Scientific Interest, on the MAGIC website or as Local Wildlife Sites. Lists of priority habitats and species can be found here. Natural England does not routinely hold species data. Such data should be collected when impacts on priority habitats or species are considered likely. Consideration should also be given to the potential environmental value of brownfield sites, often found in urban areas and	Priority habitats are discussed and priority species are discussed in the Baseline Conditions section 8.9.

Table 8-1: Summary of Consultation		
	former industrial land. Sites can be checked against the (draft) national Open Mosaic Habitat (OMH) inventory published by Natural England.	
	The application Site falls within an area known for its importance for Bechstein's bats. As such, we recommend that the ES includes a full assessment of the potential direct and indirect impacts to Bechstein's bats along with details of the avoidance and mitigation measures to be implemented.	Effects on bats, including Bechstein's bats and their CSZ, are detailed in the Assessment of Effects section 8.10 within the bat subsection. A full methodology of the 2024 Ramboll bat surveys of buildings and trees can be found in ES Volume 2 Technical Appendix 8.21 of this ES chapter.
	An appropriate level habitat survey should be carried out on the Site, to identify any important habitats present. In addition, ornithological, botanical, and invertebrate surveys should be carried out at appropriate times in the year, to establish whether any scarce or priority species are present.	Full surveys have been completed as detailed in the Baseline Characterisation section 8.9.
	The ES should assess the impacts of the proposal on the ancient woodland and any ancient and veteran trees, and the scope to avoid and mitigate for adverse impacts. It should also consider opportunities for enhancement.	Ancient Woodland and veteran tree mitigation are discussed within the Assessment of Effects section 8.10.
	The statutory biodiversity metric, together with ecological advice, should be used to calculate the change in biodiversity resulting from proposed development and demonstrate how proposals can achieve a net gain. The metric should be used to: • assess or audit the biodiversity unit value of land within the application area; • calculate the losses and gains in biodiversity unit value resulting from proposed development; • demonstrate that the required percentage biodiversity net gain will be achieved. Biodiversity Net Gain outcomes can be achieved on Site, off-Site or through a combination of both. On-Site provision should be considered first. Delivery should create or enhance habitats of equal or higher value. When delivering net gain, opportunities should be sought to link delivery to relevant plans or strategies e.g. Green Infrastructure Strategies or Local Nature Recovery Strategies. Opportunities for wider environmental gains should also be considered.	The Biodiversity Net Gain Assessment Report can be found in ES Volume 2 Technical Appendix 8.1 of this ES chapter.
Horsham District Council Ecology Officer 15/07/2024	Note that Horsham District Council has been issued with a District-wide licence (DLL) for newts which is regulated by Natural England. Details of the scheme can be found at: https://www.horsham.gov.uk/planning/great-crested-newt-district-licensing-scheme .	DLL is discussed in the Assessment of Effects section 8.10.

Table 8-1: Summary of Consultation		
Natural England 11/11/2024 (via email) (Part of pre-application discussions, not part of a Scoping Opinion)	Given […] the knowledge we have of Bechstein's bat habitat requirements in England, high quality habitat must be maintained around maternity colonies and measures put in place to secure core habitat in the long term. The demonstrated use of the golf course by juvenile Bechstein's bats over all survey years indicate it is important to the ecological functioning of the colony. For this reason, and given the nature of the proposed habitat changes across the Site, Natural England strongly recommends that option 2B is adopted, which results in a suitable allocation of potentially high quality habitat to be maintained and enhanced to support the Bechstein's maternity colony at Hyde Hill Wood. Although it is appreciated the allocation of housing in option 2A has been reduced, the impacts from blocks of housing can be disproportionate in terms of indirect impacts such as lighting, noise, fragmentation, domestic animals etc. For this reason, option 2B is recommended to promote ecological function of the colony. To note, the suitability for Bechstein's bats of the compensation area is dependent on appropriate management and public access which need to be addressed at an early stage.	Effects on bats, including Bechstein's bats and their CSZs, are detailed in the Assessment of Effects section (8.10) within the bat subsection. A full methodology of the 2024 Ramboll bat surveys of buildings and trees can be found in ES Volume 2 Technical Appendix 8.21 of this chapter. The Applicant undertook significant consultation with Natural England regarding the evolving parameter plans. Earlier iterations of the parameter plans were amended directly in response to comments from Natural England. The evolution of the parameter plans is detailed in the Design and Access Statement (DAS)(ref: WOI-HPA-DOC-DAS-01). 'Option 2B' was taken forward for the design and forms part of Paramter Plan 1 (Landscape and Public Realm, WOI-HPA-PLAN-PP01-01).

8.4 Assessment Scope

8.4.1 The assessment has been undertaken in accordance with CIEEM guidance[46], although adapted to reflect the approach set out in ES Volume 1 Chapter 2: EIA Process and ES methodology, and by application of professional judgement.

8.4.2 The assessment has taken account of applicable legislation, guidance and policy as detailed in Section 8.2 of this ES chapter.

Technical Scope

8.4.3 The technical scope of the assessment has considered the following:

- The potential impacts and effects of the Proposed Development on terrestrial and aquatic ecology in relation to designated sites, habitats and protected and notable species, in respect of permanent and temporary loss and disturbance to habitats within and near the Site;
- The direct or resulting effects on terrestrial and aquatic ecology species; and
- BNG calculations have been undertaken using the UK-wide industry accepted metric, the Natural England Statutory Metric published in 2024. This provides a transparent and robust quantitative measure of biodiversity change. The findings of these surveys and calculations were fed back to the design team and recommendations were made to increase habitat value throughout the Site to minimise any potential offsetting requirements.

[46] Chartered Institute of Ecology and Environmental Management, 2024. Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.3. Winchester. CIEEM.

Spatial Scope

8.4.4 The Site of the Proposed Development and study area occupies approximately 171 ha of land.

8.4.5 The field study area for this assessment includes the area within the Site boundary and a buffer distance of 250 m beyond the Site boundary. A standard 2 km study area from the boundary of the Site was used for the identification of designated sites, important habitats and species, extended to 5 km for bats and 10 km for sites designated for bats.

Temporal Scope

8.4.6 The assessment has considered impacts arising during the demolition and construction stage which would be expected to be temporary (5-16 years) in nature and from the completed development stage which would be expected to be permanent and long-term in nature (i.e., more than 10 years).

8.5 Baseline Characterisation Method

Desk Study

8.5.1 To establish baseline conditions in the study area, relevant ecological data was reviewed and assessed. Data was obtained from the following sources:

- Sussex Biodiversity Records Centre (SxBRC)[47];
- Surrey Biodiversity Information Centre (SBIC)[48]; and
- Multi Agency Geographic Information for the Countryside (MAGIC)[49] and aerial photographs of the area were also reviewed. This included a search for European Protected Species licences issued within 2 km of the Site, and a 5 km search for bats.

8.5.2 The purpose of the desk study was to collect existing baseline data about the Site and the Zone of Influence (ZOI, the area within which the Proposed Development has the potential to influence or effect), such as the location of designated sites or other natural features of potential ecological importance such as woodland and ponds.

8.5.3 The following ZOI has been considered:

- All statutory designated sites up to 2 km from the Site, including Special Areas of Conservation (SAC), Special Protection Areas (SPA), National Nature Reserves (NNR), SSSI and Local Nature Reserves (LNR);
- non-statutory designated sites: Sites of Importance for Nature Conservation (SINCs) up to 2 km from the Site;
- records of protected species up to 2 km and bats up to 5 km from the Site; and
- international and national statutory designated sites with bats as a qualifying feature for designation, up to 10 km from the Site, and beyond this as described in the Habs Regs Screening Assessment (HRA) Report (ES Volume 2 Technical Appendix 8.6).

Field Study

8.5.4 The baseline has been informed by an extended UKHab survey undertaken by Ramboll ecologists in 2022 and 2024 reported in Section 8.9 and in Table 8-3 in this ES chapter, as well as by the habitat and species surveys undertaken between 2018 and 2025 listed in Section 8.1.

[47] Sussex Biodiversity Records Centre, 2025. Ecological Data Search SxBRC/25/069 – Summary Report. June 2025 .

[48] Surrey Biodiversity Information Centre, 2025. Ecological Data Search -Summary of Results. June 2025.

[49] Multi Agency Geographic Information for the Countryside, https://magic.defra.gov.uk/magicmap.aspx Accessed 15 May 2023.

8.5.5 These surveys were undertaken in accordance with relevant guidance, as listed in Section 8.2.1.

8.5.6 Detailed methodologies of these surveys are provided in Appendices 8.1 to 8.34. Brief summaries of survey methodology are provided here. The exception is the 2022-2024 extended UK Hab surveys, for which all survey methodology is provided here, as a separate standalone report has not been produced.

Habitat Survey

8.5.7 An extended UKHab survey of the Site was undertaken by Jonathan Molesworth (ACIEEM) and Alex Powell (GradCIEEM) on 9th, 10th, 11th, 22nd, 23rd, and 24th August 2022. Jonathan has worked as an ecologist since 2015, holds Natural England (NE) and Natural Resources Wales (NRW) licences for GCN *Triturus cristatus*, a NE licence for white-clawed crayfish *Austropotamobius pallipes*, Associate Membership with CIEEM and a first-class degree in Biological Sciences from the University of Liverpool. Alex has worked as an ecologist since 2018, has graduate membership of CIEEM, and holds a degree in Environmental Science from the University of Plymouth and a master's degree in Plant Diversity from the University of Reading. Both Jonathan and Alex have over two years' experience in Biodiversity Net Gain (BNG) assessments.

8.5.8 The weather during the surveys was consistently very warm and dry, with temperatures ranging from 20-35°C. An updated UKHab survey of the Site to confirm habitat classification and condition was undertaken by James Hrynkiewicz (ACIEEM) and Eleanor King (GradCIEEM) on 29th and 30th April 2024. James holds a BSc in Ecology and Conservation from Sparsholt Collage, has worked professionally as a consultant ecologist since June 2016 and has Associate Membership with CIEEM. Eleanor has worked on BNG projects since 2022, has a graduate membership of CIEEM, and holds a BSc in Biochemistry and a Master's degree in Environment and Human Health from the University of Exeter.

8.5.9 The weather during the surveys was dry, sunny, and slightly overcast, with temperatures ranging from 13-17°C.

8.5.10 The survey involved a Site walkover and preliminary assessment of key habitats, land use and ecological features. The main habitats present were recorded using standard UK Hab methodology described in the UK Habitat Classification User Manual Version 1.1[50] and identified the habitats present via the prescribed UK Hab Field Key Version 2.1[51]. In addition to general habitat classification, a list was compiled of observed plant species (using the nomenclature of Stace, 2019[52]), with common and Latin names referred to in the first instance after which only the common names are used). The abundance of each species was estimated for each habitat respectively using standard 'DAFOR' codes:

- D = Dominant
- A = Abundant
- F = Frequent
- O = Occasional
- R = Rare

8.5.11 Prior to this UKHab survey, an extended Phase 1 Habitat Survey was undertaken in 2019 by Arcadis. This report can be found in ES Volume 2 Technical Appendix 8.2.

[50] Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J., 2020. The UK Habitat Classification User Manual Version 1.1 at http://www.ukhab.org/.
[51] UK Hab., 2020. UK Hab Field Key Version 2.1 at http://www.ukhab.org/.
[52] Stace C., 2019. New Flora of the British Isles 4th Edition. Cambridge University Press.

Invertebrates

8.5.12 A series of invertebrate surveys were undertaken in July and August 2018, May 2019 and May 2023. This included both terrestrial and aquatic sampling of invertebrates using a variety of techniques (sweep-net, vacuum sampling, beating tray, direct search, and spot sampling). Additionally a brown hairstreak survey was undertaken. The surveys were completed in accordance with appropriate guidance, listed in Section 8.2.

8.5.13 Where possible species were identified to species level using the appropriate taxonomic keys.

8.5.14 A full methodology of the invertebrate surveys can be found in ES Volume 2 Technical Appendix 8.7 and Appendix 8.8.

Amphibians – Great Crested Newt Surveys

8.5.15 Environmental DNA (eDNA) surveys were undertaken to determine the presence or absence of GCN within the ponds and ditches onsite and within a 500 m buffer of the Site, during in 2020, 2021, 2022, 2023 and 2024. Water samples were collected from the accessible edges of the ponds and sent away for assessment. The eDNA surveys were undertaken in accordance with appropriate guidance, listed in Section 8.2.

8.5.16 A series of GCN population size class assessments (PSCA) were undertaken of the ponds that were positive for GCN, over four seasons in 2021, 2022, 2023 and 2024. Six surveys were undertaken for population estimates.

8.5.17 PSCA survey visits were undertaken between mid-March and mid-June with at least three of the visits undertaken between mid-April and mid-May (the 'core period'). Surveys were undertaken in accordance with appropriate guidance, listed in section 8.2.

8.5.18 A full methodology of the Ramboll GCN eDNA and PSCA surveys can be found in ES Appendices 8.9, 8.10 and 8.11.

8.5.19 Prior to these surveys, Arcadis undertook a series of GCN surveys in 2018 and 2019. This included habitat suitability index (HSI), eDNA, presence/absence and population estimate surveys.

8.5.20 A full methodology of the Arcadis GCN survey report can be found in ES Volume 2 Technical Appendix 8.12.

Reptile Surveys

8.5.21 A series of reptile surveys were undertaken to determine the presence/ likely absence of reptiles on the Site between March and September 2022, and previously in May to June 2020. Artificial refugia were placed around the Site in habitats offering the best suitability for reptiles. The surveys were undertaken in accordance with appropriate guidance, listed in Section 8.2.

8.5.22 Where reptiles were encountered, an appropriate age and sex was determined where possible; and the locations of individuals found was recorded. The population of individual species was assessed against the Froglife guidance as: low (<5), good (5-10 grass snakes *Natrix helvetica*; 5-20 for slow worms *Anguis fragilis* and common lizards *Zootoca vivipara*) and exceptional (>10 for grass snakes; >20 for slow worms and common lizards).

8.5.23 A full methodology of the Ramboll reptile surveys undertaken in 2022 and 2020 can be found in ES Appendices 8.13 and 8.14, respectively.

8.5.24 Prior to these surveys, Arcadis undertook a series of reptile surveys in 2019.

8.5.25 A full methodology of the Arcadis reptile surveys can be found in Appendix 8.25.

Bird Surveys

8.5.26 Early breeding bird surveys were undertaken to determine bird species on Site and their breeding status between March and April 2020 using a methodology adapted from the Common Bird Census[53]. The surveyor walked across the survey area approaching to within 50 m of all safe points (where access was agreed or where public access was available) to ensure adequate coverage without double counting birds. The habitats on-Site have not changed significantly and the survey data is considered to remain valid.

8.5.27 For most species, birds exhibiting breeding behaviour were holding different territories if they were separated by at least 100 m. Bird registrations were recorded on a field map using British Trust for Ornithology (BTO)[54] two-letter species codes and activity recording codes[55] [56].

8.5.28 A full methodology of the Ramboll breeding bird surveys can be found in ES Volume 2 Technical Appendix 8.17.

8.5.29 Prior to these surveys, Arcadis undertook wintering bird surveys in 2018 and 2019, and breeding bird surveys in 2018. These surveys included walking designated transect routes around the Site to record bird species.

8.5.30 Full methodologies of the Arcadis breeding bird and wintering bird surveys can be found in ES Appendices 8.18 and 8.19.

8.5.31 A barn owl *Tyto alba* survey was undertaken to assess the external and internal (where access allowed) parts of buildings, and suitable trees for signs of barn owl activity in March 2021. This included bird present, active nests, disused nests, pellets, feathers and droppings. The surveys were undertaken in accordance with appropriate guidance, listed in Section 8.2.

8.5.32 Before the survey, Sussex Barn Owl Study Group[57] was contacted for records of barn owls and known barn owl surveys at the Site and in the local area.

8.5.33 A full methodology of Ramboll barn owl surveys can be found in ES Volume 2 Technical Appendix 8.20.

8.5.34 Prior to the barn owl survey, Arcadis undertook a barn owl building assessment in July 2019. Buildings were assessed using CIEEM guidelines.

8.5.35 A full methodology of Arcadis barn owl assessment can be found in ES Volume 2 Technical Appendix 8.18.

Bat Surveys

8.5.36 Internal and external inspections of all existing on-Site buildings, ground level inspections of trees and tree climbing/endoscope surveys of trees with potential for use by bats for roosting were completed in accordance with appropriate guidance, listed in Section 8.2.

8.5.37 The exterior elevations and all internal voids and attic spaces of the Site's buildings and structures (where access allowed), and the exterior of trees were visually inspected for field evidence of roosting bats including droppings, urine staining, feeding remains and potential roosting points.

8.5.38 Bat emergence/re-entry surveys of buildings and trees were undertaken to determine the presence/likely absence of bats and if the building or tree is used as a bat roost. Surveys were completed between June and October 2022, June and September 2023 and July and September 2024. These surveys included dusk emergence and dawn re-entry surveys. All surveyors used

53 Gilbert, G., Gibbons, D.G. and Evans, J., 1998. Bird Monitoring Methods, p.386-388. RSPB.

54 BTO, JNCC, & RSPB, 2018. Breeding Bird Survey Instructions. Available at: https://www.bto.org/sites/default/files/bbs_instructions_2018.pdf .

55 BTO, 2018. Bird Species Codes. Available at: http://www.bto.org/sites/default/files/u16/downloads/forms_instructions/bto_bird_species_codes.pdf .

56 BTO, 1996. Common Bird Census Instructions. Available at: https://www.bto.org/sites/default/files/u31/downloads/details/CBC-instructions-g100.pdf .

57 Email correspondence 11 March 2020. Barrie Watson <barriewatson1@yahoo.co.uk>

ultrasonic bat detectors with inbuilt recorders to allow for calls to be recorded and analysed at a later date.

8.5.39 Some bat emergence/re-entry surveys of buildings and trees undertaken in 2023 included the use of an infrared camera, to aid the surveying effort. During surveys on the south-west façade of Building 16A/B, an infrared camera was used to cover the elevation of the building where a surveyor could not access (see limitations in Section 8.8 and ES Volume 2 Technical Appendix 8.22 for details).

8.5.40 During the 2024 bat surveys, surveyors also used Night Vision Aids (NVAs) comprising NightFox Whisker night vision InfraRed (IR) binoculars with tripods, Track and XP50 thermal imaging cameras. NVAs were positioned to capture the full elevation that the surveyor was observing, with IR levels increased throughout the survey as required. Surveyors checked NVAs every 15 minutes to ensure that cameras were still recording correctly and that light levels were still adequately lighting the elevation being observed. Any confirmed or potential emergence times (or times specified by the surveyor to check footage) were checked after the survey using Windows Media Player. Where trees were surveyed using one surveyor and one camera, footage was analysed by watching from start to finish on VLC media player v3.0.20, which has a frame rate of >60FPS to match the framerate of the thermal cameras. The zoom and playback speed functions were used to help identify bats where needed.

8.5.41 A full methodology of the Ramboll bat surveys completed in 2024, 2023 and 2022 of buildings and trees can be found in ES Appendices 8.21, 8.22 and 8.23.

8.5.42 Bat activity transect surveys and automated detector surveys were undertaken to determine the pattern and overall levels of bat activity within the Site between May and October 2022. The transect routes and locations of the static detectors was decided based upon habitat types and best suitability for bats. The surveys were undertaken in accordance with appropriate guidance, listed in Section 8.2.

8.5.43 A full methodology of the Ramboll bat activity transect surveys and static detector surveys can be found in ES Volume 2 Technical Appendix 8.24.

8.5.44 Bat trapping and radiotracking surveys were undertaken in 2020, 2021, 2022 and 2024.

8.5.45 A total of 151 bats of 10 species were recorded during the trapping in 2020 and 2021. One individual Bechstein's *Myotis bechsteinii* bat was radio tracked in 2020; and five Bechstein's bats, two brown long-eared *Plecotus auritus* bats, one Natterer's *Myotis nattereri* and one barbastelle *Barbastella barbastellus* bat were tracked in 2021.

8.5.46 Two radiotracking survey sessions were undertaken in 2022. During these surveys, 13 bats were tracked, made up of seven Bechstein's, two Natterer's and three brown long-eared bats.

8.5.47 Two radiotracking survey sessions were undertaken in 2024. A total of 15 bats were tracked, comprising 10 Bechstein's (including one breeding adult female, three non-breeding adult females, two adult males, and four juveniles), three female brown long-eared bats, one female whiskered bat and one female Natterer's bat. Where access was possible, emergence counts were undertaken at identified roosts to determine the function of the roost and to provide an estimate of population sizes.

8.5.48 A full methodology of the bat radiotracking surveys, undertaken on behalf of Ramboll, can be found in ES Appendices 8.25, 8.26 and 8.27. The surveys were undertaken in accordance with appropriate guidance, listed in Section 8.2, and the methodology was developed in consultation with Natural England.

8.5.49 Prior to these surveys, Arcadis undertook a series of bat transect and static surveys from May to October 2018; and bat activity surveys of buildings from July to October 2019. These surveys were undertaken in accordance with BCT guidance, listed in Section 8.2

8.5.50 A full methodology of Arcadis' bat surveys can be found in ES Volume 2 Technical Appendix 8.29.

Badger Surveys

8.5.51 A badger survey was undertaken of the Site and in the immediate surrounding areas by Ramboll in February 2022 and July and October 2024 to search for badger setts, excavations and other signs indicative of the species. The surveys were undertaken in accordance with appropriate guidance, listed in Section 8.2.

8.5.52 Prior to these surveys, Arcadis undertook badger surveys in 2018 and 2019. These surveys involved a walkover of the Site concentrating on suitable habitats for badgers.

8.5.53 A full methodology of the Ramboll and Arcadis badger surveys can be found in the Confidential Badger Appendix (ES Volume 2 Technical Appendix 8.33).

Hazel Dormouse Surveys

8.5.54 A series of hazel dormouse surveys were undertaken to determine the presence/ likely absence of hazel dormice in hedgerows and woodlands within the Site between June and October 2022. Dormouse nest tubes were placed in areas of suitable habitat with the potential to be affected by the Proposed Development across the whole Site. The surveys were undertaken in accordance with appropriate guidance, listed in Section 8.2.

8.5.55 A full methodology of the Ramboll dormouse surveys can be found in ES Volume 2 Technical Appendix 8.30.

8.5.56 Prior to these surveys, Arcadis undertook a series of dormouse surveys between July and November 2018.

8.5.57 A full methodology of the Arcadis dormouse surveys can be found in ES Volume 2 Technical Appendix 8.31.

Otter Surveys

8.5.58 During the Phase 1 habitat surveys in May, June and July 2018, the potential for otters to be present on Site was identified. Arcadis undertook a series of surveys for otters, as well as water voles, in June and August 2018 and May 2019. A total of 28 waterbodies/watercourses were surveyed.

8.5.59 A full methodology of the otter and water vole surveys can be found in ES Volume 2 Technical Appendix 8.32.

Water Vole Surveys

8.5.60 During the Phase 1 habitat surveys in May, June and July 2018, the potential for water voles to be present on Site was identified. Arcadis undertook a series of surveys for water voles, as well as otters, in June and August 2018 and May 2019. A total of 28 waterbodies/watercourses were surveyed.

8.5.61 The water vole survey was undertaken following standard guidance, listed in Section 8.2.

8.5.62 A full methodology of the otter and water vole surveys can be found in ES Volume 2 Technical Appendix 8.32.

Hedgehog

8.5.63 Non-targeted assessments for hedgehogs and incidental recordings were made during other ecological surveys of the Site detailed above.

Harvest Mouse

8.5.64 Non-targeted assessments for harvest mouse and incidental recordings were made during other ecological surveys of the site detailed above.

8.6 Assessment Method

Methodology

8.6.1 The ecological impact assessment has been undertaken by means of existing best practice tools and techniques in accordance with CIEEM guidance. As such, following defining the baseline, potential impacts and effects on ecological features (as defined by baseline conditions) have been assessed taking into consideration mitigation measures integral to the Proposed Development; consideration has been given to the need for additional mitigation to reduce or off-set potential significant effects, and finally all residual effects have been assessed as either significant or not significant at the relevant geographic level. As part of this, consideration was given to the avoidance, mitigation, restoration, compensation and enhancement measures (the 'mitigation hierarchy') integral to the Proposed Development. Following the recommendation of additional mitigation measures to avoid and mitigate ecological effects, the significance of the residual effects (after mitigation) on ecological features were assessed.

8.6.2 For the purposes of this assessment:

- ecological features have been considered within the assessment including designated sites, on-Site and off-Site habitats, as well as on-Site and off-Site species within the study area;
- mitigation refers to measures that are incorporated into the Proposed Development to proactively avoid, reduce, control or off-set adverse effects; and
- enhancement refers to measures that improve ecological and nature conservation (biodiversity) importance, but which are not measures specifically for the purpose of ecological mitigation.

Demolition and Construction Stage

8.6.3 The likely impacts and resulting effects during the demolition and construction stage have been assessed based on information presented in ES Chapter 5: Demolition and Construction Description and application of professional judgement.

Completed Development Stage

8.6.4 The likely impacts and resulting effects during the completed development stage have been assessed based on the Proposed Development description (Development Specification and Parameter Plan Framework (WOI-HPA-DOC-DSPPF-01)) and as presented in ES Volume 1 Chapter 4: Development Description and application of professional judgement.

Cumulative Stage

8.6.5 The likely impacts and resulting effects from the combination of the Proposed Development with the cumulative projects described in ES Chapter 14 have been assessed using professional judgement.

8.7 Assessment Criteria

8.7.1 The general criteria used to assess if an effect is significant or not, is set out in Chapter 2, Section 2.8 and 2.9, further details specific to biodiversity are provided herein. This is determined by consideration of the sensitivity of the receptor, magnitude of impact and scale of the effect. In considering the significance of an effect, consideration has been given to the duration of the effect, the geographical extent of the effect and the application of professional judgement.

Importance Criteria

8.7.2 The importance of ecological features (i.e. designated sites, habitats and species), identified within the zone of influence has been assessed using a scale that classifies ecological features

within a defined geographic context in accordance with CIEEM guidelines (2019). The following frame of reference has been used for the Site:

- International and European Importance;
- National Importance (England);
- Regional Importance (South England);
- County Importance (West Sussex)
- Local Importance (the site's relatively close surroundings, including the suburb of Ifield);
- Site Level[58] Importance (limited to the Site boundary or ZOI); and
- Negligible Importance.

8.7.3 In addition to the above, bat importance includes a category of 'District' scale importance, which relates to the local planning authority jurisdiction – in this case Horsham District Council.. This category can be considered to be between 'Local' scale importance and 'County' scale importance. As District Importance is not a category in line with CIEEM guidelines, it has been translated to County Importance for the Assessment of Effects.

8.7.4 Various characteristics contribute to the importance of ecological features. These include recognised and published criteria (e.g. Ratcliffe, 1977[59], Wray et al. 2010[60]) where the ecological features are assessed in relation to their size, diversity, naturalness, rarity, fragility, typicalness, connectivity with surroundings, intrinsic value, recorded history and potential importance.

8.7.5 A wide range of sources can be used to assign importance to ecological features, including legislation and policy. In the case of designated sites, their importance reflects the geographic context of the designation. For example, sites designated as SACs are recognised as being of importance at an International Level. Ecological features not included in legislation and policy may also be assigned importance, due to, for example, local rarity or decline, or provision of a functional role for other ecological features. Professional judgement is used to assign such importance.

8.7.6 For bats, Wray et al. (2010) outlined a framework for assessing the importance of bat roosts, foraging habitat and commuting features, with the assigned importance based on the rarity of the species and the categorisation of the roost type or context of the foraging habitat / commuting feature in the surrounding "bat scape". This methodology has been developed and updated within the UK Bat Mitigation Guidelines (2023), considering differences in rarity and distribution between regions. A matrix-based approach is no longer advocated for assessing importance of foraging habitat and commuting features, due to the inherent difficult in assessing these receptors and the need for a higher degree of professional judgement. A methodology for assessing importance of the overall species assemblage using a site is provided.

8.7.7 Table 8-2 provides examples of how the importance of ecological features has been assigned at different geographical scales.

Table 8-2: Example Receptor Importance Criteria

Importance	Example Criteria
International	Internationally designated sites including SPAs, SACs, Ramsar Sites, Biogenetic Reserves, World Heritage Sites, Biosphere Reserves, Sites of Community Importance (SCIs), candidate SACs, potential SPAs and potential Ramsar Sites. Discrete areas which meet the published selection criteria for international designation, but which are not themselves designated as such.

58 Note that Site-level is not defined in CIEEM, 2019. It is used here to define ecological features which contribute to the biodiversity importance of the Site, but not at a level which can be considered locally important or higher. It is important in the context of biodiversity net gain.

59 Ratcliffe, D.A. (Ed)., 1977. A Nature Conservation Review. 2 vols. Cambridge University Press.

60 Wray S, Wells D, Long E, Mitchell-Jones T., 2010. Valuing Bats in Ecological Impact Assessment, CIEEM In-Practice. 23-25

Table 8-2: Example Receptor Importance Criteria	
National	Nationally designated sites including SSSIs, NNR, Marine Protected Areas; discrete areas which meet the published selection criteria for national designation (e.g. SSSI selection guidelines) but which are not themselves designated as such; or areas of a key habitat type identified in the Post-2010 Biodiversity Framework (2012). Areas of irreplaceable habitats, such as ancient woodland, or blanket bog. Resident or regularly occurring populations of species which may be considered at the UK/National Level, such as species listed in Schedule (S) 5 and S8 of the WCA, the loss of which would negatively affect the conservation status or distribution of the species across Britain or the Country; or where the population forms a critical part of a wider population; or the species is at a critical phase of its life cycle.
Regional	Designated sites (non-statutory) including heritage coasts. Viable areas of key habitat identified as being of Regional importance in the appropriate Natural Area Profile (or equivalent); or smaller areas of such habitat which are essential to maintain the viability of a larger whole. Resident or regularly occurring populations of species which may be considered at an International/European Level, or at the UK/National Level, the loss of which would negatively affect the conservation status or distribution of the species across the Region; or where the population forms a critical part of a wider population; or the species is at a critical phase of its life cycle. Species identified in regional plans or strategies.
County	Viable areas of key habitat identified as being of County importance in the appropriate Natural Area Profile (or equivalent); or smaller areas of such habitat which are essential to maintain the viability of a larger whole. Resident or regularly occurring populations of species which may be considered at an International/ European Level, or at the UK/National Level, the loss of which would negatively affect the conservation status or distribution of the species across the County; or where the population forms a critical part of a wider population; or the species is at a critical phase of its life cycle. Designated nature conservation sites at the County (or equivalent) Level including statutory Local Nature Reserves (LNR) and non-statutory LWS; or discrete areas which meet the published selection criteria for designation but which are not designated as such. Areas of habitats identified in county or equivalent authority plans or strategies (where applicable). Resident or regularly occurring populations of species which may be considered at the local authority level, the loss of which would adversely affect the conservation status or distribution of the species across the local authority area. Species identified in a county or equivalent authority area plans or strategies.
Local	Wildlife / nature conservation sites designated at a Local Level. Features of local importance include areas of habitat or populations/communities of species considered to appreciably enrich the habitat resource within the local context, for example, species-rich hedgerows. Resident or regularly occurring populations of species which may be considered at an International Level, or at the National Level, or considered to appreciably enrich the habitat resource within the local context, the loss of which would adversely affect the conservation status or distribution of the species across the immediate surrounding area; or where the population forms a critical part of a wider population; or the species is at a critical phase of its life cycle.
Site	Areas of habitat considered to appreciably enrich the habitat resource within a site. Includes viable populations of species which are of importance within a site and which contribute to the biodiversity of the Site, but which are of limited importance in their own right.

Table 8-2: Example Receptor Importance Criteria	
Negligible	Areas of a site considered to have no or very limited ecological importance such as built development or hardstanding with no species of importance present or using the area.

Significance

8.7.8 The potential impacts and likely significant effects on ecological features were considered in relation to the Proposed Development at the Site. The assessment was made by reference to the pre-development baseline conditions at the Site. The impacts and effects have been characterised according to the following variables:

- **Magnitude and extent** - quantitative size of an impact (e.g. area of habitat/number of individuals);
- **Timing** – when the impact may occur;
- **Duration and reversibility** - timescale of effect (days/weeks/months/years) until recovery. Permanent impacts are described as such, and likelihood of recovery is detailed where appropriate;
- **Frequency** - frequency of effect (if appropriate; described as low to high and quantified where possible);
- **Complexity** - whether the effect would directly or indirectly affect the feature; and
- **Negative/ positive** - if the effect would be beneficial or detrimental to the feature.

8.7.9 The assessment focuses solely on characteristics that are relevant to evaluating ecological effects and determining their significance. For example, timing of when a habitat is destroyed may not be relevant in relation to the assessment of the effect on the habitat. However, it may be relevant to assessing the impact to the species that occur within the habitat (e.g. roosting bats).

8.7.10 In accordance with CIEEM guidelines, each impact has been assessed as having a significant effect or not having a significant effect upon each ecological feature qualified with reference to the appropriate geographic scale. The importance level of the ecological feature concerned may be a determinant of the geographical level at which the effect is significant. For example, a significant effect to a Site of Special Scientific Interest (SSSI), is likely to be significant at a National Level. However, it may be the case that the effect could be considered significant at a lower or higher geographical level than that at which the feature is important, depending on the magnitude of the effect.

8.7.11 A significant effect is an effect that either enhances or undermines the conservation status of an ecological feature. Conservation objectives, where they exist, may be specific (e.g. for a designated site), or broad (e.g. national conservation policy). Professional judgement is used to decide on the significance of the effects based on a scientifically rigorous assessment of the available data and an understanding of how a specific feature is likely to be affected by the activities associated with the proposed project.

8.7.12 CIEEM guidelines discourages the use of risk-based matrices to determine significance for ecological residual effects. An alternative approach, as described in Box et al[61] is used which directly compares the residual effects for each ecological feature with EIA terminology of Major, Moderate, Minor and Negligible, following completion of the assessment using the CIEEM ecological impact assessment (EcIA) guidelines. This allows comparison and consistency

[61] Box, J., M. Dean and M. Oakley. 2017. An alternative approach to the reporting of categories of significant residual ecological effects in Environmental Impact Assessment. InPractice Issue 97.

with historical or other subject area assessments. This comparison is shown in Table 8-3, and the results are shown in Table 8-10.

Table 8-3: Categories of Significant Residual Effects

Geographical scale at which the residual effect is assessed as being significant following the CIEEM EcIA guidelines	Category of significant residual effect
International, European and National	Major
Regional, County	Moderate
Local	Minor
Site, negligible	Negligible

8.7.13 For the purposes of EIA Regulations reporting and decision-making, only effects assessed to be Moderate or Major are considered to be significant effects (shown in grey). Other significant residual effects on ecological features of Local or Site level importance, although, considered to be Minor, may still hold ecological significance. Such effects may include consideration of legally protected species or be relevant to biodiversity net gain objectives As a result, they require further evaluation and the implementation of appropriate mitigation measures.

8.7.14 Mitigation and/or compensation measures are proposed, where feasible, for all ecological effects identified as significant under the EIA Regulations. Where appropriate, as part of additional good practice, such measures may also be considered for effects on features of Local or Site importance, even where these are not classified as significant. Where legally required, particularly in relation to protected species appropriate actions will be taken to safeguard individual organisms, their resting places and/or to maintain population viability.

Nature of Effect Criteria

8.7.15 The nature of the effect has been described as either adverse, neutral or beneficial as follows:

- **Beneficial** – An advantageous or positive effect to a receptor;
- **Neutral** – An effect that on balance, is neither beneficial nor adverse to a receptor or equally beneficial and adverse; or
- **Adverse** – A detrimental or negative effect to a receptor.

8.7.16 This deviates from CIEEM guidance where positive or negative effects are discussed but positive has the same meaning as beneficial and negative has the same meaning as adverse.

8.8 Assumptions and Limitations

8.8.1 Survey limitations for each survey are detailed in ES Appendices 8.7 to 8.34. Those of most relevance are detailed in this section.

8.8.2 It should be noted that availability and quality of the data obtained during desk studies is reliant on third party responses. This varies from region to region and for different species groups. Furthermore, the comprehensiveness of data often depends on the level of coverage, the expertise and experience of the recorder and the submission of records to the local recorder. Desk study data from badger groups was not provided following multiple requests.

8.8.3 Ecological surveys provide a snapshot of ecological conditions and do not record plants or animals that may be present on-Site at different times of year. Many targeted species are mobile and can occupy different habitats at different times, therefore surveys do not consider the seasonal differences/ physical changes to the Site and its features after the survey date due to weathering, maintenance, deterioration, or damage. The absence of a species cannot be confirmed by lack of field signs.

8.8.4 As part of a package of off-Site sustainable travel measures, the Applicant proposes to deliver a sensitively designed east-west pedestrian / cycle connection, appropriate to the local context, across Ifield Brook Wood and Meadows, which is land owned by the Applicant. This would be secured as a planning obligation pursuant to a specific Section 106 Legal Agreement. A separate biodiversity assessment report will be provided in conjunction with these separate proposals, detailing biodiversity mitigation where applicable, following appropriate design of the pedestrian / cycle connection.

8.8.5 Update surveys for the presence / absence of select species across the Site are ongoing during 2025to ensure all data remains up to date and relevant. . There is significant existing survey data for the Site and these further surveys are intended to supplement and verify existing findings where applicable and help inform mitigation, where required, for detailed design stages.

8.8.6 The '2019 Breeding Bird Surveys' were undertaken late in the season, starting in May. Further surveys were undertaken early in the 2020 season, which meant that the whole survey period was covered over a two year period. Habitats on the Site have not changed since this period and the bird species recorded during this time are expected to continue to be present on the Site

8.8.7 Targeted surveys for otters and water voles were undertaken in 2018 and 2019. During subsequent surveys of rivers, the potential for these species to be present was assessed and any incidental observations looked for. Whilst otters were not identified to be present, owing to the potential for otters to occupy the area in the future, they have been scoped into the assessment and therefore the lack of recent survey is not considered to be a limitation. It is not considered likely that water vole would have become present on the Site, and no evidence of their presence has been made. However, if any species not scoped into the assessment should become present on the Site in the future, appropriate mitigation would be implemented.

8.8.8 Bat analysis of echolocation calls using computer sonogram analysis software is dependent on the clarity of the sonogram/recording. This is dependent on the quality of the recording which may be impacted by weather conditions, physical obstructions and background noise. It is not always possible to identify bats to species level.

8.8.9 During the '2021 Bat Trapping and Radiotracking Surveys' a limitation of radio tracking studies relates to accuracy of positional fixes. Accuracy of fixes can be a common problem in studies of fast-moving bats, particularly those species that have relatively large home ranges. Whilst methods such as biangulation/triangulation can provide relatively rapid and systematic location data for bats, studies have shown that due to variability of surveyor skill, especially at distance, positional fixes might only be accurate to >250m². This survey limitation is accounted for within the assessment of data, and given the extent of radiotracking surveys completed over several years, is not considered to significantly constrain results.

8.8.10 During the '2022 Bat Transect and Static Surveys' some of the files for Transect 5 during the May and July surveys were corrupt and therefore could not undergo computer analysis. In this case, species identification recorded by the surveyor during the surveys alone was used. Given the extent of other bat surveys conducted, this is not considered to have an impact on the findings of the data collected.

8.8.11 During the '2022 Bat Transect and Static Surveys' no static detectors were deployed within Transect 4, as this area was no longer in the Site boundary (see ES Volume 2 Technical Appendix 8.24 for location). However, the transect continued to be surveyed to gather further information on the foraging and commuting habits of bats within the adjacent habitat.

8.8.12 During the '2022 Bat Surveys of Buildings and Trees', two dawn surveys which were undertaken during the latter part of the activity season (i.e. September) either began or ended with temperatures below the recommended 8°C. As the average temperature over these surveys

was 8°C, with temperatures never falling below 7°C, and bat activity was recorded during both surveys, the surveys are considered to remain valid.

8.8.13 During the '2023 Bat Surveys', the south-east and north-east façades of Building 16A/16B could not be surveyed on all three surveys due to access permission constraints. This facade was surveyed using an infrared camera on the final two surveys (see bat survey methodology in Section 8.5), and it is considered that enough data was collected during the survey to make a robust assessment of the buildings use by bats. Further details are provided in ES Volume 2 Technical Appendix 8.22.

8.8.14 Also during the '2023 Bat Surveys', on several occasions infrared cameras used on a bat survey were dislodged and therefore the full elevation of the building was not surveyed. As a result, it is possible that some bat emergences/re-entries were missed on the survey. Visual and audio recordings by a surveyor were still available from this survey and the building was adequately covered in all other surveys. It is therefore not considered likely that bat roosts are present which have not been identified. Surveys were undertaken at an appropriate time of year, under suitable weather conditions in accordance with the various species survey guidelines, unless otherwise stated.

8.8.15 During the '2024 Bat Trapping and Radiotracking Surveys' several generic, but not significant limitations in relation to radiotracking were encountered. These are detailed in Section 2.6 of ES Volume 2 Technical Appendix 8.25.

8.8.16 During the 2024 bat surveys, internal building inspections were not able to be completed of B25 and Outhouse as access was not possible. The potential roost features identified from the external inspection however, did not suggest access into an internal void space, and it was considered that appropriate external survey of the buildings was completed to make a full assessment of the buildings' roost status. Further details are provided in ES Volume 2 Technical Appendix 8.21.

8.8.17 Bat emergence surveys completed in 2024 did not cover the start of the maternity season for pipistrelles (May to June) and so peak counts may not be indicative of a typical maternity roost numbers. However, this is not considered to be a significant limitation as the roost features that were surveyed (particularly those present at B25 and the outhouse) were not considered suitable for maternity roosts. Further details are provided in ES Volume 2 Technical Appendix 8.21.

8.8.18 The third climbing visit for T2419-29 (refer to ES Volume 2 Technical Appendix 8.21) was undertaken outside of the bat survey season (19 December 2024) due to a potential roost feature identified during a subsequent survey visit. This is not considered to be a significant limitation as the winter is a beneficial time of year for the detection of transitional and hibernation roosts and because T2419-29 will be retained as part of the Proposed Development, based on the Landscape and Public Realm parameter plan (WOI-HPA-PLAN-PP01-01). Further details are provided in ES Volume 2 Technical Appendix 8.21.

8.8.19 In the summer of 2022, the UK experienced a heatwave with record-breaking high temperatures. Corresponding to this, a small number of the '2022 Reptile Surveys' undertaken between April and August 2022 were undertaken at the appropriate time of year but during suboptimal temperatures. Temperatures on these occasions exceeding the optimal range during a part of the survey by 1-3°C and where possible surveys were commenced early in the morning to avoid high temperatures. Reptiles were recorded relatively consistently during these surveys and therefore this is not considered to be a major limitation. Furthermore, these high temperatures and extreme periods of drought made it more difficult to identify plant species as part of the 2022 UKHab Survey. However subsequent and previous habitat surveys of the Site conducted by Ramboll (in 2020 and 2024) and Arcadis (2018) were used to aid assessment of habitats, and it was considered that habitats were assessed adequately.

8.8.20 Due to the size of the Site, some surveys including '2022 Reptile Surveys' and '2022 Dormouse Surveys' were undertaken over several days, meaning weather conditions were not always consistent throughout survey efforts, however this is unavoidable and not considered a significant limitation.

8.8.21 There were limitations with regard to Site access on some occasions, with some areas not able to be sufficiently accessed, during the'2021, 2022, and 2023 GCN Surveys', '2022 Reptile Surveys', '2022 Badger Surveys', '2020 Barn Owl Surveys' and the '2020 Breeding Bird Surveys'. Where possible, surveys were rearranged in order to gain access on alternative dates. If this was not possible it was factored into the survey assessments, and for the most part formed part of a series of surveys, and therefore is not considered to have led to deficient baseline information for the Site.

8.8.22 Limitations recorded during the 2022 and 2024 badger surveys are detailed within the confidential reports found in ES Volume 2 Technical Appendix 8.34. Badger surveys were considered to be robust.

8.9 Baseline Conditions

Existing Baseline

Designated Sites

8.9.1 There are no internationally designated sites such as SACs, SPAs or Ramsar sites within a 2 km radius of the Site. Furthermore, there are no statutory sites notified for bat species that have been identified within a 10 km range of the study area. Statutory Designated Sites beyond this distance have been considered within the HRA report (ES Volume 2 Technical Appendix 8.6), and are not presented here.

8.9.2 There are three statutory designated sites within 2 km of the Site, as summarised in Table 8-4.

Table 8-4: Existing Statutory Designated Sites within 2km

Site Name	Designation	Reasons for Designation	Distance from Site (Approx.)
Buchan Hill Ponds	SSSI	Three ponds are the best example in West Sussex of Wealden hammer ponds on acid Tunbridge Wells Sands. A nationally uncommon woodland type occupies the wetlands around the ponds and the site supports a rich dragonfly fauna which includes two particularly notable species.	1.6 km
House Copse	SSSI	A small isolated woodland, Likely, an 'Ancient Woodland' with continuity of woodland cover since at least the Middle Ages. This type of woodland cover is rare, being a close association of small-leaved lime *Tilia cordata* and hornbeam *Carpinus betulus*, previously managed as coppice, under oak standards, and is almost unknown elsewhere in Southern England.	0.8 km
Willoughby Fields	LNR (also an LWS)	Large site containing several unimproved grassland fields with a network of hedgerows, areas of scrub and small copses that lies between the River Mole and an unnamed stream on the outskirts of Langley Green in Crawley. The site is well used by the public for informal recreation, and it adjoins a rugby club. A considerable amount of tree and hedge planting has been carried out on the site	0.6 km

8.9.3 There are 10 non-statutory designated sites with 2 km of the Site, as summarised in Table 8-5.

Table 8-5: Existing Non-Statutory Designated Sites within 2km

Site Name	Designation	Reasons for Designation	Distance from Site (Approx.)
Hyde Hill	LWS	Lowland mixed deciduous woodland, a NERC S41 habitat (Priority Habitat). A moderate sized woodland. Much of this broadleaved woodland is also ancient and semi-natural. It forms part of a wider network of woods across the local landscape that are connected by hedgerows. The LWS is also notable for butterflies, with a number of notable butterfly species recorded from the site including dingy skipper *Erynnis tages*, white admiral *Limenitis camilla* and brown hairstreak *Thecla betulae*.	Adjacent to Site, borders south of the golf course.
Ifield Brook Wood and Meadows	LWS	A patchwork of grass fields surrounded by blocks and strips of scrub and semi-natural broadleaved woodland (a NERC S41 habitat), and mosaic habitats. A watercourse also flows along the western boundary. The grasslands appear to be largely unmanaged and as a consequence are dominated by coarse grasses.	Adjacent to Site, borders the east of the on-Site arable fields.
Ifield Pond and surroundings	LWS	This large pond, situated on the edge of Crawley, is of considerable local importance notably on account of its birdlife, dragonflies and amphibians.	0.4 km
Willoughby Fields	LWS	Large site containing several unimproved grassland fields with a network of hedgerows, areas of scrub and small copses that lies between the River Mole and an unnamed stream on the outskirts of Langley Green in Crawley.	0.6 km
Wood near Lower Prestwood Farm	LWS	This woodland is dominated by hornbeam and ash, mainly as trees grown from coppice. There are very few mature standards remaining as most have been felled. Birch and particularly sycamore *Acer pseudoplatanus* are also frequent in some areas. The shrub layer, consisting of several species, forms variable cover and there is a dense species-rich ground flora.	0.7 km
Orltons Copse	LWS	This site consists of two large areas of oak/hornbeam woodland separated by smaller areas of oak/hazel *Corylus avellana* and oak/hazel/ash woodland. There are several small streams throughout and a hay meadow. This mixture of habitats, provides for a rich bird community.	1 km
Woldhurstlea Wood	LWS	Much of this small wood is semi-natural and it has many characteristics of an Ancient Semi-Natural Woodland, including a rich ground flora. The birdlife is fairly diverse.	1 km
Kilnwood Copse	LWS	This woodland is of variable structure but in the main, it consists of oak and hornbeam. Unusually, small-leaved lime is also present throughout. There are two small ponds included but these are over-grown and of little aquatic interest at present.	1.3 km
Ewhurst Wood	LWS	The wood is mostly oak *Quercus sp*., ash *Fraxinus excelsior* and birch *Betula sp.* and has good structure and a diverse ground flora. It is of importance as an area of semi-natural habitat in a heavily built-up area.	1.5 km
Buchan Country Park	LWS	This site is a country park. It consists of an area of woodland with an increasing area of heathland, a small meadow and three large lakes on the south west edge of Crawley.	1.7 km

8.9.4 Two sites within 2 km of the Site appear on the Revised Ancient Woodland Inventory for the County. The two sites (wood names unknown) are located 1.7 and 1.8 km north of the Site. Both consist of Ancient Semi-Natural Woodland (ASNW). Part of the woodland within the Ifield Brook and Meadows LWS is identified as Ancient Woodland on the MAGIC website. The section identified lies between the Ifield Brook and the Ifield Mill Stream, with a younger section of woodland to the west of the Ifield Brook.

8.9.5 Furthermore, most of the Site is covered by designations forming part of the Horsham District Nature Recovery Networks[62] (NRN), and much of the Site is covered by Rusper Ridge Biodiversity Opportunity Area[63] (BOA) with the Ifield Brook BOA adjacent, representing priority areas for the delivery of Biodiversity Action Plan (BAP) targets.

8.9.6 Much of the Site itself is considered to be of 'High Habitat Potential', and there are also significant areas shown as 'Potential Corridors and Stepping Stones' and / or which lie within the 'Buffer Zones for Core Sites'.

8.9.7 Within the Draft NRN, HDC have identified the River Mole, Ifield Brook and a ditch running south to north on the Site into the River Mole as 'Potential Corridors and Stepping Stones', which provide a network of wildlife-rich places.

8.9.8 These NRN and BOA areas are not considered to be designated sites, but are policy areas. They are considered further in the BNG report (ES Volume 2 Technical Appendix 8.1).

Habitats

8.9.9 The habitats recorded during the UKHab surveys are as follows:

- w1f – Lowland mixed deciduous woodland
- w1g – Other woodland; broadleaved
- w1g6 – Line of trees
- g3c – Other neutral grassland
- g4 – Modified grassland
- g1c – Bracken
- h3h – Mixed scrub
- h3d – Bramble scrub
- h3a – Blackthorn scrub
- s – Sparsely vegetated land, 17 – Ruderal/ ephemeral
- h2a – Hedgerows (priority habitat)
- h2b – Other hedgerows
- u1a – Developed land; sealed surface
- u1b5 – Buildings
- u1c – Artificial unvegetated, unsealed surface
- c1c – Cereal crops
- u – Urban, 1160 – Introduced shrub
- r1a – Eutrophic standing waters, 19 – Ponds (priority habitat), 39 – Artificial pond
- r – Standing open waters and canals, 191 – Ditch
- r2b – Other rivers and streams
- Individual trees

[62] https://www.horsham.gov.uk/climate-and-environment/wilderhorshamdistrict/horsham-district-nature-recovery-networks Accessed 24/05/2023

[63] https://strategicplanning.horsham.gov.uk/gf2.ti/f/1124386/64273157.1/PDF/-/Appendix-C-Rusper-Ridge-Biodiversity-Opportunity-Area.pdf Accessed 24/05/2023

General Site Description

8.9.10 The Site, which covers approximately 171 ha, comprises predominantly agricultural land in the northern and central areas (dominated by arable and grazed pasture fields and with various areas of woodland and scrub), and Ifield Golf Course in the south. A range of habitats are present throughout the Site including grassland, arable land, woodland, scrub, a network of hedgerows and lines of trees, individual trees, ditches (including land drains) and ponds. The River Mole flows west to east through the northern half of the Site, and Ifield Brook flows south to north along the eastern Site boundary (forming the boundary between the Site and the adjacent Ifield Brook Wood and Meadows LWS). A north-south 'green corridor' is formed in the central area of the Site, linking the Golf Course from Rusper Road to the River Mole. Rusper Road passes through the southern half of the Site (passing north of the Golf Course), and Charlwood Road and Bonnett's Lane form the northern-most extent of the Site.

8.9.11 Table 8-6 presents the ecological importance of habitats present on the Site, in accordance with CIEEM guidance (September 2018, V1.2), and the rationale for this. Detailed habitat descriptions are presented in the BNG report found in ES Volume 2 Technical Appendix 8.1. Habitats assessed as being Negligible importance are not considered further in this assessment. The location of each habitat is presented in the UKHab figure in ES Volume 2 Technical Appendix 8.5.

Table 8-6: Summary of Important Ecological Receptors (Habitats) Present on the Site and their Importance

Receptor	Ecological Importance	Rationale
w1f – Lowland mixed deciduous woodland / Ancient Woodland	Local – National	Lowland mixed deciduous woodland is a Habitat of Principal Importance (HPI) in England, listed on NERC S41. The southern-most parcel of woodland which lies partially within the Site boundary, bounding the golf course to the south, is partly registered as an Ancient Woodland site. This equates to a very small area of the boundary of the Site. Woodland in the west of the Site is also connected with off-Site Ancient Woodland. Typically supports a good variety of native tree species and a rich ground flora, including native bluebell in some parcels, which are protected under WCA S 8, which means wild plants cannot be sold. Three wild service tree *Sorbus torminalis* specimens were recorded in the parcel in the south-east of the Golf Course The condition and extent of different woodland parcels varies throughout the Site. It is of importance for a variety of wildlife including invertebrates, birds, amphibians, bats and other mammals, and forms connectivity with other areas of woodland (directly and via hedgerows). This habitat is difficult to replace, with areas of Ancient Woodland being irreplaceable, and, although it occurs elsewhere in the local area, is already fragmented and threatened by development/agriculture. Importance varies across different parcels throughout the Site between Local Level and County Level, depending on extent and condition, with the small Ancient Woodland areas of up to National Level importance.
w1g – Other woodland; broadleaved	Local	Woodland parcels vary between plantation and semi-natural, and tree / understorey species diversity varies between parcels, but typically more species-poor than the stands of lowland mixed deciduous woodland. Anthropogenic disturbance is evident in some parcels. The degree of connectivity with other habitats and on- and off-Site is variable. Some woodland (including on the golf course) is young and only recently established, and therefore relatively easy to replace. Provides habitat for a variety of wildlife (especially invertebrates, on the golf course) and contributes to the biodiversity importance of both the Site and the local area. Importance is unlikely to extend beyond the Local Level.

Table 8-6: Summary of Important Ecological Receptors (Habitats) Present on the Site and their Importance		
w1g6 – Line of trees	Site	Vary in structure and species composition, with regularly managed lines of trees in the golf course (some comprising coniferous species), and more ecologically valuable lines of trees in the remainder of the Site, with small-leaved lime *Tilia cordata* recorded in one location. Contributes to the biodiversity importance of the Site and provide habitat for birds, invertebrates and bats. However, these features typically do not form important habitat links in their own right on the Site and are common in the wider area. Importance is unlikely to extend beyond the Local Level for the location with small-leaved lime and Site Level for the remainder.
g3c – Other neutral grassland	Local	Contributes to biodiversity importance of the Site and provides habitat for ground-nesting and foraging birds, as well as reptiles, amphibians and invertebrates due to varied structure. Sward typically contains a moderate diversity of herbs and grasses, although no notable species present. Other areas of neutral grassland occur in the local area; therefore importance is unlikely to extend beyond the Local Level.
g4 – Modified grassland	Site	Contributes to biodiversity importance of the Site by providing some habitat for invertebrates and foraging birds. Fairly disturbed, even structured and enriched by nutrients due to livestock grazing and other agricultural activities. Importance is unlikely to extend beyond the Site Level given that this habitat type is typical of the wider landscape.
g1c – Bracken	Negligible	Has little intrinsic biodiversity importance, poor species diversity, is highly limited in extent, and provides sub-optimal conditions for supporting wildlife. Bracken is relatively common and widespread in the local area and is easily replaceable.
h3h – Mixed scrub	Site	The most extensive area of this habitat occurs in one location in the west of the Site, where the damp ground conditions, and varied structure (open areas within the scrub) provide habitat for terrestrial invertebrates, birds and foraging bats. This area may succeed into young woodland habitat if left unmanaged in the future. However, importance is unlikely to extend beyond the Site Level at the current time given that mixed scrub is generally common and widespread in the local area.
h3d – Bramble scrub	Site	Widespread, common and easily replaceable habitat which has poor species diversity and has a very limited extent within the Site, and is therefore of little intrinsic importance. Dense bramble does, however, provide opportunities for nesting and foraging birds.
h3a – Blackthorn scrub	Site	Widespread, common and easily-replaceable habitat which has poor species diversity and is therefore of little intrinsic importance. Blackthorn scrub covers only a very limited extent of the Site; however, it provides opportunities for nesting and foraging birds.
s – Sparsely vegetated land (17 – Ruderal/ ephemeral)	Site	Widespread and common habitat which is easily replaced. Contains commonly-occurring species of limited intrinsic importance but provides habitat for common invertebrates and potentially for small populations of ground nesting and/or foraging birds.

Table 8-6: Summary of Important Ecological Receptors (Habitats) Present on the Site and their Importance		
h2a – Hedgerows (priority habitat)	Local	Hedgerows comprising at least 80% native woody species are a HPI in England. Hedgerows on the Site are largely species-poor, but with several species-rich examples. Some contain trees and some are associated with ditches. Within the Site boundary, there are three hedgerows assessed as 'important' as defined by the Hedgerows Regulations[64] under the wildlife and landscape criteria. These are detailed in ES Volume 2 Technical Appendix 8.35. They form important connective ecological corridors between other habitats (such as woodland) on the Site and throughout the local area. They provide habitat for a variety of wildlife such as birds, amphibians, reptiles and invertebrates as well as contributing to the biodiversity importance of the Site.
h2b – Other hedgerows	Site	Hedgerows which are dominated by introduced/non-native / coniferous species have a typically bare understorey and are of lesser importance for wildlife. These still aid habitat connectivity across the Site, but importance is unlikely to extend beyond the Site Level.
u1a – Developed land; sealed surface	Negligible	Does not contribute to the ecological importance of the Site, nor provide habitat for wildlife.
u1b5 – Buildings	Negligible	Buildings have little intrinsic biodiversity importance; however, a number of buildings on the Site provide suitable habitat for roosting bats and common breeding birds. However, in their own right, buildings are of negligible importance.
u1c – Artificial unvegetated, unsealed surface	Negligible	Does not contribute to the ecological importance of the Site, nor provide habitat for wildlife.
c1c – Cereal crops	Site	Typically monoculture, intensely farmed and widespread in the local area. Does not contribute significantly to the ecological importance of the Site, however these areas may support arable weeds at certain times and provide potential habitat for wildlife such as skylark.
u – Urban (1160 – Introduced shrub)	Negligible	Highly limited extent on the Site and contains introduced species. May provide very limited opportunities for invertebrates, but not considered to be of Site Level importance due to its limited extent and the presence of higher-quality habitats throughout the remainder of the Site.
Individual trees	Site – National	Individual trees on the Site vary in maturity from young to over-mature. Predominantly native species. Support a variety of wildlife (such as birds and invertebrates) while some specimens support roosting bats. Trees are numerous in the wider landscape. Most trees vary from Site Level importance to Local Level importance (for mature / over-mature trees). Veteran trees are of up to National Level importance.
r1a – Eutrophic standing waters (19 – Ponds (priority habitat))	Local	A number of the ponds on the Site are likely meet the HPI criteria as they do (or are likely to) support either great crested newts/common amphibians and/or contain invertebrate populations. However, ponds are relatively common in the local area. Furthermore, management of ponds outside of the golf course area is typically inappropriate and may ultimately result in the loss of these features if management is not changed. On this basis, importance is unlikely to extend beyond the Local Level.

[64] DEFRA, 1997. The Hedgerows Regulations 1997: A Guide to the Law and Good Practice. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/438652/hedgerow__guide_part_1.pdf

Table 8-6: Summary of Important Ecological Receptors (Habitats) Present on the Site and their Importance		
r1a – Eutrophic standing waters (39 – Artificial pond)	Negligible	A single artificial pond is present on the Site, which is surrounded by vertical concrete walls and therefore does not contribute to the ecological importance of the Site, nor provide habitat for wildlife.
r – Standing open waters and canals (191 – Ditch)	Site	On-Site ditches do not form an obvious network with other local watercourses / ditches and are likely to be periodically dry. However, these contribute to the biodiversity importance of the Site by providing habitat for wildlife such as invertebrates (aquatic and terrestrial) and common amphibians. Drainage channels in the golf course are small and shallow, providing habitat for a more limited array of wildlife, but may still provide potential ecological corridors for small mammals and reptiles. Importance is unlikely to extend beyond the Site Level.
River Mole (r2b – Other rivers and streams)	Local	Not shown on Priority Rivers Map (therefore not a Priority River) but is shown on the Environment Agency (EA) Statutory Main Rivers Map. Located within the Draft Nature Recovery Networks (NRN) and Land West of Ifield map, Horsham District Council has identified the River Mole as 'Potential Corridors and Stepping Stones', which provides a network of wildlife-rich places[65]. Also, located within Rusper Ridge BOA 36[66]. Acts as an ecological corridor, provides habitat for wildlife (and in particular is important for invertebrates), and contributes to the overall biodiversity importance of the Site. Importance is unlikely to extend beyond the Local Level given that this is not a Priority River.
Unnamed ditch/watercourse (r2b – Other rivers and streams)	Local	Not shown on either the Priority Rivers Map or the EA Statutory Main Rivers Map. Located within the Draft NRN and Land West of Ifield map, Horsham District Council has identified the unnamed watercourse/ditch running south to north on the Site into the River Mole as 'Potential Corridors and Stepping Stones'. Also, located within Rusper Ridge BOA 36. Provides a potential ecological corridor and contributes to the biodiversity importance of the Site and its associated habitats. Importance is unlikely to extend beyond Local Level given that it is not a Priority River.
Ifield Brook (r2b – Other rivers and streams)	County	Identified as an Environment Agency Statutory Main River Environment Agency. Flows along a portion of the eastern Site boundary. Not shown on Priority Rivers Map (therefore not a Priority River) but is shown on the EA Statutory Main Rivers Map. It falls within Ifield Brook Wood and Meadows LWS, mostly within a mature broadleaved woodland (parts that are designated Ancient Woodland). Ifield Brook is recognised by Sussex Biodiversity Partnership as BOA 37[67]. Within the Draft NRN and Land West of Ifield map, Horsham District Council has identified Ifield Brook as 'Potential Corridors and Stepping Stones'. It is also located in Rusper Ridge BOA 36. Forms an integral component of Ifield Brook Wood and Meadows (adjacent to the Site). Provides an ecological corridor along part of the eastern Site boundary, provides habitat for wildlife (and in particular is important for invertebrates), and contributes to the overall biodiversity importance of the Site.

65 Horsham District Council, 2021. Draft Nature Recovery Network and Land West of Ifield. 08/11/2021.
66 Sussex Biodiversity Partnership, no date. Rusper Ridge Biodiversity Opportunity Area 36.
67 Sussex Biodiversity Partnership, no date. Ifield Brook Biodiversity Opportunity Area 37.

Table 8-6: Summary of Important Ecological Receptors (Habitats) Present on the Site and their Importance		
Hyde Hill Brook (r2b – Other rivers and streams)	Local	Located along the east of the southern Site boundary at its nearest point. Not shown on Priority Rivers Map (therefore not a Priority River) but is shown on the EA Statutory Main Rivers Map. The eastern end is identified as an Environmental Agency Statutory Main Rivers Map. It falls within Hyde Hill Woods LWS. Located within Rusper Ridge BOA. Acts as an ecological corridor, provides habitat for wildlife and is connected with on-site woodland. Importance is unlikely to extend beyond the Local Level given that this is not a Priority River.

8.9.12 The invasive non-native plant species rhododendron *Rhododendron* sp., cotoneaster *Cotoneaster* sp. and New Zealand pygmyweed *Crassula helmsii* are listed on the WCA S9 and have been identified on the Site. Cherry laurel, although not listed under WCA S9, is detrimental to biodiversity as it can degrade habitats such as woodland by shading out the understorey and preventing regeneration of native species.

Species

Plants, Lichen and Fungi

8.9.13 No rare or notable plant, lichen or fungi were identified from the desk study. Native bluebell have been recorded near the Site, which are protected under WCA S8, which means wild plants cannot be sold. Assessment of effects on plants is undertaken within the habitats sections.

Invertebrates

8.9.14 The desk study searches returned 292 records of invertebrates within the last 10 years, within 2 km of the Site. The 61 species listed include: the brown hairstreak butterfly *Thecla betulae* (listed under S5 of the WCA and S41 of NERC making them Priority Species);small heath *Coenonympha pamphilus*, white admiral *Limenitis Camilla,* dingy skipper *Erynnis tages,* long-horned bee *Eucera longicornis,* and dusky thorn moth *Ennomos fuscantaria* (listed under S41 of NERC making them Priority Species); and brilliant emerald dragonfly *Somatochlora metallica* and cypress carpet moth *Thera cupressata* (not listed).

8.9.15 Habitats on the Site including tall sward grassland, mature unmanaged scrub edge, hedgerow, broadleaved woodland (including dead wood features) and riparian and pond wetland habitats which can support rare and nationally scarce invertebrate species, including species listed on S41 of NERC making them Priority Species.

8.9.16 During the 2018 and 2019 invertebrate surveys, 719 invertebrate species were recorded from the Site, with 34 of these of recognised conservation status in the UK, including one species classed as Red Data Book (RDB) nationally 'endangered' under pre-1994 IUCN criteria (a tephritid fly *Acinia corniculata*); two species classed as nationally 'vulnerable' under post-2001 IUCN criteria; two species classed as RDB3 nationally 'rare' and four species classed in the 'near threatened' post-2001 IUCN category. Two species classed within the RDB 'unknown' or Data Deficient (DD) categories were recorded, together with 22 species classed as nationally scarce in the UK. These species are described in ES Volume 2 Technical Appendix 8.8. Of the 719 species identified, 639 were recorded from terrestrial and 80 from the aquatic samples collected.

8.9.17 During the 2023 invertebrate surveys, 782 invertebrates species were recorded from the Site, with 46 of these of recognised conservation status in the UK, including seven species classed as RDB nationally 'rare' and four species classed in the 'near threatened' post-2001 IUCN category. One species classed within the RDB 'unknown' category was recorded, together with 32 species classed as nationally scarce in the UK. These species are described in ES Volume 2 Technical Appendix 8.7.

8.9.18 The Site supports wetland habitat including well-vegetated ponds with potential to support aquatic invertebrates of conservation value, and slow-flowing habitats of the River Mole and Ifield Brook were identified as potential breeding habitat for the brilliant emerald dragonfly *Somatochlora metallica,* as described in ES Volume 2 Technical Appendix 8.8.

8.9.19 Brown hairstreak *Thecla betulae*, a Priority Species, was recorded from four locations around the central part of the Site.

8.9.20 Habitats considered to be most important for invertebrates at the Site include mature woodland/scrub edge (including wood decay habitat) and the tall and short grassland habitats associated with woodland edges; particularly these habitats present in the Golf Course and in the central area of the Site. The large arable fields and open areas of the Site, particularly in the north and central areas of the Site, are of lower conservation importance for invertebrates.

8.9.21 Surveys undertaken in 2018, 2019 and 2023 recorded a large number of invertebrate species of high conservation importance at the Site, and the invertebrate assemblage as a whole should be considered to be of importance at the Regional Level.

Amphibians

8.9.22 Records for common frog *Rana temporaria*, common toad *Bufo bufo*, GCN, palmate newt *Lissotriton helveticus* and smooth newt *Lissotriton vulgaris* were provided in the desk study. The MAGIC website[68] recorded no mitigation licences for GCN within 500 m of the Site.

8.9.23 During detailed surveys in 2021, 2022, 2023 and 2024, eight ponds/waterbodies were confirmed as being used by GCN. Ponds 3, 3b, 6, 12, and 16 had GCN breeding confirmed, with non-breeding GCN in Ponds 2, 16A and Ditch 4. Medium numbers of individuals (up to 11 newts) were recorded in each pond. A maximum combined count of 22 was recorded across all ponds between 2021 and 2022. GCN were distributed across the central, south and west of the Site, as shown in ES Volume 2 Technical Appendix 8.9, 8.10 8.11 and 8.312. Ponds and ditches in the east of the Site were not used by GCN. Based on this, the population using the Site is considered to be medium sized based on the Great Crested Newt Mitigation guidance[69], with the highest number of individuals being recorded on the Golf Course. These are described in ES Volume 2 Technical Appendix 8.9, 8.10 and 8.11. All species of amphibian are protected from sale under the WCA, and additionally GCN are fully protected under S5 of the WCA and S2 of Habs Regs, and GCN and common toad are listed under NERC S41 making them Priority Species.

8.9.24 Smooth newt, common frog and common toad had been recorded across the Site and as these are common and widespread amphibian species, the population is considered to be of no more than Site Level importance. Common amphibians are not taken forward for assessment in the remainder of this chapter. However, mitigation for GCN described in Section 8.10 would also be appropriate for common amphibians, including toads.

8.9.25 There is no guidance on GCN evaluation as criteria for Local Wildlife Sites within East and West Sussex. According to Sussex Wildlife Trust[70], Sussex is a stronghold for GCN, with the greatest concentration of breeding ponds in the middle of Sussex and in areas of the Downs. On this basis, the medium population of GCN utilising the Site, likely as part of a wider metapopulation, are considered to be of Local Level importance.

[68] www.magic.gov.uk, accessed 28th July 2022

[69] Great Crested newt- Mitigation guidelines. Page 28. Accessed 16th May 2023. [ARCHIVED CONTENT] Great crested newt mitigation guidelines - NEWT1 (nationalarchives.gov.uk)

[70] Sussex Wildlife Trust: Amphibians and Reptiles. Accessed 16th May 2023. https://sussexwildlifetrust.org.uk/discover/around-sussex/wetlands/wetland-species/amphibians-and-reptiles#:~:text=Sussex%20is%20a%20National%20and,%2C%20Eastbourne%2C%20Newhaven%20and%20Seaford.

Reptiles

8.9.26 The desk study searches returned 60 records of reptiles within the last 10 years within 2 km of the Site. This includes adder *Vipera berus*, grass snake, slow worm and common lizard records.

8.9.27 Three reptile species have been recorded on the Site (grass snake, slow worm, and common lizard). These species are considered to be in general decline nationally[71]. Common lizard and slow worm are less threatened than the UK's snake species. All are protected under the WCA and are listed under NERC S41, making them Priority Species.

8.9.28 Based on Froglife[72,73] guidance, from the 2022 survey results, found in ES Volume 2 Technical Appendix 8.13, the overall reptile population on the Site is assessed as being indicative of a 'Good' population (between 5 – 20 individuals found) at the Golf Course and Pastoral and Arable Fields (Area 1 and 2), and 'Low' at the remainder of the Site. Previous surveys showed 'Good' populations of slow worm across the Site, with an 'Exceptional' population at the adjacent Ifield Brook Wood and Meadows LWS, beyond the eastern boundary of the Site. The Golf Course meets the definition of a 'Key Reptile Site' due to meeting two of the five criteria: supporting three or more reptile species; and supporting an assemblage of species scoring at least four. No adders were recorded on the Site during any of the surveys, though desk study records were identified, and it can be assumed that they are in the wider area in small numbers and may make occasional use of the Site.

8.9.29 The reptile assemblage as a whole (rather than for individual species) is considered to be of County Level importance for those at the Golf Course and Local Level importance for those at the rest of the Site.

Birds

8.9.30 The desk study searches returned 365 records of birds within the last 10 years within 2 km of the Site. This includes 43 bird species, 17 of these species are listed under NERC S41 and seven are listed under the WCA 1.

8.9.31 Species listed under NERC S41 (Priority Species) are: bullfinch *Pyrrhula pyrrhula*; corn bunting *Emberiza calandra*; Cuckoo *Cuculus canorus*; dunnock *Prunella modularis*; hawfinch *Coccothraustes coccothraustes*; herring gull *Larus argentatus*; house sparrow *Passer domesticus;* lapwing *Vanellus vanellus*; marsh tit *Poecile palustris*; nightjar *Caprimulgus europaeus*; skylark *Alauda arvensis*; song thrush *Turdus philomelos*; spotted flycatcher *Muscicapa striata*; Starling *Sturnus vulgaris*; Turtle Dove *Streptopelia turtur*; White-fronted Goose *Anser albifrons*; Wood Warbler *Phylloscopus sibilatrix*.

8.9.32 Species listed under WCA S1 Part 1 recorded are Barn Owl; Black Redstart *Phoenicurus ochruros*; Crossbill *Loxia curvirostra*; Firecrest *Regulus ignicapilla*; Hobby *Falco Subbuteo*; Kingfisher *Alcedo atthis*; Red Kite *Milvus milvus*.

Wintering Birds

8.9.33 Wintering bird surveys conducted in 2018 and 2019 recorded 50 species overwintering across the Site, see ES Volume 2 Technical Appendix 8.19. On average, around 1110 birds were recorded on each of the two surveys. A limited assemblage of wintering farmland birds was recorded. The highest activity/ assemblages were recorded within the wooded/ treelined riparian areas of the Site and the heterogenous habitats of the Ifield Golf Course and nearby smallholdings in the south of the Site.

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[71] Humphreys, E., Toms, M., Newson, S., Baker, J. and Wormald, K. 2011. An examination of reptile and amphibian populations in gardens, the factors influencing garden use and the role of a 'Citizen Science' approach for monitoring their populations within this habitat. BTO Research Report No. 572. https://www.bto.org/sites/default/files/shared_documents/publications/research-reports/2010/rr572.pdf

[72] Froglife. 1999. Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, Halesworth.

[73] According to Froglife guidance, less than 5 individuals is considered to be a 'low' population, 5-10 individuals is a 'good' population and over 10 is 'exceptional'.

8.9.34 Of the species recorded 18 of these were identified as being 'notable'. Birds were considered notable if one or more of the following criteria applied:

- Listed on S1 of the WCA;
- Listed on S41 of NERC (Priority Species);
- Listed on the BoCC (Birds of conservation concern as being either Red or Amber listed); and
- Listed on the Sussex BAP.

8.9.35 Table 8-7 shows the initial list of notable bird species and the subsequent species categorisations.

Table 8-7: Summary of wintering birds considered to be of conservation importance

Common Name	Species	WCA S1	BAP	NERC S41	BOCC List
Common black-head gull	Chroicoceph- alus ridibundus				Amber
Common kestrel	Falco tinnunculus				Amber
Common linnet	Linaria cannabina		Yes	Yes	Red
Dunnock	Prunella modularis		Yes	Yes	Amber
Eurasian bullfinch	Pyrrhula Pyrrhula		Yes	Yes	Amber
Eurasian skylark	Alauda arvensis		Yes	Yes	Red
European herring gull	Larus argentatus		Yes	Yes	Red
European starling	Sturnus vulgaris		Yes	Yes	Red
Fieldfare	Turdus pilaris	Yes			Red
Grey wagtail	Motacilla cinerea				Amber
House sparrow	Passer domesticus		Yes	Yes	Red
Lesser redpoll	Acanthis cabaret			Yes	Red
Mallard	Anas platyrhynchos				Amber
Meadow pipit	Anthus pratensis				Amber
Mistle thrush	Turdus viscivorus				Red
Redwing	Turdus iliacus	Yes			Amber
Song thrush	Turdus philomelos		Yes	Yes	Amber
Stock dove	Columba oenas				Amber

8.9.36 Farmland bird assemblages of notable species were considered separately as the largest change in land type resulting from the Proposed Development will be the loss of farmland. Notable farmland birds were found in relatively low numbers on the Site with the highest densities of individuals clustered around the riparian corridors, the areas of grassland (particularly in the east of the Site) and the woodland areas on Ifield Golf Course; starling was the species in this group with the highest peak count of 40 individuals. peak counts for the other notable species were as follows: common kestrel (2), Eurasian bullfinch (6), meadow pipit (3), mistle thrush (9), common linnet (1), Eurasian skylark (4), song thrush (21) and stock dove (6).

8.9.37 Wintering thrushes present included redwing and fieldfare, with relatively high counts of redwing observations (peak count of 180) and only one fieldfare within the hedgerows and woodland edge habitats across the Site. Only one species of wintering ducks and rails was noted, this was mallard, with a peak count of 10. No barn owls were recorded within the wintering bird surveys.

8.9.38 No SPA qualifying species / assemblages (e.g. gulls) were recorded foraging in significant numbers, as such the wintering bird assemblage is of Local conservation importance.

Breeding Birds

8.9.39 The Site and its immediate surroundings support scrub, hedgerow, mature tree, arable and grassland habitat suitable for breeding birds.

8.9.40 Breeding bird surveys were initially undertaken between May and July 2019 (later part of the breeding season) by Arcadis with a total of 55 different bird species recorded, see ES Volume 2 Technical Appendix 8.19. An updated breeding bird survey was undertaken between March and April 2020 (early part of the breeding season) by Ramboll with a total of 46 different species recorded, see ES Volume 2 Technical Appendix 8.17.

8.9.41 Overall 19 species were identified as being 'notable'. Birds were considered notable if one or more of the following criteria applied:

- Listed on S1 of the WCA;
- Listed on S41 of NERC (Priority Species);
- Listed on the BoCC (Birds of conservation concern as being either Red or Amber listed); and
- Listed on the Sussex BAP.

8.9.42 Table 8-8 and shows the initial list of notable bird species and the subsequent species categorisations.

Table 8-8: Summary of breeding birds considered to be of conservation importance

Common Name	Species	WCA S1	BAP	NERC S41	BOCC List
Common black-head gull	Chroicoceph- alus ridibundus				Amber
Common kestrel	Falco tinnunculus				Amber
Common linnet	Linaria cannabina		Yes	Yes	Red
Common swift	Apus apus				Amber
Dunnock	Prunella modularis			Yes	Amber
Eurasian bullfinch	Pyrrhula pyrrhula		Yes	Yes	Amber
Eurasian skylark	Alauda arvensis		Yes	Yes	Red
European herring gull	Larus argentatus		Yes	Yes	Red
European starling	Sturnus vulgaris		Yes	Yes	Red
Fieldfare	Turdus pilaris	Yes			Red
Grey wagtail	Motacilla cinerea				Amber
House sparrow	Passer domesticus		Yes	Yes	Red
Mallard	Anas platyrhynchos				Amber
Mistle thrush	Turdus viscivorus				Red
Northern house martin	Delichon urbicum				Amber
Redwing	Turdus iliacus	Yes			Amber
Song thrush	Turdus philomelos		Yes	Yes	Amber
Stock dove	Columba oenas				Amber
Western lesser black-backed gull	Larus fuscus				Amber

8.9.43 Farmland bird assemblages of notable species were recorded. Most of these species were 'confirmed', 'probably' or 'possibly' breeding within the Site, except for common kestrel, mallard and yellow wagtail. In total, 181 individual 'farmland birds' were recorded, an average of 45 birds

recorded per survey. This is a recorded average of less than 1 bird per four hectares of survey area, per survey. One pair of skylark was recorded, possibly breeding. It was noted that the number of each farmland bird species recorded during the surveys remained relatively constant.

8.9.44 The data collected suggests that the Site supports a relatively broad assemblage of common farmland birds, with a density that is likely to be limited by the low productivity of the habitats within the Site (i.e. most of the Site is intensively farmed arable land of limited value to nesting and foraging birds).

8.9.45 Given the species records and the habitats present, the breeding bird community within the Site is considered to be of importance at the of Local Level.

Barn Owl

8.9.46 The desk study searches returned nine records of barn owls within the last 10 years within 2 km of the Site. The closest record is approximately 1.3 km north of the Site in 2020 and 2021.

8.9.47 During the barn owl surveys in 2020, no Occupied Breeding Sites were identified within the buildings on Site and no suitable trees used by roosting or nesting barn owls were recorded during the surveys, see ES Volume 2 Technical Appendix 8.20. One Potential Breeding Site was identified (off-site B21a), however, there was no current or recent evidence of breeding within it. Whilst barn owls do use three buildings on and adjacent to the Site (B8, B21a and B21c) for roosting, they were not found to be breeding within any surveyed buildings. Additionally some buildings (B7, 15, 20 and 22) were considered to have low roosting potential, but no signs of use were identified during the survey. The Site may support roosting and breeding barn owl and has the potential to support some barn owl foraging.

8.9.48 Barn owls using the Site (nesting elsewhere) are considered to be of importance at the Local Level.

Incidental Records

8.9.49 Incidental records of kingfisher and red kite, species specially protected under WCA S1, were recorded during the surveys. A likely kingfisher nesting site comprised sand/clay bank with holes and bird droppings was recorded along Ifield Mill Stream in 2018 and an incidental record of this species was made on site in 2023 along Ifield Brook. It is not thought that these species are breeding on the Site. Several trees were recorded with bird boxes attached within Ifield Brook Wood and Meadows LWS. If found to be breeding on the Site, Kingfisher and red kite would be important at the Local Level.

Bats

8.9.50 The desk study searches returned a total of 621 records of bats within 5 km of the Site within the last 10 years. The species of bats include common pipistrelle *Pipistrellus pipistellus*, brown long-eared, noctule *Nyctalus noctula*, pipistrelle species *Pipistrellus sp.*, soprano pipistrelle *Pipistrellus pygmaeus*, long-eared species *Plecotus sp.*, Bechstein's, Daubenton's *Myotis daubentonii*, myotis species *Myotis sp.*, Leisler's *Nyctalus leisleri*, Nathusius's pipistrelle *Pipistrellus nathusii*, Natterer's, serotine *Eptesicus serotinus*, barbastelle, Whiskered *Myotis mystacinus*, Brandt's *Myotis brandtii* and unidentified bat species *Chiroptera*.

8.9.51 Bats are fully protected under S5 of the WCA and S2 of Habitats Regs and are listed under Annex IV of the European Habitat Directive making them European Protected Species. Bechstein's are also listed under Annex II of the European Habitat Directive giving additional protection through Special Areas of Conservation. Barbastelle, Bechstein's, noctule and soprano pipistrelles are listed under NERC S41, making them Priority Species.

8.9.52 MAGIC maps identified two European Protected Species Mitigation (EPSM) licences for bats within 2 km of the Site, both to the east of the Site within Ifield residential areas, approximately 650m and 850 m from the Site.

Building and Tree Surveys

8.9.53 During surveys conducted by Arcadis in 2018 / 2019 (ES Volume 2 Technical Appendix 8.29), 18 roost locations were confirmed in 13 buildings throughout the Site and immediately adjacent to it, comprising predominantly common pipistrelle and soprano pipistrelle day roosts, with one exception of a brown long-eared bat maternity roost at an attic space above the single-storey porch extension at B21b (a building within a collection of ancillary buildings, off-Site but surrounded by the Site, in the north of the Site).

8.9.54 During building inspections (including assessment of hibernation potential) conducted in 2021 by Ramboll (ES Volume 2 Technical Appendix 8.23), hundreds of scattered droppings were recorded at the first floor conversion above the off-Site warehouse at B21b, (the building previously identified as supporting a brown long-eared bat maternity roost), although it was well lit and consistently subject to human disturbance, making it less suitable for roosting bats. In total, 15 buildings were assessed in 2021 on and adjacent to the Site, with six of these identified as having bat roosting potential and subject to subsequent emergence /re-entry surveys. All 15 buildings with hibernation potential (as identified in the Arcadis report, ES Volume 2 Technical Appendix 8.29) provide roosting suitable for crevice-dwelling species or long-eared bats (known to remain in small numbers in roosts year-round) only, with no cellars or basement-style hibernation potential recorded.

8.9.55 During update Ground Level Roost Assessment (GLRA) of trees throughout the Site conducted by Ramboll in 2021 / 2022 (ES Volume 2 Technical Appendix 8.23), 55 trees were assessed, with six classified as having either high or moderate bat roosting potential, and subject to subsequent emergence / re-entry surveys.

8.9.56 During updated emergence / re-entry surveys conducted in 2022 by Ramboll (ES Volume 2 Technical Appendix 8.23), several common pipistrelle day roosts were recorded at eight buildings (Buildings 2, 3, 9, 13, B21A, B21B, B22 and B27) throughout and adjacent to the Site and at one tree at the north of the golf course (T108A).

8.9.57 The building inspections in 2023 recorded a brown long-eared bat roosting in a mortise and tenon joint at the off-Site B21c on consecutive surveys, during the transitional / early spring activity period. On the second of these Site visits, tens of scattered droppings (likely brown long-eared and common pipistrelle) were recorded at the attic space above the single-storey porch extension at B21b, off-Site. An adult common pipistrelle (deceased) was also recorded at the first floor conversion above the warehouse at B21b, although it is unclear how bats are using this space. There is potential for bats to be entering during post-emergence flight or swarming, via a hole at the apex of the gable, and becoming trapped inside.

8.9.58 During emergence / re-entry surveys conducted in 2023 by Ramboll (ES Volume 2 Technical Appendix 8.22), several bat day roosts, including brown long-eared and common pipistrelle roosts were recorded at five off-Site buildings (Buildings 20, 21a, 21c, 21c2, and 22) located in the north within close proximity to the Site. A total of three common pipistrelle roosts were recorded, two brown long-eared roosts and three unknown roosts. The off-Site building B21c has been confirmed as a brown long-eared maternity roost, the other roosts recorded are likely to be day roosts.

8.9.59 During building inspections conducted in 2024 by Ramboll (ES Volume 2 Technical Appendix 8.21) the off-Site B25 and the Outhouse were identified as having bat roosting potential and subject to subsequent emergence /re-entry surveys. During update GLRA of trees throughout the Site, 63 trees were assessed, with 51 classified as having high bat roosting potential, and subject to subsequent emergence / re-entry surveys.

8.9.60 During the emergence/ re-entry surveys conducted in 2024 by Ramboll (ES Volume 2 Technical Appendix 8.21), several non-breeding roosts, including common pipistrelle and Natterer's were

recorded at five trees, a group of trees (2424 A) and the off-Site B25 in the north of the Site, surrounded by the Site.

8.9.61 In summary, emergence / re-entry surveys since 2018 have consistently recorded several day roosts of common and soprano pipistrelles at buildings and trees within the Site and adjacent to the Site. Numbers of bats recorded and behaviour exhibited is not indicative of maternity roosts. In addition, a small maternity roost of brown long-eared bats has been recorded using the off-Site small attic space over the porch of B21b, with an individual brown long-eared using the off-Site building B21c during the spring / transitional period (potentially part of the same maternity colony).

Activity Surveys

8.9.62 Surveys by Arcadis in 2018 / 2019 (ES Volume 2 Technical Appendix 8.29) recorded "medium to high" bat activity levels throughout the Site, when compared to similar sites in the local context. The areas of highest activity comprised hedgerow corridors, ditches, watercourse (including Ifield Brook and the River Mole corridor), areas of woodland at the north (Ifield Wood), centre and south-east of the Site, and around the off-Site farm buildings to the north of the Site (outside the Site boundary, but surrounded by the Site), with activity around buildings comprising almost exclusively common species. There was notably lower bat activity at intensively farmed areas and isolated hedgerows within the Site. The majority of activity recorded comprised common and soprano pipistrelles, with lower levels of myotis *Myotis* sp. and "big bats", and two barbastelle passes recorded. The highest proportion of "rarer or restricted distribution" bats, as categorised in the UK Bat Mitigation Guidelines (2023), was recorded at the south of the Site, around the golf course.

8.9.63 Update activity surveys conducted by Ramboll in 2022 (ES Volume 2 Technical Appendix 8.24), confirmed that bat activity throughout the Site continued to comprise predominantly common pipistrelles, with fewer brown long-eared bats, myotis sp., noctules and soprano pipistrelles recorded. Very occasional Nathusius' pipistrelle, serotine, grey long-eared bat *Plecotus austriacus* and Leisler's bat were also recorded during these surveys. There was no significant spatial variation in activity across transect routes, although the highest overall activity recorded during static detector surveys was recorded at the north-west of the Site (within close proximity to Ifield Wood), the west edge of the Site (adjacent to The Grove), around the golf course and at the very south end of the Site (adjacent to Ancient Woodland at Hyde Hill Wood). Activity was highest during the summer months, although there were some peaks in pipistrelle activity at specific static locations during the autumn period. Brown long-eared bats were also recorded swarming around off-Site buildings within the northern area of the Site during activity surveys. Static detector recordings of barbastelles indicate a small number of individuals using hedgerows and tree canopies at the River Mole corridor, the west boundary of the Site adjacent to The Grove, and hedgerows between two agricultural fields in the west of the Site and south of the golf course. Similar results were recorded for grey long-eared bats, which were also recorded in low numbers of passes at the north-south green corridor at the centre of the Site.

Radio-Tracking and Trapping Surveys

8.9.64 During radio-tracking and trapping surveys in 2020 / 2021 conducted by AEWC Ltd (ES Volume 2 Technical Appendix 8.27), maternity colonies of Natterer's bats and brown long-eared bats, were recorded directly adjacent to the Site. with suitable habitat within the Site considered likely to comprise part of these colonies' Core Sustenance Zones (CSZ). Bechstein's bats were recorded throughout the Site, with a high proportion of females and juveniles caught. At least one individual was confirmed (via radio-tracking) to be part of a maternity colony previously recorded to the north of the Site, during radio-tracking and trapping surveys to inform various planning applications for Gatwick Airport. The surveys in 2020 / 2021 by AEWC Ltd confirmed the presence of a second "southern" population of Bechstein's bat, with nine roosts recorded

and comprising at least 98 individuals. All day roosts recorded were located off-Site, with only two night roosts recorded at trees within the Site (at the golf course), although three of these day roosts (including one roost with a count of 41 individuals during an emergence survey) were recorded within the off-Site woodland directly to the south of Site (Hyde Hill Wood).

8.9.65 Surveys by DWE Ltd in 2022 (ES Volume 2 Technical Appendix 8.26) largely support the previous findings of radio-tracking and trapping surveys at the Site, although these update surveys did not record Bechstein's using the centre of the Site. This is considered likely to be as a result of low survey frequency (described in detail as a limitation in Appendix 8.25). in combination with low numbers of individuals, rather than complete absence of this species from suitable habitat at the centre of the Site. Trapping confirmed breeding Bechstein's continuing to use the Site, although all maternity roost trees were again recorded outside of the Site itself, with only one day roost recorded within the Site (TA1), at a patch of woodland in the centre of the Site.

8.9.66 Surveys by DWE Ltd in 2024 (Appendix 8.25) provide additional data to support the initial surveys by AEWC (2021) and further radiotracking surveys by DWE in 2022.

8.9.67 These 2024 data confirmed again that the Site is used, in part, by two breeding populations of Bechstein's bats, and especially during the post-parturition period, when juveniles are flying. One population is centred around the Hyde Hill Wood area to the south of the Site, and the other population is associated with the Ifield Wood area to the north-west of the Site.

8.9.68 There has been consistent evidence of a relationship between the two populations, with male juvenile bats moving between both populations during both the 2022 and 2024 tracking sessions, indicating dispersal behaviour.

8.9.69 Radio-tracking survey results demonstrate that the majority of the core areas for foraging are outside of the Site, focusing on extensive woodland habitat adjacent to the Site (where the maternity roost trees are also located). Although non-breeding individuals are likely to use suitable habitat within the Site (such as tree lines and copses), these are likely to be of less importance to the local breeding population than surrounding woodland habitats and unlikely to comprise significant portions of the populations' CSZ, with the Site likely to be at the fringes of the local populations' home ranges.

8.9.70 No Bechstein's trapped during surveys in relation to the Gatwick Northern Runway Development Consent Order (DCO) project were recorded using the Site or areas to the south (i.e., no indication that these populations forage within, or commute through, the Site)

8.9.71 Movement data indicates that the majority of core foraging areas for these colonies is outside of the Site, with the exception of tracked bats using the scrub / grassland complex at the south-east corner of the golf course, and areas adjacent to Ifield Wood at the north-west of the Site. Movement of an individual male between the Hyde Hill Wood to the south, and Ifield Wood to the north-west, demonstrates that these two colonies are linked and can be considered two sub-populations. It is considered likely that individuals from the Hyde Hill / Ifield Wood colonies will use suitable habitat within the Site (such as tree lines and copses), although these are likely to be of lower importance to the local population than surrounding woodland habitats and unlikely to comprise significant portions of the populations' CSZ.

8.9.72 There is very little radio-tracking data, considering the period of time over which tracking data has been gathered and the various purposes for which data has been gathered, to support the hypothesis that the population of Bechstein's surrounding Gatwick Airport is functionally linked to the population surrounding the Site, although given the nature of this species fission-fusion activity (with regular roost-switching) and presence of suitable landscape level commuting features in the wider landscape, it must be considered possible that the two populations interact, albeit to a limited extent. The only data overlap between the two project areas comprised a single juvenile male, trapped at the Site and subsequently radio-tracked to a roost in the hedgerow

network to the west of Ifield Road (west of Gatwick Airport). This individual was then recorded primarily foraging at Glover's Wood to the north-west of the airport. Overall, the data demonstrates that whilst the two populations of Bechstein's may be linked by occasional individuals (specifically juvenile males dispersing throughout the landscape), core foraging areas are centred around maternity roosts (and likely maternity roosts) in characteristic optimal habitat (closed canopy woodland and robust hedgerow and river networks with mature trees). The Bechstein's populations do not appear to spend substantial time foraging in sub-optimal habitat but may commute through this habitat whilst moving between roost locations (expected as part of the fission-fusion nature of this species roosting tendencies).

8.9.73 In conclusion, the areas of most importance for the local population of Bechstein's comprise Hyde Hill Wood (directly adjacent to the south of the Site), the golf course within the Site itself and the areas adjacent to and within Ifield Wood (to the north-west of the Site). The general pattern of behaviour is that adult female Bechstein's are predominantly using the main woodland areas in which they roost (Hyde Hill Wood and Ifield Wood), as well as small copses on the fringes of these woodlands, and to a lesser extent, the woodland associated with the golf course north of Hyde Hill Wood. Greater use of the golf course and other woodland areas on the Site is made by juvenile bats and adult male bats. The Site is not considered to comprise part of the Core Sustenance Zones (CSZ) for Bechstein's.

Importance

8.9.74 Table 8-9 outlines the value of known roosts using the methodology as outlined within the UK Bat Mitigation Guidelines (2023). Wray *et al*. (2010) has been used as a baseline for assessing importance of foraging habitat and commuting features within the Site, with professional judgement applied.

8.9.75 Note that Site Importance is not defined in either methodology but is used to define features for bats that contribute to the importance of the Site for that species, but not at a level that can be considered locally important or higher.

8.9.76 An overall species assemblage value has also been provided, based on the methodology outlined in Table 3.3. of the UK Bat Mitigation Guidelines (2023).

Table 8-9: Ecological Importance of Known Bat Roosts, Foraging Habitat and Commuting Features within the Site.

Species and Rarity Category (Southern England)	Justification			Overall Importance
	Roosts	Foraging Habitat	Commuting Features	
Common pipistrelle (Widespread)	Individual day roosts. Site	Large numbers of bats; Moderate number of roosts within the Site; Larger or connected woodland blocks, mixed agriculture and small villages / hamlets. District	Large numbers of bats; Moderate number of roosts within the Site; Complex network of mature well-established hedgerows, small fields and river / streams. District	District
Soprano pipistrelle (Widespread)	Individual day roosts. Site	Small number of bats; Small number of roosts eithin the Site; Larger or connected woodland blocks, mixed agriculture and small villages / hamlets. Local	Small number of bats; Small number of roosts within the Site; Complex network of mature well-established hedgerows, small fields and river / streams. Local	Local

Table 8-9: Ecological Importance of Known Bat Roosts, Foraging Habitat and Commuting Features within the Site.				
Brown long-eared (Widespread)	Maternity sites; and individual day roosts. District	Small number of bats; Small number of roosts within or in close proximity to the Site (incl. maternity); Larger or connected woodland blocks, mixed agriculture and small villages / hamlets. District	Small number of bats; Small number of roosts within or in close proximity to the Site (incl. maternity); Complex network of mature well-established hedgerows, small fields and river / streams. Local	District
Grey long-eared (Rarest Annex II species and very rare)	-	Individual bats; No roosts known; Larger or connected woodland blocks, mixed agriculture and small villages / hamlets. County	Individual bats; No roosts known; Complex network of mature well-established hedgerows, small fields and river / streams. Regional	Regional
Noctule (Widespread but varied regional abundance)	-	Small number of bats; No roosts known; Larger or connected woodland blocks, mixed agriculture and small villages / hamlets. Local	Small number of bats; No roosts known; Complex network of mature well-established hedgerows, small fields and river / streams. District	District
Leisler's (Rarer or restricted distribution)	-	Individual bats; No roosts known; Larger or connected woodland blocks, mixed agriculture and small villages / hamlets. Local	Individual bats; No roosts known; Complex network of mature well-established hedgerows, small fields and river / streams. Local	Local
Serotine (Rarer or restricted distribution)	-	Individual bats; No roosts known; Larger or connected woodland blocks, mixed agriculture and small villages / hamlets. Local	Individual bats; No roosts known; Complex network of mature well-established hedgerows, small fields and river / streams. Local	Local
Myotis excl. Bechstein's (Widespread but varied regional abundance)	Widespread species (natterer's); Maternity roosts outside the site but adjacent. County	Small number of bats; Small number of roosts within proximity to the Site (incl, maternity); Larger or connected woodland blocks, mixed agriculture and small villages / hamlets. County	Small number of bats; Small number of roosts within proximity to the Site (incl. maternity); Complex network of mature well-established hedgerows, small fields and river / streams. County	County
Bechstein's (Rarest Annex II species and very rare)	Rarest species; Individual day roosts. District	Small number of bats; Moderate number of roosts within proximity to the Site (incl. maternity); Larger or connected woodland blocks, mixed agriculture and small villages / hamlets. Regional	Small number of bats; Moderate number of roosts within proximity to the Site (incl. maternity); Complex network of mature well-established hedgerows, small fields and river / streams. Regional	Regional

Table 8-9: Ecological Importance of Known Bat Roosts, Foraging Habitat and Commuting Features within the Site.				
Barbastelle (Rarest Annex II species and very rare)	-	Individual bats; No roosts known; Larger or connected woodland blocks, mixed agriculture and small villages / hamlets. County	Individual bats; No roosts known; Complex network of mature well-established hedgerows, small fields and river / streams. Regional	Regional

Badgers

8.9.77 A number of badger setts are present on the Site and in the wider landscape. All baseline information in relation to badgers can be found within the Confidential Badger Appendix (ES Volume 2 Technical Appendix 8.33) and the Confidential Badger Report (ES Volume 2 Technical Appendix 8.34).

8.9.78 Badgers are protected under the Protection of Badgers Act 1992 to combat the persecution of badgers, and the species is not of conservation concern. The badger population using the Site are of no more than Site Level importance. Appropriate mitigation is included in the Confidential Badger Appendix (ES Volume 2 Technical Appendix 8.33) and the Confidential Badger Report (ES Volume 2 Technical Appendix 8.34) as this is required for legal and welfare purposes.

Hazel Dormouse

8.9.79 The desk study searches returned one record of hazel dormouse within the last 10 years at Crawley Target Hill approximately 1.8 km south of the Site. This site is adjacent to Buchan Country Park where it is noted in the desk study that there are dormouse present within the denser areas of woodland. Hazel dormice are protected under the WCA and Habs Regs, and listed under NERC S41, making them a Priority Species.

8.9.80 No hazel dormouse were found on Site during the surveys (ES Appendices 8.30 and 8.31). One potential hazel dormouse nest was found along a woodland boundary within the arable fields (Area 2) and another unconfirmed dormouse nest was found during the tree climbing surveys for bats in 2024 within a cavity in Tree 2419-1 within Ifield Wood. These potential nests had some features that indicated a hazel dormouse nest, notably the nest was in woven form; however, this was not conclusive and does not confirm the presence of hazel dormouse within the Site.

8.9.81 There is suitable habitat for dormice within the wider landscape around the Site, with woodland and hedgerows present.

8.9.82 As no conclusive evidence of dormice presence on the Site has been recorded, the Site is considered to be of Negligible importance for hazel dormouse. However, as they could potentially become present on the Site in the future appropriate mitigation may need to be implemented.

Otters

8.9.83 The desk study searches returned one record of otter within 2 km of the Site, within the last 10 years. Furthermore, two historic records of otter were provided from 2012. Otter are protected under the WCA and Habs Regs and listed under NERC S41, making them a Priority Species.

8.9.84 There is suitable habitat for otters within the wider landscape with three main rivers on or adjacent to the Site.

8.9.85 Targeted surveys undertaken in June 2018 found no evidence of otter within the study area (ES Volume 2 Technical Appendix 8.32). However, it is acknowledged that otter range is increasing and there is potential for otters to colonise the Site in the future.

8.9.86 The Site is considered to be of Negligible importance for otters. As otter may become present on the Site in the future as they are expanding their range, appropriate mitigation may be required.

Water Vole

8.9.87 The desk study searches returned no records of water voles within 2 km of the Site, within the last 10 years. Water vole are protected under the WCA and listed under NERC S41, making them a Priority Species.

8.9.88 There is suitable habitat water vole within the wider landscape with three main rivers on or adjacent to the Site.

8.9.89 Targeted surveys undertaken in June 2018 and August 2018, and further river surveys in 2023, found no evidence of water vole within the study area (ES Volume 2 Technical Appendix 8.32).

8.9.90 The Site is considered to be of Negligible importance for water vole.

Hedgehog

8.9.91 The desk study searches returned 16 records of hedgehog within 2 km of the site within the last 10 years. Hedgehogs are listed under NERC S41, making them a Priority Species.

8.9.92 There is suitable habitat for hedgehogs at the Site, including woodland edges and hedgerows although none have been recorded in ecology survey work for other species.

8.9.93 Hedgehog are likely to be present on the Site and populations using the Site are considered to be of Local Level importance.

Harvest Mouse

8.9.94 The desk study searches returned two records of harvest mouse *Micromys minutus* from within the last 10 years within 2 km of the Site.

8.9.95 The harvest mouse is listed under NERC S41, making them Priority Species. There is suitable habitat for harvest mouse on site and within the wider landscape. Suitable habitat at the Site includes long tussocky grassland, hedgerows, farmland and at woodland edges although none have been recorded in ecology survey work for other species.

8.9.96 Harvest mice using the Site are considered to be of Local Level importance.

Sensitive Receptors

8.9.97 The nature conservation importance of habitats and species present on the Site (other than those which have been scoped out of the assessment, as described in Section 8.9) have been valued in accordance with CIEEM (2018). Habitats and species on-Site identified above Negligible Importance (i.e. Site Level to International/European Level) classified as Important Ecological Features and are presented in Table 8-10 In accordance with guidance and based on professional judgement, habitats and species assessed to be of Negligible importance do not meet the threshold for inclusion in the assessment as Important Ecological Features and have not been considered further in this assessment. Species not likely to be present on the Site have not been included here.

8.9.98 Although CIEEM guidelines indicates a preference to use the term ‘feature’, when referring to ecological features within an assessment, the standard EIA term ‘receptor’ has been used to avoid confusion.

8.9.99 There are other ecological receptors which could be affected by the Proposed Development; these receptors are either of insufficient ecological importance to warrant consideration in the planning process or would not be subject to significant effects. Where there are effects and legal implications, the mitigation describes measures to ensure compliance with legislation (for

instance in relation to breeding birds). Where appropriate, enhancement measures have also been incorporated/recommended regardless of whether a receptor is ecologically important or whether an effect is significant or not.

8.9.100 The receptors identified as sensitive to the Proposed Development, and of above Negligible importance, and which have been 'scoped-in' to the assessment are summarised in Table 8-10.

Table 8-10: Summary of Important Ecological Features and their Importance

Receptor	Ecological Importance
Buchan Hill Ponds and House Copse SSSIs	National
Willoughby Fields LNR	Local
Buchan Country Park, Ifield Brook Wood and Meadows, Ewhurst Wood, Ifield Pond and surroundings, Woldhurstlea Wood, Hyde Hill, Wood near Lower Prestwood Farm, Orltons Copse, Kilnwood Copse, and Willoughby Fields LWSs	County
w1f – Lowland mixed deciduous woodland / Ancient Woodland	Local to National
w1g – Other woodland; broadleaved	Local
w1g6 – Line of trees	Site to Local
g3c – Other neutral grassland	Local
g4 – Modified grassland	Site
h3h – Mixed scrub	Site
h3d – Bramble scrub	Site
h3a – Blackthorn scrub	Site
s – Sparsely vegetated land (17 – Ruderal/ ephemeral)	Site
h2a – Hedgerows (priority habitat)	Local
h2b – Other hedgerows	Site
c1c – Cereal crops	Site
Individual trees	Site to National
r1a – Eutrophic standing waters (19 – Ponds (priority habitat))	Local
r – Standing open waters and canals (191 – Ditch)	Site
River Mole (r2b – Other rivers and streams)	Local
Unnamed ditch/watercourse (r2b – Other rivers and streams)	Local
Ifield Brook (r2b – Other rivers and streams)	County
Hyde Hill Brook (r2b – Other rivers and streams)	Local
Invertebrates Assemblage	Regional
Amphibians (GCN)	Local
Reptiles Assemblage (Slow Worm, Grass Snake and Common Lizard)	County Level at Golf Course, Local Level for remainder of Site
Breeding Birds (including Barn Owl)	Local
Wintering Birds	Local
Rarest Bats (Grey Long-eared Bats, Bechstein's Bat, Barbastelle)	Up to Regional
Rarer Bats (Noctule, Leisler's, Serotine,)	County
Widespread (but with varying regional abundance) Bats (Myotis other than Bechstein's bat)	Up to County
Widespread (in all geographies) Bats (Common Pipistrelle, Soprano Pipistrelle, Brown Long-eared)	County
Badgers	Site
Otter	Not currently present on Site, but potential to be present in future.

Table 8-10: Summary of Important Ecological Features and their Importance	
Dormouse	Not currently present on Site, but potential to be present in future.
Hedgehog	Local
Harvest Mouse	Local

8.9.101 Features assessed to be of less than local importance (i.e. Site) are scoped out from further consideration in this assessment on the basis that effects on these habitats would not be considered significant in terms of the EIA regulations given their low ecological value, except where appropriate mitigation is required.

8.9.102 Based on the baseline characterisation, the receptors detailed in Table 8-11 have been scoped out of the subsequent assessment.

Table 8-11: Receptors Scoped out of the Assessment	
Ecological Feature	**Basis for Scoping Out**
Statutory Designated Sites	The following statutory designated sites are scoped out of the EIA due to their distance from the Site being greater than 1.7 km, with no ecological links between them and the Site: Glover's Wood SSSI, Target Hill Park Local Nature Reserve (LNR), Edolph's Copse LNR, Grattons Park LNR and Tilgate Forest LNR.
Habitats	Habitats of negligible ecological importance have been scoped out of the assessment.
Fish	As impacts on watercourses are considered to be limited (see the Development Specification and Parameter Plan Framework (WOI-HPA-DOC-DSPPF-01)) , significant effects on fish species using the watercourses were not considered likely, and impacts on fish have therefore not been assessed further. Embedded mitigation, as detailed in the outline construction environmental management plan (OCEMP, ES Volume 2 Technical Appendix 5.1) including pollution prevention measures are considered to be appropriate to prevent effects on watercourses and therefore fish.
Water Vole	No records of water vole were provided by SxBRC and SBIC in 2023. Targeted surveys undertaken in June 2018 and August 2018, and further river surveys in 2023, found no evidence of water vole within the study area.
Brown Hare	No records of brown hare *Lepus europaeus* were provided by SxBRC and no incidental observations have been made during ecological surveys on Site. No specific surveys for this species have been carried out, but this species is large and often conspicuous. Brown hare is likely to be absent from the Site and is therefore scoped out.
Red Squirrel	SxBRC provided a single record of red squirrel *Sciurus vulgaris* immediately adjacent to (but outside of) the Site (at TQ235372) dating from 2012. One further record was provided from February 2016. Given that this site is outside of the core range of red squirrels, it is considered that the record of this species is most likely to be as a result of an escaped captive individual and red squirrel are therefore scoped out of this assessment.

8.10 Assessment of Effects

8.10.1 To avoid unnecessary repetition; potential impacts that are unlikely to result in significant effects for similar reasons are addressed collectively. Likewise, where different receptors are expected to experience comparable effects, these are considered together using a consistent approach.

8.10.2 This section provides a summary of embedded mitigation specifically designed to protect biodiversity receptors, ensuring that potential impacts are minimised from the outset.

Embedded Mitigation

8.10.3 Embedded mitigation, design interventions, design principles and standard practice as described in ES Chapters 4 and 5, the Phase 1 OCEMP (10051123-ARC-XXX-ZZ-TR-CM-00001), the Outline CEMP (ES Volume 2 Technical Appendix 5.1), the Design Code (WOI-HPA-DOC-SWDC-01), the Phase 1 Ecological Mitigation Strategy (Phase 1 EMS), Phase 1 Landscape and Ecological Management Plan (10051123-ARC-300-1A-TR-LA-00001) and the Development Specification and Parameter Plan Framework (WOI-HPA-DOC-DSPPF-01) has been taken into account in this section for all habitats and species. These have been identified through the iterative design process, using the mitigation hierarchy, and have been incorporated into the design or will be implemented as part of the Proposed Development.

Demolition and Construction

8.10.4 Wherever possible, the construction impacts and effects from the Proposed Development upon ecological features have been minimised through design in line with the mitigation hierarchy, as discussed in ES Chapter 5. The following key mitigation measures have been considered with respect to construction effects (this includes completed development elements which could be affected by construction in other phases of the Proposed Development and hence are included here):

- Control of impacts during the construction phase through industry good practice measures within the Outline Construction Environmental Management Plan (OCEMP, ES Volume 2 Technical Appendix 5.1) and a Phase 1 Outline Construction Environmental Management Plan (10051123-ARC-XXX-ZZ-TR-CM-00001) and the Phase 1 Ecological Mitigation Strategy (Phase 1 EMS) for the detailed components of the Proposed Development (to limit direct mortality, noise/visual disturbance (including lighting); habitat degradation and pollution. This includes provision of an Ecological Clerk of Works (ECoW) to be present during work in ecologically sensitive areas. As well as the species listed in Table 8-11, the ECoW will observe and aim to limit direct mortality of common mammal species, including rabbits *Oryctolagus cuniculus* and foxes *Vulpes vulpes*.
- As per the landscape parameter plan (WOI-HPA-PLAN-PP01-01) landscape-led design to ensure ecologically valuable habitats are retained, protected, enhanced and created as a component of the Proposed Development (e.g. woodlands, hedgerows, ecological corridors and aquatic features).
- As per the landscape parameter plan (WOI-HPA-PLAN-PP01-01), provision of strategic open space to alleviate recreational pressure on designated sites and habitats of ecological value, with more vulnerable areas protected from recreational pressure in the completed development stage.
- As per the landscape parameter plan (WOI-HPA-PLAN-PP01-01), retention and enhancement of key ecological corridors through the Proposed Development Site to retain and improve connectivity for wildlife, including commuting routes for bats. These have been designed with north-south and east-west corridors, to connect to valuable habitats adjacent to the study area such as LWS and Ancient Woodlands. Also as much of the mature hedgerow and scrub/woodland and associated grassy margins of importance for terrestrial invertebrates has been retained as possible. As referenced in the Site-Wide Design Code (WOI-HPA-DOC-SWDC-01), during detailed design at the reserved matters stage, where appropriate, roads running through or adjacent to green corridors should seek to limit the obstruction of ecology wherever possible through measures such as the introduction of bat hop-overs, mammal crossings and dark corridors along roads and paths.

- Targeted otter/badger resistant fencing of the Crawley Western Multi-Modal Corridor (CWMMC) will be provided to prevent animals accessing the road (as outlined in the and the Phase 1 Ecological Mitigation Strategy (Phase 1 EMS).
- As per the landscape parameter plan (WOI-HPA-PLAN-PP01-01) and Site-Wide Design Code (WOI-HPA-DOC-SWDC-01), statutory buffer zones for Ancient Woodland sites will be set to 15m to avoid root damage, and in line with guidance[74]. All areas of Ancient Woodland will be protected by buffers, with no work to remove habitats in these buffers proposed. This includes the small areas inside the Site boundary in the south-east of the Site. Overall buffer zones (comprising both mitigation buffers and set-back areas) for Hyde Hill Woods LWS and Ifield Brook Wood and Meadows LWS have been set to 35 m and 25 m, respectively, which are required as mitigation for bats. A strip of "thorny" planting of approximately 5 m width will be included within the overall buffer to Hyde Hill Woods LWS, to discourage human access to the woodland interiors and prevent increased recreational pressure on the woodland as part of the mitigation strategy for bats (and specifically maternity colonies of Bechstein's using Hyde Hill Wood).
- As per the Proposed Development parameters a minimum open space of 31.34 ha will be provided. Strategic green infrastructure is proposed as shown in Parameter Plan 1, including natural and semi-natural green space (16.34 ha), ecological buffers, connective green infrastructure, parks and gardens (9.28 ha), and areas managed for nature conservation purposes. Additional green infrastructure includes indicative locations for allotments (1.21 ha), Neighbourhood Equipped Area for Play (NEAP), Local Equipped Area for Play (LEAP), youth areas and facilities, sport pitches, tennis and multi-courts, and public squares. The exact locations and designs of the additional green infrastructure sites will be established during the detailed design at the reserved matters stage.
- To be secured via statutory BNG planning condition, creation of new ecologically rich habitat in the northern part of the Site. This would primarily comprise enhancement of existing modified grassland, and creation of new grassland habitat, to create Lowland Meadow grassland – a priority habitat with high biodiversity value. This would include publicly accessible areas which would alleviate recreational pressure on adjacent sites, as well restricted access areas managed for wildlife.
- As per the Design Code (WOI-HPA-DOC-SWDC-01), creation of ecologically-rich landscape planting and green infrastructure within the Proposed Development, dominated by native plant species of benefit to wildlife wherever possible, and with non-native species of value to wildlife. This would include Sustainable Drainage Systems (SuDs), urban trees, individual biodiverse roofs, living walls, new native species-hedgerows and rain gardens, and replacement ponds, maximised for their biodiversity value via design, location and connectivity. The Proposed Development is anticipated to be built over 15 years, and it is the intention that new habitat would be created when a parcel is developed, and this would be maturing / mature before other parcels are cleared of the existing habitats. This would ensure that habitat of a variety of ages and structure types are always available across the Site.
- To be secured via appropriate habitat management planning condition, maintenance of the integrity of the Site's existing wetland habitats wherever possible, including the Ifield

[74] UK Government, 2014. Ancient woodland, ancient trees and veteran trees: protecting them from development. Available at: https://www.gov.uk/guidance/ancient-woodland-and-veteran-trees- (london.gov.uk).

Brook and River Mole and where possible the ponds occurring within Ifield Golf Course and elsewhere on Site. These measures will be included in the HMMP.

- To be secured via appropriate habitat management planning condition, creation of new valuable wildlife areas, suitable for use by protected/notable species (e.g. GCN, reptiles, bats, breeding birds and invertebrates) in the north of the Site and in targeted areas around the southern parts of the Site. This would include creation of Lowland Meadow areas, other grassland areas, new woodland, hedgerows, ponds and ditches. These measures will be included in the HMMP.
- As outlined in the and the Phase 1 Ecological Mitigation Strategy (Phase 1 EMS), compensation for loss of a single veteran tree through creation of vertical 'stacks' of standing dead tree trunks where the removal cannot be avoided, whereby the main trunk of the veteran tree and standing deadwood would be cut in single sections and relocated within the retained parts of the Site where they can decompose naturally and add invertebrate habitat value. The main body of the stumps would be excavated and replanted. Additional artificial veteranization of existing mid-age trees in adjacent retained habitat, and planting of new trees in open area would take place. This would include fruit trees which veteranize faster than other tree species.
- To be secured via appropriate biodiversity planning condition, where appropriate and where mitigation cannot be undertaken in situ, translocation of protected species into these new habitat areas in accordance with targeted mitigation strategies (including GCN DLL and other protected species licensing requirements, as appropriate).

8.10.5 Mitigation strategies and method statements would be necessary to safeguard protected and notable species. These are detailed in the relevant sections below and would be expected to be secured by planning conditions. A Phase 1 Ecological Mitigation Strategy[75] has been prepared.

Completed Development

8.10.6 Key design measures to minimise significant adverse effects as described in Chapters 4 and 5, and above, would be expected to have been achieved during construction. However, additional completed development mitigation measures that have been included are as follows:

- To be secured via appropriate habitat management planning condition, a commitment to appropriate maintenance/management and monitoring of retained habitats and of created wildlife habitats to maximise biodiversity value (including adherence to a HMMP, secured via an appropriately worded planning condition).
- To be secured via appropriate planning condition, a drainage strategy (WOI-HPA-DOC-SWDS-01) which meets greenfield run-off rates and policy compliant quality requirements.
- A minimum 10% BNG (compliant with current legislation) would be achieved, as detailed in the BNG Assessment Report[76], found in ES Volume 2 Technical Appendix 8.1, to be secured via statutory BNG planning condition. As per the Design Code (WOI-HPA-DOC-SWDC-01), sensitive lighting design following guidance and principles provided in the BCT and Institution of Lighting Professionals (ILP) Guidance Note 08/23 'Bats and artificial lighting at night'[77] (or as updated), with an assumption against lighting of areas of important retained and new habitats and minimising light spill from lit areas.

[75] Arcadis, 2024. Land West of Ifield Housing Development, Highways Infrastructure Ecological Mitigation Strategy.

[76] Ramboll, 2025. Land West of Ifield - Biodiversity Net Gain Report (June 2025).

[77] BCT, 2023. Guidance Note 08/23, Bats and artificial lighting at night. Available at: https://www.bats.org.uk/news/2023/08/bats-and-artificial-lighting-at-night-ilp-guidance-note-update-released .

- Appropriate management of new habitats, undertaken in accordance with a Habitat Management and Monitoring Plan (HMMP) to be secured via planning condition. Alternatively a Landscape and Ecological Management Plan (Plan) could serve the same function of a HMMP. A LEMP[78] has been produced for the detailed component of the Hybrid Planning Application. This would ensure that new habitats are managed appropriately to ensure they develop appropriately and maximise value for notable and protected species. Measures such as rotational cutting of hedgerows (to allow invertebrate eggs to overwinter) and reduction of soil fertility in grasslands (to allow wildflowers to thrive) would be detailed in the HMMP.
- Appropriate maintenance and monitoring of any wildlife fencing, overpasses etc. and speed restrictions to reduce likelihood of vehicular collisions and maintain permeability.
- Design and management to encourage the retention of permeable green infrastructure.

8.10.7 The Bird Hazard Management Plan, found in ES Volume 2 Technical Appendix 8.16, provides details on habitats to be introduced and their ongoing management, which would reduce the risk of bird collisions for aviation, whilst allowing biodiverse habitats to develop.

Designated Sites

Demolition and Construction Effects

8.10.8 The Site is not directly constrained by the presence of any statutorily designated sites of nature conservation interest within its boundaries. The HRA Report (ES Volume 2 Technical Appendix 8.6) considers effects on National Site Network sites. Statutory sites designated at a National and a County Level: House Copse SSSI, Buchan Hill Ponds SSSI and Willoughby Fields LNR are the only SSSIs and LNR within 2km of the Site that are close enough to be potentially affected by the Proposed Development. All other SSSIs and LNRs are far enough away that they would not be impacted, and are not directly connected by habitat or watercourses.

8.10.9 The Impact Risk Zones (IRZ2[79]) from both the House Copse SSSI and Buchan Hill Ponds SSSI (that lies approximately 1.6km south-east of the Site) cover the southern half of the Site. The IRZs around these two SSSIs have identified potential effects on these SSSIs from the Proposed Development. Whilst the potential for recreational and hydrological effects are highlighted within the IRZs, it is considered that such effects would either not arise during construction or that these could be easily mitigated for through the OCEMP (ES Volume 2 Technical Appendix 5.1) and Phase 1 OCEMP (10051123-ARC-XXX-ZZ-TR-CM-00001) for the detailed component.

8.10.10 Non-statutory sites designated at a County Level: Buchan Country Park LWS, Ifield Brook Wood and Meadows LWS, Ewhurst Wood LWS, Ifield Pond and surroundings LWS, Woldhurstlea Wood LWS, Hyde Hill LWS, Wood near Lower Prestwood Farm LWS, Orltons Copse LWS, Kilnwood Copse LWS, and Willoughby Fields LWS are the only LWSs within 2 km of the Site that are close enough to be potentially affected by the Proposed Development. All other LWSs are far enough away that they are unlikely to be impacted and are not directly connected by habitat or watercourses.

8.10.11 The Ifield Brook Wood and Meadows LWS is present immediately to the east of the Site, and is designated for its neutral grassland, woodland and the presence of Ifield Brook. The meadows are noted as being relatively species-rich, but that this interest is suffering in certain areas owing to the grazing pressure.

8.10.12 Hyde Hill LWS lies adjacent to the southern boundary of the Site, just beyond the golf course.

[78] Arcadis, 2024. West of Ifield Phase 1 Infrastructure, Landscape and Ecological Management Plan.

[79] "The Impact Risk Zones (IRZs) are a GIS tool developed by Natural England to make an initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI according to the particular sensitivities of the features for which it is notified and specify the types of development that have the potential to have adverse impacts."

8.10.13 In the absence of mitigation, there is potential for the following direct and indirect demolition and construction impacts and effects on the nearby non-statutory designated sites:

- Unintentional direct damage to sites directly adjacent to the Site (habitat degradation);
- noise;
- vibration;
- dust deposition;
- light pollution; and
- contamination / pollution events.

8.10.14 Noise, vibration and lighting effects would not affect designated sites. Effects on the species using these sites is described in later sections.

8.10.15 The Proposed Development would be subject to measures outlined in the OCEMP (ES Volume 2 Technical Appendix 5.1) to include avoidance, management and control measures to reduce run-off, contamination and dust impacts and respond to any incidents. This would incorporate industry standards to safeguard the ecological integrity of the designated sites during the Proposed Development phases. A Detailed Construction Environmental Management Plan (Detailed CEMP) for each phase of development would be secured by means of an appropriately worded planning condition and is considered to be embedded mitigation for the purposes of this assessment. With this embedded mitigation in place, these pollution effects would be minimised.

8.10.16 The minimum 15 m buffer from any areas of Ancient Woodland would minimise construction effects on Ancient Woodland.

8.10.17 By adhering to these embedded mitigation measures, the project aims to maintain the ecological value and integrity of the designated sites. The embedded mitigation measures effectively minimise adverse effects on the designated sites, resulting in **Negligible** effects, which is a **Negligible** effect in EIA terms and **not significant**. This is the same for both the detailed design component (Phase 1) and outline design elements.

Completed Development Effects

8.10.18 Adverse effects on House Copse SSSI (connected by footpaths), Buchan Hill Ponds SSSI, Willoughby Fields LNR, Ifield Brook Wood and Meadows LWS and Hyde Hill SSSI have the potential to occur as a result of increased visitor pressure. Embedded mitigation includes an ecologically valuable resource to be brought forward as part of the Proposed Development in the northern part of the Site, which would provide significant new recreation opportunities within the Site and provide enhanced green links between the Ifield Brook Wood and Meadows LWS and retained / new habitats on-Site as well as off-Site habitats, and reducing visitor pressure on nearby designated sites.

8.10.19 Buchan Country Park is likely to be managed for higher levels of recreational visitors, and additional visitors to this are not considered likely to cause significant adverse effects. Effects on other nearby designated sites following completion of the Proposed Development are unlikely due to their distance from the Site. As such, no significant positive or adverse effects are expected on these.

8.10.20 With the inclusion of a minimum 15 m buffer from any areas of Ancient Woodland, and additional thorny planting to deter human and pet access for Hyde Hill Woods LWS, it is considered that the development proposals would not have any adverse impacts on these areas of Ancient Woodland.

8.10.21 As detailed in ES Chapter 7 (Air Quality) no significant air emission effects on identified ecological sites have been identified following the air quality assessment. Refer to ES Chapter 7 (Air Quality) for further details.

8.10.22 With embedded mitigation in place, long term adverse effects would be expected as a result of increased visitor pressure, of significance at the **Site Level** which is a **Negligible** effect in EIA terms and **not significant**. This is the same for both detailed design component and outline design elements.

Additional Mitigation

Demolition and Construction Stage Mitigation

8.10.23 No additional mitigation is required at the demolition and construction stage.

Completed Development Stage Mitigation

8.10.24 No additional mitigation is required at the completed development stage.

Enhancement Measures

8.10.25 No additional designated Site enhancement measures are proposed.

Demolition and Construction Residual Effects

8.10.26 With embedded mitigation in place, **Negligible** residual effects on designated sites are expected for the demolition and construction stage, which is a **Negligible** effect in EIA terms and **not significant**. This is the same for both the detailed design component (Phase 1) and outline design elements.

Completed Development Residual Effects

8.10.27 With embedded mitigation in place, long term adverse effects would be expected as a result of increased visitor pressure, of significance at the **Site Level** which is a **Negligible** effect in EIA terms and **not significant**. This is the same for both the detailed design component (Phase 1) and outline design elements.

Habitats

Demolition and Construction Effects

8.10.28 Habitats and plant species present on the Site are of up to National Level importance, although the majority of habitats are of Local Level importance and lower.

8.10.29 When assessed without taking account of any additional mitigation the following potential demolition and construction impacts and effects on habitats have been considered as part of this assessment:

- Direct land take resulting in both permanent and temporary losses of habitats of importance up to the National Level (it is anticipated that no Ancient Woodland of National Level importance would be removed, but one veteran tree would be lost) – see BNG Assessment Report in ES Volume 2 Technical Appendix 8.1, for details of temporary and permanent habitat losses and the Planning Statement for further details regarding the loss of the veteran tree;
- Loss of extent and connectivity (fragmentation) of retained habitat;
- Degradation of retained habitats through physical damage, uncontrolled surface water run-off and contamination, construction dust, vehicles (emissions and damage to the vegetation and soil), and waste and disturbance resulting from increased human presence (i.e. contractors);

- Alteration of hydrology (including water chemistry) of on-site and adjacent watercourses;
- The spread of invasive species; and
- Provision of new habitat.

8.10.30 Embedded mitigation for the Proposed Development has included avoidance of priority habitats and protected plants (i.e. native bluebell) where possible, creation of buffers around sensitive on-Site and adjacent habitats (including watercourses and woodland), retention of key habitat corridors to avoid fragmentation, creation of ecologically valuable habitats delivered through a landscape scheme, and implementation of a OCEMP (ES Volume 2 Technical Appendix 5.1) prescribing measures to reduce impacts caused during the demolition and construction period (such as dust and pollution). Effects on off-Site but adjacent Ancient Woodland has been avoided through design. However, it has not been possible to avoid all areas of priority habitat, including ponds and hedgerows , although remaining portions of these habitats in the remainder of the Site would be retained and, where feasible, enhanced.

8.10.31 The Proposed Development will retain veteran trees (of up to National Level importance, and considered to be irreplaceable) except where removal of one tree is unavoidable to facilitate construction of the CWMMC (road orientation was considered as part of Site alternatives, with the mitigation hierarchy followed). Other environmental constraints prevent routes which avoid all veteran trees, as detailed in the Design and Access Statement (DAS) (WOI-HPA-DOC-DAS-01) and ES Chapter 3. Veteran tree (tree number T368) requires removal based upon the outline parameter plans (refer to the Planning Statement for further details). Where the removal of a veteran tree is required, compensation would involve 'stacks' created using the arisings from the removed tree, and existing trees would be artificially veteranized. This forms part of the embedded mitigation as outlined in the Phase 1 Ecological Mitigation Strategy (Phase 1 EMS).

8.10.32 Extensive habitat creation (including the provision of green infrastructure and replacement of lost priority habitat) is proposed for the Site. This would be delivered through landscape design and planting, installed in the construction stage as parcels are completed, and would be maintained for the duration of the completed development stage. The landscape planting and green infrastructure would comprise the following habitat types, designed to be like-for-like or like-for-better, as shown in ES Volume 2 Technical Appendix 8.1:

- Modified and other neutral grassland;
- Broadleaved woodland;
- Mixed scrub;
- SuDs / ditches;
- Ponds (priority habitat);
- Native species-rich hedgerows and native species-rich hedgerows with trees (priority habitat);
- Urban trees;
- Introduced shrubs; and
- Allotments and vegetated gardens.

8.10.33 In addition, existing habitats would be protected and, where appropriate, enhanced. This would include enhancement of existing modified grassland to Lowland Meadow (a priority habitat) and enhancement of existing scrub, woodland, hedgerows and ditch habitats, where appropriate.

8.10.34 The OCEMP (ES Volume 2 Technical Appendix 5.1) and Phase 1 OCEMP (10051123-ARC-XXX-ZZ-TR-CM-00001) detail measures to control invasive plant species present on and adjacent to the

Site. This would ensure that invasive plants would not be caused to grow in the wild, nor spread to adjacent land on- or off-Site.

8.10.35 For the detailed design component, there would be adverse effects on habitats significant at up to the National Level due to the loss of habitats (specifically, a veteran tree) prior to installation of replacement habitat. This is equivalent to a **Major Significant** adverse effect in EIA terms.

8.10.36 The NPPF states that 'development resulting in the loss or deterioration of irreplaceable habitats (such as Ancient Woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists'. The Planning Statement demonstrates that there are wholly exceptional circumstances which apply and the Design and Access Statement (WOI-HPA-DOC-DAS-01) shows design development to minimise effects on veteran trees.

8.10.37 For outline elements, there would be adverse effects on habitats, significant at up to the Local Level due to the loss of habitats prior to installation of replacement habitat. This is equivalent to a **Minor adverse** effect in EIA terms, which is **not significant**.

Completed Development Effects

8.10.38 The following potential completed development impacts and effects on habitats have been considered as part of this assessment:

- Increased pollution resulting directly from the Proposed Development (air quality, water quality from road run-off);
- Over-shadowing / over-shading of habitats from new buildings / infrastructure;
- Garden edge habitat issues such as garden expansion and dumping of garden waste; and
- Increased visitor pressure.

8.10.39 Embedded mitigation measures to reduce visitor pressure on habitats include designated pedestrian routes to reduce trampling, and surface water run-off will be managed through an appropriate SuDS / drainage scheme. The Proposed Development avoids key / sensitive habitats (such as woodland) and protects these habitats with suitable buffers and additional planting, to reduce public pressure / disturbance and minimise over-shadowing from new buildings. With the inclusion of a minimum 15 m buffer from the small areas of Ancient Woodland adjacent to the Site, it is considered that the development proposals would not have any adverse impacts on these areas of Ancient Woodland.

8.10.40 Once planted, habitats on Site would be managed according to a HMMP (to be secured via an appropriately worded planning condition). A LEMP has been produced for the Phase 1 detailed component. These would include a focus on monitoring of artificially veteranized trees to ensure they are developing appropriately, with a mechanism for feeding back actions for improved management if monitoring shows that any features are not developing appropriately.

8.10.41 Following a period of time for planting to become established (which may take up to 27 years for certain habitats such as woodland and trees), it is expected that habitat creation, habitat enhancement and maintenance as a result of the Proposed Development would lead to effects which would be beneficial, significant at the Site Level, in the long-term. This is equivalent to a **Negligible** beneficial effect in EIA terms, which is **not significant**. This is the same for both detailed design component (Phase 1) and outline design elements.

Additional Mitigation

Demolition and Construction Stage Mitigation

8.10.42 No additional mitigation is required at the demolition and construction stage.

Completed Development Stage Mitigation

8.10.43 Interpretation boards would be erected to inform the public of sensitive and ecologically-important habitats on-Site.

Enhancement Measures

8.10.44 A BNG assessment has been undertaken for the Site and, in line with statutory requirements, the Proposed Development would achieve above a 10% BNG for area-based habitats, and it has been demonstrated that a 10% BNG for both hedgerows and watercourses can be achieved with the appropriate level of new habitat creation.

8.10.45 Newly created and enhanced habitats would be managed in order to optimise their biodiversity value and provide opportunities for a variety of wildlife. This is detailed in the species sections of this Chapter.

Demolition and Construction Residual Effects

8.10.46 Veteran trees are irreplaceable and as a result, the loss of one veteran tree would remain significant at the **National Level** for the detailed design component. This is equivalent to a **Major Significant** adverse effect in EIA terms.

8.10.47 With the implementation of additional mitigation and enhancement, in the longer term effects on habitats (with the exception of the single veteran tree) are considered to be adverse and significant at the **Local Level**, which is equivalent to a **Minor** (**not significant**) effect in EIA terms. This is the same for both detailed design component (Phase 1) and outline design elements.

Completed Development Residual Effects

8.10.48 With the additional mitigation incorporated, **Negligible** adverse residual effects on habitats are expected for the completed development, which is **Negligible** in EIA terms. This is the same for both detailed design component (Phase 1) and outline design elements.

Invertebrates

Demolition and Construction Effects

8.10.49 The invertebrate assemblage at the Site is considered to be of Regional Level importance, with woodland and scrub edge habitats and adjacent tall and short grassland at the Golf Course in the south of the Site and around the central area of the Site of highest invertebrate importance. Embedded mitigation for the Proposed Development has included avoidance where possible of key areas, with buffers around them, including the River Mole, the southern woodland edges of the Golf Course, two existing ponds within the Golf Course and the off-Site Ifield Brook Wood and Meadows LWS. It has not been possible to avoid development in all areas of suitable habitat in the southern portion of the Site at the Golf Course, although portions of habitat in this area would be retained. Enhancement of existing and creation of new habitat suitable for use by a range of invertebrates would be undertaken in the northern section of the Site. Management of this habitat for use by other species, including reptiles, amphibians and birds, would also ensure that it is suitable for use by the invertebrate assemblage. In addition, measures to reduce/avoid pollution as detailed in the OCEMP (ES Volume 2 Technical Appendix 5.1) and the Phase 1 OCEMP for the detailed component of the Hybrid Application (10051123-ARC-XXX-ZZ-TR-CM-00001) would reduce the potential effects on invertebrates.

8.10.50 The following construction impacts and effects on invertebrates have the potential to occur:

- Habitat loss, degradation and conversion resulting from the clearance of vegetation for compounds and areas for construction;
- Loss of extent and connectivity (fragmentation) of retained habitat;
- Direct mortality of invertebrate species due to habitat loss and degradation;

- Destruction and degradation of resting places;
- Loss and/or fragmentation of foraging and commuting habitat, and loss of prey species;
- Degradation of habitat due to vehicles (emissions and damage to the vegetation and soil), construction dust, the spread of invasive species, and waste created by workers;
- Pollution impacts including water quality impacts from site run-off entering watercourses and wetlands, and air quality; and
- Provision of new habitat.

8.10.51 These would result in adverse effects in the short term, significant at up to the Regional Level. With the implementation of embedded mitigation including new landscape planting within the main areas of the Proposed Development and new habitats in the north of the Site, in the longer term (once new habitats have established) the effects would be unlikely to be significant beyond the Local Level. This is the equivalent to a Minor adverse effect in EIA terms, which is not significant. This is the same for both detailed design component (Phase 1) and outline design elements.

Completed Development Effects

8.10.52 The following completed development effects on invertebrates have the potential to occur:

- Habitat enhancement;
- New opportunity for foraging and commuting;
- Increased visitor pressure, changes in management and increased air quality, noise and light pollution leading to habitat degradation (physical damage to new and retained habitats);
- Increased visitor pressure leading to disturbance;
- Increased traffic and accidental vehicle collisions (potentially resulting in killing/injury of species);
- Increased lighting; and
- Loss of foraging resource due to loss of habitat and changes in abundance of prey species.

8.10.53 Without additional mitigation these could result in long term adverse effects, of significance at the Local Level. This is the equivalent to a Minor adverse effect in EIA terms, which is not significant. This is the same for both detailed design component (Phase 1) and outline design elements.

Additional Mitigation

Demolition and Construction Stage Mitigation

8.10.54 Measures to protect retained important invertebrate habitats during the construction process would be undertaken. These are detailed in the OCEMP (ES Volume 2 Technical Appendix 5.1) for the outline plans and the Phase 1 OCEMP (10051123-ARC-XXX-ZZ-TR-CM-00001) for the detailed component.

8.10.55 Measures to manage existing and create new invertebrate habitat in the short and long term would be incorporated into the HMMP for the outline plans and has been outlined into the Phase 1 draft LEMP for the detailed component (to be secured via an appropriately worded planning condition). This would include:

- Creation of new valuable wildlife areas, suitable for use by invertebrates, such as creation of Lowland Meadow areas, other grassland areas, new woodland, hedgerows, ponds and

ditched. Within the detailed component mitigation strategy areas within the north and south of the site will be targeted;

- The retention of large woody material from felled trees into log piles and consideration of retaining standing dead wood and 'planting' dead tree stumps as dead wood features/vertical 'stacks'; Incorporation of sparsely-vegetated, south-facing banks and slopes (i.e. bee banks) to provide invertebrate nesting, hunting and basking opportunities – this will also benefit reptiles;
- Creation of areas of bare, sandy ground within landscape planting and on biodiverse roofs;
- Where feasible, incorporation of biodiverse roofs and green walls onto buildings, as a means of providing additional foraging habitat for flower-visiting insects, with features suitable for nesting such as log and sand piles and varied topography;
- The provision of sources of nectar and pollen within landscape planting, which is included as embedded mitigation, would include wildflower meadow/herb-rich grassland with common knapweed Centaurea nigra (an important food plant for *Acinia corniculata*), managed by grazing or cutting on rotation in autumn, after seeds have set, and with tall sward margins retained. Spring blossoming trees and shrubs such as willows Salix sp., blackthorn *Prunus spinosa*, hawthorn and wild cherry Prunus avium should be used as these are important for early pollinating insects. Other 'pollinator friendly' plants should also be used in landscape planting;
- Specific measures for brown hairstreak – creation of new hedgerow with blackthorn, management on a three year cycle with flailing in late winter, allowing areas to be left uncut for overwintering eggs; and
- On-Site works would be subject to the provision of detailed method statements and toolbox talks with oversight (where appropriate) by a suitably qualified ecologist.

8.10.56 Invertebrate boxes or 'bee hotels', clay block burrowing boxes and bee bricks are proposed to be incorporated into a proportion of new houses and would provide additional interest for invertebrates such as bees. The exact number and type of boxes would be agreed following consultation with an ecologist prior to the build stage. These can be included on biodiverse roofs and be built into building walls. Features of interest for invertebrates will also be included on biodiverse roofs and in ground-level landscape planting, including sand and stone piles, log piles and stumperies. These can be secured by appropriately worded planning condition.

Completed Development Stage Mitigation

8.10.57 Ongoing management of habitats on the Site would be undertaken following completion of the development in accordance with a HMMP for the outlined plans (to be secured via a planning condition) and has been incorporated into the HMMP and mitigation strategy for the detailed component. This would ensure ongoing suitability for target invertebrate species, with areas inaccessible for recreational use:

- Protection and maintenance measures of the Site's existing and newly created wetland habitats, including the Ifield Brook and River Mole and the retained Ifield Golf Course ponds.
- Ongoing management of retained and new ecological corridor habitat, which would be sympathetic to the target invertebrate assemblages. Habitat would be maintained for scrub-edge, grassland, arboreal/wood decay and wetland invertebrate assemblages including species such as the NERC S41 Priority Species the brown hairstreak, and other rarities recorded from the Site.

8.10.58 The mitigation for the completed development stage will be the same for both the outline plans and detailed component of the Hybrid Application scheme.

Enhancement Measures

8.10.59 Invertebrate boxes or 'bee hotels' and bee bricks as described above would also act as an enhancement measure once impacts are mitigated. These can be secured by appropriate worded planning condition.

Demolition and Construction Residual Effects

8.10.60 With additional mitigation in place, the residual demolition and construction effects would be as follows:

8.10.61 Adverse effects in the short term, significant at up to the Local Level, resulting from loss of habitat and whilst new habitat establishes, particularly in the former Golf Course area and around the central area of the Site. This is equivalent to a **Minor** adverse effect in EIA terms, which is **not significant**. This is the same for both detailed design component (Phase 1) and outline design elements.

8.10.62 In the longer term (once new habitats and invertebrate features have been installed and have established) the effects would be unlikely to be significant beyond the Site Level. This is equivalent to a **Negligible** adverse effect in EIA terms, which is **not significant**. This is the same for both detailed design component and outline design elements.

Completed Development Residual Effects

8.10.63 With additional mitigation in place, the residual completed development effects would be as follows:

8.10.64 Long term adverse effects, resulting from increased recreational pressure and degradation of habitat, significant at the Site Level only. This is equivalent to a **Negligible adverse** effect in EIA terms, which is **not significant**. This is the same for both detailed design component (Phase 1) and outline design elements.

Amphibians

Demolition and Construction Effects

8.10.65 The population of GCN utilising the Site are considered to be of Local Level importance. It has not been possible to avoid suitable habitat including ponds used by GCN. A portion of terrestrial habitat at the Golf Course, in the north and west of the Site would be retained and would remain suitable for GCN, including a buffer along the southern and eastern boundaries of the Site.

8.10.66 The following demolition and construction impacts and effects on GCN and other amphibians have the potential to occur:

- Work practices, increased traffic and accidental vehicle collisions (potentially resulting in direct mortality of individual GCN and other amphibians);
- Destruction and degradation of breeding and resting places (particularly loss of ponds which have populations of GCN);
- Loss and/or fragmentation of foraging and commuting habitat (resulting in loss of connectivity, isolation of small populations, reduced fecundity and access to foraging resources);
- Contractor work force and activity presence leading to disturbance;
- Dust deposition, noise and vibration, contamination pollution events (e.g. siltation, accidental spillages), visual disturbance, waste generation; and

- Provision of new habitat.

8.10.67 Pollution impacts beyond those controlled by the implementation of the OCEMP (ES Volume 2 Technical Appendix 5.1) and the Phase 1 OCEMP for the detailed component of the Hybrid Application (10051123-ARC-XXX-ZZ-TR-CM-00001), including water quality, water pollution and air pollution, are unlikely to lead to significant effects on amphibian populations.

8.10.68 In the absence of additional mitigation for amphibians, demolition and construction work has the potential to result in permanent adverse effects, including direct mortality and habitat loss, degradation, and fragmentation, which would also be in contravention of legislation. This would be significant at the Local Level for GCN. This is the equivalent to a **Minor adverse** effect in EIA terms, which is **not significant**. This is the same for both detailed design components and outline design elements.

Completed Development Effects

8.10.69 The following completed development impacts and effects on GCN and other amphibians have the potential to occur:

- Increased mortality, displacement and disturbance resulting from increased road traffic accidents (RTAs), human disturbance, effects of pets and increased recreational use of sensitive areas. RTAs are most likely to be an issue along the CWMMC, although cycle paths and minor roads in the south of the Site may pose some risk to amphibians. Retained amphibian habitat may be more vulnerable to impacts of human disturbance and pet cat and dog predation, as well as habitat degradation, leading to adverse effects on non-translocated GCN.
- Fragmentation due to new roads and increase in the footprint of the built environment (resulting in loss of connectivity, isolation of small populations, reduced fecundity, access to foraging resources etc.). The majority of new and retained habitats would be around the perimeter of the Site or linked via suitable habitat to the perimeter of the Site and to habitat in the wider area beyond the Site boundary, and therefore this is not considered to result in a significant adverse effect.
- Provision of new habitat, and associated new opportunities for foraging and commuting.

8.10.70 In the absence of additional mitigation for amphibians, the completed development has the potential to result in permanent adverse effects, including mortality, disturbance, and habitat degradation. This has the potential to be significant at the Local Level, which is equivalent to a **Minor** adverse effect in EIA terms, which is **not significant**. This is the same for both detailed design component and outline design elements.

Additional Mitigation

Demolition and Construction Stage Mitigation

8.10.71 It would be necessary to undertake work in accordance with either a 'traditional' full GCN mitigation license through Natural England [80] (or equivalent) or a District Level License (DLL)[81]. The appropriate licensing regime may be subject to change over the next 10 years.

8.10.72 Work under a full GCN mitigation licence would involve production of an appropriate mitigation strategy, including provision of replacement ponds and terrestrial habitat at a receptor site on or off the Site, and translocation of individuals to the new habitat. Applying for a DLL involves

[80] Wildlife licences: when you need to apply. Accessed May 9th, 2023. Wildlife licences: when you need to apply - GOV.UK (www.gov.uk)

[81] Natural England: Great Crested Newt- District Level Licensing for local planning authorities. Accessed March 18, 2025. Great crested newts: district level licensing for local planning authorities - GOV.UK (www.gov.uk)

submitting a request to the scheme area operator, which in the case of West Sussex is Naturespace[82], and payment of an appropriate fee depending on the number of ponds to be affected. This approach is an alternative to the traditional full GCN mitigation licence. This scheme aims to increase the number of GCN elsewhere in the county by providing new/better habitat in targeted areas to benefit the overall population. Horsham District Council have been issued a DLL [83]for GCN which is regulated by Natural England. Mitigation requirements on the Site are likely to be reduced if this approach is used.

8.10.73 A GCN Mitigation Strategy would be developed, detailing the appropriate additional mitigation required for each phase of the Proposed Development for both the outline design and the detailed component. This should be secured though a planning condition. The level of detail required may vary depending on the licensing approach to be undertaken, and is likely to include the following:

- GCN survey results, including update surveys where appropriate;
- Method Statement for activities in vicinity of amphibian habitat, to include details on location and design of exclusion fencing and GCN translocation methodology (if appropriate);
- Habitat enhancement and creation strategy, including creation of habitat features such as new ponds, hibernaculum and log piles; new areas of rough grassland in the north of the Site; new areas managed for the purpose of nature conservation in the south of the Site; suitable habitat features around sustainable drainage features; features to prevent fragmentation as a result of the new CWMMC, such as a clear-span bridge over the River Mole; and features such as dense vegetation to reduce the likelihood of pet predation in the southern areas of the Site; and
- Monitoring strategy (if appropriate).

8.10.74 Mitigation for GCN is likely to be appropriate for common toad and other common amphibians using the Site.

Completed Development Stage Mitigation

8.10.75 Retained amphibian populations may be at higher risk of disturbance and predation impacts. Suitable buffers and appropriate planting with features for hibernation or shelter in these areas would reduce potential impacts, alongside measures such as amphibian friendly gulley pots, recessed kerbs by drain covers and sections of dropped kerbs within highways features. These would be described in the Biodiversity Mitigation Strategy to be secured via a planning condition. This is the same for both detailed design components (Phase 1) and outline design elements.

Enhancement Measures

8.10.76 Mitigation and enhancement measures for GCN would be addressed within the GCN Mitigation Strategy and licence application. Some elements of this are likely to be considered enhancement.

Demolition and Construction Residual Effects

8.10.77 With additional mitigation in place, the residual demolition and construction effects would be short-term adverse effects, potentially including direct mortality and habitat loss, degradation, and fragmentation, affecting limited numbers of individuals during and immediately after licensed work and whilst new habitat is being established. This would be significant at the Site

82 NatureSpace. Accessed March 18, 2025. https://naturespaceuk.com/about-us/
83 Horsham District Council, Great Crested Newt District Licensing Scheme. Accessed on 18 March 2025. https://www.horsham.gov.uk/planning/great-crested-newt-district-licensing-scheme

Level for GCN, which is equivalent to a **Negligible** adverse effect in EIA terms, which is **not significant**. This is the same for both detailed design components and outline design elements.

Completed Development Residual Effects

8.10.78 With additional mitigation in place, the residual completed development effects would be permanent adverse effects, including mortality and disturbance, largely affecting amphibians in the area in the north of the former golf course close to housing areas. This would largely be a result of pet predation, which would remain a threat following the implementation of appropriate mitigation. As the effect would be in discrete parts of the Site and would affect small numbers of individuals, this would be significant at the Site Level, which is equivalent to a **Negligible** adverse effect in EIA terms, which is **not significant**. With the implementation of EPSL or DLL, no significant effects at the Local Level on GCN are anticipated. This is the same for both detailed design components (Phase 1) and outline design elements.

Reptiles

Demolition and Construction Effects

8.10.79 The Golf Course is considered to be of County Level importance for its reptile assemblage, whilst the rest of the Site is of Local Level importance for reptiles. Embedded mitigation for the Proposed Development has included avoidance of key areas, with buffers around them, including the off-Site Ifield Brook Wood and Meadows LWS which was recorded as having an exceptional population of slow worms, and the northern portion of the Site. It has not been possible to avoid suitable habitat in the southern portion of the Site at the Golf Course, which is considered to be a 'Key Reptile Site', although portions of habitat in this area would be retained and would remain suitable for reptiles, including a buffer along the southern boundary of the Site.

8.10.80 The following demolition and construction impacts and effects on reptiles have the potential to occur:

- Work practices, increased traffic and accidental vehicle collisions (potentially resulting in direct mortality of individual reptiles);
- Destruction and degradation of breeding and resting places;
- Loss and/or fragmentation of foraging and commuting habitat (resulting in loss of connectivity, isolation of small populations, reduced fecundity and access to foraging resources);
- Contractor work force and activity presence leading to disturbance;
- Dust deposition, noise and vibration, contamination pollution events (e.g. siltation, accidental spillages), visual disturbance, waste generation; and
- Provision of new habitat.

8.10.81 Pollution impacts beyond those controlled by the implementation of the OCEMP (ES Volume 2 Technical Appendix 5.1)) and the Phase 1 OCEMP for the detailed component of the Hybrid Application (10051123-ARC-XXX-ZZ-TR-CM-00001), including water quality and air quality pollution, are unlikely to lead to significant effects on reptile populations, as unlike amphibians, reptiles are not dependent on aquatic habitat and are not particularly sensitive to pollution.

8.10.82 In the absence of additional mitigation for reptiles, demolition and construction work has the potential to result in permanent adverse effects including injury / killing and habitat loss, degradation, and fragmentation which would also be in contravention of legislation.

8.10.83 In the absence of additional mitigation for reptiles, demolition and construction work has the potential to result in permanent adverse effects, including direct mortality and habitat loss, degradation and fragmentation, with effects at the former Golf Course area of highest concern. Without additional mitigation this would be significant at the County Level, which is equivalent

to a **Moderate** effect in EIA terms, which would be a **Significant** adverse effect. This is the same for both detailed design components (Phase 1) and outline design elements.

Completed Development Effects

8.10.84 The following completed development impacts and effects on reptiles have the potential to occur:

- Increased mortality, displacement and disturbance resulting from increased road traffic accidents (RTAs), human disturbance, pet ownership and increased recreational use of sensitive areas. RTAs are most likely to be an issue along the CWMMC, although cycle paths and minor roads in the south of the Site may pose some risk to reptiles. The majority of suitable reptile habitat would be away from roads. Retained reptile habitat in buffers on the southern boundary of the Site would be more vulnerable to impacts of human disturbance and pet cat and dog predation, as well as habitat degradation, leading to adverse effects on non-translocated reptiles. The northern area of the Site may have some vulnerability to increased recreational use of the Site, leading to human disturbance, potential dog predation and degradation of habitat. This area is sufficiently large that inaccessible, undisturbed areas can be retained, reducing the severity of effects.
- Fragmentation due to new roads and increase in the footprint of the built environment (resulting in loss of connectivity, isolation of small populations, reduced fecundity, access to foraging resources etc.). The majority of new and retained habitats would be around the perimeter of the Site or linked via suitable habitat to the perimeter of the Site and to habitat in the wider area beyond the Site boundary, and therefore this is not considered to result in a significant adverse effect.
- Increased pollution resulting directly from the Proposed Development (air quality, noise and light pollution). As for the demolition and construction stage, these are unlikely to result in significant effects as reptiles are not particularly vulnerable to pollution effects.
- Provision of new habitat, and associated new opportunities for foraging and commuting.

8.10.85 In the absence of additional mitigation for reptiles, the completed development has the potential to result in permanent adverse effects, including mortality, disturbance and habitat degradation. As the effect would be on discrete parts of the Site and would not affect the whole reptile population, this would be significant at up to the Local Level, which is equivalent to a **Minor adverse** effect in EIA terms, which is **not significant**. This is the same for both detailed design components and outline design elements.

Additional Mitigation

Demolition and Construction Stage Mitigation

8.10.86 In order to avoid significant effects on the reptile population, it would be necessary to undertake reptile mitigation and a reptile translocation. Displacement may also be appropriate in discrete areas of the Site, where suitable habitat would be retained, including in the south of the Golf Course. The northern section of the Site which will be retained for natural and semi-natural green space is of an appropriate size and with a limited existing reptile population and would be appropriate for habitat enhancement to ensure it is a suitable receptor for the three reptile species present on the Site. All mitigation measures described would be appropriate for all of the reptile species recorded across the Site, as well as for adders which can be considered to make occasional use of the Site.

8.10.87 A Reptile Mitigation Strategy would be developed at the Reserved Matters stage, detailing all the appropriate additional mitigation required for each phase of the Proposed Development.

This should be secured though a biodiversity mitigation planning condition. The mitigation strategy would include the following:

- Reptile survey results, including update surveys where appropriate (ensuring that up to date survey information is used).
- Method Statement for activities in vicinity of reptile habitat, to include details on displacement activity, destructive search, location and design of exclusion fencing and translocation methodology.
- Habitat enhancement and creation strategy, including creation of habitat features such as hibernaculum, log piles and basking banks; new areas of rough grassland in the north of the Site; suitable habitat features around sustainable drainage features; features to prevent fragmentation as a result of the proposed CWMMC, such as clear-span bridge over the River Mole; and features such as dense vegetation to reduce the likelihood of pet predation in the southern areas of the Site.
- Plan showing areas for reptile mitigation.
- Implementation of a HMMP (to be secured via a planning condition).
- Long term reptile habitat management strategy, including dates for the implementation at each phase of the Proposed Development.
- Design and location of interpretation boards to educate the public about reptile populations in key areas.
- Monitoring plan for the reptile receptor site for a minimum period of 5 years after the translocation.

Completed Development Stage Mitigation

8.10.88 Retained reptile populations in buffer areas in the south of the Site, particularly around the golf course, may be at slightly higher risk of disturbance and predation impacts. Suitable buffers and appropriate planting with features for shelter/hiding in these areas would reduce potential impacts. These would be described in the Reptile Mitigation Strategy.

8.10.89 Habitat in the north of the Site would be less disturbed by recreational users and pets, and is sufficiently distant from the majority of the new buildings in the south of the Site that disturbance impacts and increased pet predation pressure would be unlikely to affect reptiles translocated to this area. Additionally, mitigation features including new hibernacula, log piles and basking banks and planting would provide cover and areas for animals to shelter. These would be described in the Reptile Mitigation Strategy.

Enhancement Measures

8.10.90 No additional reptile enhancement measures are proposed.

Demolition and Construction Residual Effects

8.10.91 With additional mitigation in place, the residual demolition and construction effects would be short-term adverse effects, including direct mortality and habitat loss, degradation and fragmentation, affecting limited numbers of individuals during and immediately after the translocation process and whilst new habitat is being established. This would be significant at the Site Level only, which is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design components and outline design elements.

Completed Development Residual Effects

8.10.92 With additional mitigation in place, the residual completed development effects would be permanent adverse effects for the outline design elements, including mortality and disturbance, largely affecting reptiles in the south of the Site close to areas of human habitation. This would largely be a result of pet predation, which would remain a threat following the implementation of appropriate mitigation. As the effect would be in discrete parts of the Site and would affect small numbers of individuals and not the majority of the reptile population, this would be significant at the Site Level, which is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design components and outline design elements.

Birds

Demolition and Construction Effects

8.10.93 The assemblage of Priority and WCA S1 species using the Site are considered to be of Local Level importance, and with the assemblage of wintering birds of Local Level importance, breeding bird species of Local Level importance and barn owls another WCA S1 species of Local Level importance. Embedded mitigation for the Proposed Development has included avoidance where possible of key habitats, with buffers around them, including woodlands/scrub, hedgerows, grassy margins, and river and ditch corridors. It has not been possible to avoid development in all areas of suitable habitat. However, enhancement of existing and creation of new habitat suitable for use by a range of bird species would be undertaken in the northern section of the Site. In addition, the timing of works and inspection of vegetation to be removed, as detailed in the OCEMP (ES Volume 2 Technical Appendix 5.1) and the Phase 1 OCEMP for the detailed component of the Hybrid Planning Application (10051123-ARC-XXX-ZZ-TR-CM-00001) would reduce the potential effects on bird species from the avoidance/reduction of disturbance and the destruction/damage of nests during the breeding season.

8.10.94 The following demolition and construction impacts and effects have the potential to occur:

- Work practices, increased traffic and accidental vehicle collisions (potentially resulting in direct mortality of individual birds as well as disturbance);
- Direct and indirect disturbance, damage, destruction or displacement of active bird nests during the breeding season due to construction noise, vibration and lighting leading to nest abandonment, egg destruction and/or the killing or injury of young (also offences under the WCA, with disturbance whilst nesting being an offence for S1 species);
- Loss and/or fragmentation of foraging, resting, breeding and commuting habitat (resulting in loss of connectivity, isolation of small populations, reduced fecundity and access to foraging resources). This may include loss of habitat for breeding skylark, with the loss of open arable habitat. Only one pair of skylark were recording possibly breeding on the Site. New habitat created in the north of the Site may not be suitable for use by breeding skylark, particularly if it is subject to increased human disturbance; and
- Provision of new habitat.

8.10.95 These would result in adverse effects in the short term, significant at up to the Local Level. With the implementation of embedded mitigation including the timing of works to avoid the breeding season (March – August inclusive for most species) or inspection of vegetation prior to removal if the breeding season cannot be avoided, habitat retention, new landscape planting within the main areas of the Proposed Development and new habitats in the north of the Site, on balance in the longer term (once extensive new habitats suitable for most bird species using the Site have become established) the effects would be unlikely to be significant beyond the Site Level. This is the equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design component and outline design elements.

8.10.96 With regard to WCA S1 species it is unlikely that there would be a direct effect on nesting kingfisher, although there could be disturbance to this species if nesting in proximity to bridge construction (within in the detailed design component), which could result in failure to breed in one season (and which would be contrary to legislation). This temporary effect would be unlikely to affect the conservation status of the species and as a result **no significant** effects on WCA S1 bird species are likely (None in EIA terms) (although mitigation for disturbance is proposed).

8.10.97 Barn owl and red kite have not been recorded nesting on Site although suitable hunting, roosting and nesting habitat is present on Site and would be removed in the Demolition and Construction stage. These species are unlikely to be reliant on this habitat, the removal of which would not affect their conservation status locally. The avoidance where possible of key habitats, with buffers around them, new landscape planting within the main areas of the Proposed Development (particularly in the north of the Site) and measures to avoid direct impacts on nesting noted above for other bird species means that **no significant** effects on barn owl and red kite are likely (None in EIA terms). This is the same for both detailed design component (Phase 1) and outline design elements.

Completed Development Effects

8.10.98 The following completed development impacts and effects on birds have the potential to occur:

- Mortality, displacement and disturbance resulting from increased predation by cats and increased recreational use of sensitive areas. Retained breeding bird habitat in buffers on the southern boundary of the Site would be more vulnerable to impacts of predation, as well as habitat degradation. The northern area of the Site may have some vulnerability to increased recreational use of the Site, particularly from dog walkers, leading to human disturbance and degradation of habitat. This area is sufficiently large that inaccessible, undisturbed areas can be retained, reducing the severity of effects;
- Increased pollution resulting directly from the Proposed Development (air quality, noise water and light pollution); and
- Provision of new habitat, and associated new opportunities for foraging and commuting.

8.10.99 These would result in long term adverse effects on discrete parts of the Site and would not affect the whole bird population. As a result, this would be significant up to the **Local Level**, which is equivalent to a **Minor** adverse effect in EIA terms, which is **not significant**. This is the same for both detailed design component and outline design elements.

8.10.100 The buffers retained and managed around watercourses mean that kingfisher would be able to nest in suitable habitat on the Site in the operational phase and no significant effects on this species are predicted. Habitat suitable for barn owl and red kite for hunting would be created in the north of the Site although human activity may limit the use of these areas, particularly by red kite (barn owl being nocturnal would largely be active at night when people are unlikely to be present in this area). Both species are unlikely to rely on the habitats at the Site and therefore in the operational phase there would be no effect on conservation status.

8.10.101 **No significant** effects on WCA S1 bird species are predicted (**None** in EIA terms). This is the same for both detailed design component (Phase 1) and outline design elements.

Additional Mitigation

Demolition and Construction Stage Mitigation

8.10.102 To mitigate for the loss of nesting opportunities across the Proposed Development, at least 30 bird boxes would be installed in suitable locations within retained habitat. Additional bird boxes

would be incorporated into the Proposed Development, with bird boxes suitable for a range of species including totals of at least 50 swift boxes, 50 house sparrow boxes, and three barn owl boxes installed into suitable locations on buildings and retained trees. These would be distributed across the whole Site as appropriate. The precise number, design and location (as a minimum to be away from well-lit areas and close to vegetation) of bird boxes would be agreed with an experienced ecologist at the detailed design stage and can be secured via a planning condition.

8.10.103 Other measures to avoid adverse effects on breeding and wintering birds during the construction phase are already included within embedded mitigation measures in the OCEMP (ES Volume 2 Technical Appendix 5.1) and Phase 1 OCEMP for the Phase 1 detailed design component (10051123-ARC-XXX-ZZ-TR-CM-00001), such as undertaking site clearance works outside of the bird nesting season where possible or ensuring suitable clearance checks are implemented, protecting retained trees, shrub and hedgerow habitat with the installation of protective fencing in line with BS5837:2012, and best practice construction measures to minimise the effects of noise pollution, dust and air pollution and visual intrusion during construction.

8.10.104 Monitoring of bird species and ecological mitigation in relation to birds would be undertaken where appropriate.

8.10.105 In advance of bridge construction relating to the CWMMC (unless this begins outside the nesting season which is March to August inclusive) a check should be made in the footprint and up and downstream of the proposed new bridge across the River Mole. In the event that a kingfisher nest is identified, specific measures to consider the presence of the nest in construction should be adopted until chicks have fledged (for instance, restrictions on the works footprint, programme or types of machinery used). If found to be present, consideration should be made to provision of an artificial kingfisher nesting wall.

Completed Development Stage Mitigation

8.10.106 Ongoing management of habitats on the Site would be undertaken following completion of the development in accordance with a HMMP (to be secured via a planning condition). This would ensure ongoing suitability for nesting and foraging breeding birds, and foraging wintering birds. The current landscaping proposals (as per the landscape parameter plan (WOI-HPA-PLAN-PP01-01) include for a range of different habitats that would provide a foraging resource for birds. This includes the creation of woodland, orchard and scrub habitat. Plant species would include berry-bearing shrubs and trees to provide suitable foraging resource, particularly for wintering birds.

Enhancement Measures

8.10.107 No additional bird enhancement measures are proposed.

Demolition and Construction Residual Effects

8.10.108 With additional mitigation in place, the residual demolition and construction effects would be as follows:

- Adverse effects in the short term on general bird species, significant up to the Site Level, resulting from loss of habitat and whilst new habitat establishes. This is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design components (Phase 1) and outline design elements.
- In the longer term (once new habitats and bird boxes have been installed and have established) **no significant** effects are considered predicted to occur (**None** in EIA terms). This is the same for both detailed design components (Phase 1) and outline design elements.
- **No significant** effects on WCA S1 bird species are predicted (**None** in EIA terms). This is the same for both detailed design component and outline design elements.

Completed Development Residual Effects

8.10.109 With additional mitigation in place, the residual demolition and construction effects would be as follows:

- Permanent adverse effects on general bird species for the outline design elements, resulting from pet predation, significant at the Site Level only. This is equivalent to a Negligible effect in EIA terms, which is not significant.
- No significant effects on general bird species for the detailed design elements (Phase 1) (None in EIA terms).
- No significant effects on WCA S1 bird species are likely (None in EIA terms). This is the same for both detailed design components (Phase 1) and outline design elements.

Bats

Demolition and Construction Effects

8.10.110 The following potential demolition and construction impacts and effects on bats have been considered as part of this assessment:

- Work practices, increased traffic and accidental vehicle collisions (potentially resulting in direct mortality of individual bats as well as disturbance);
- Injury / killing due to roost loss, and roost modification;
- Disturbance due to roost modification and / or construction noise, vibration and lighting;
- Reduced roosting opportunities due to loss of trees with moderate or high potential roosting features;
- Habitat loss, degradation and conversion resulting from the clearance of vegetation for compounds and areas for construction;
- Fragmentation due to severance, damage and disturbance of existing green infrastructure as a result of the construction of roads and housing (resulting in reduced access to resources, reproductive success, movement between populations), and associated light spill;
- Degradation of habitat due to vehicles (emissions and damage to the vegetation and soil), construction dust, increased recreational usage, waste and disturbance via human presence created by contractors;
- Pollution impacts including water quality and air quality causing degradation of invertebrate prey communities; and
- Provision of new habitat.

8.10.111 In the absence of additional mitigation for bats, demolition and construction work has the potential to result in permanent adverse effects including injury / killing and habitat loss, degradation, and fragmentation on widespread in all geographies ,widespread but with varying regional abundance, rarer and rarest species which would also be in contravention of legislation.

8.10.112 For “rarest” species (including Annex II species and very rare species), this would be significant at up to the District Level for roosts, which is equivalent to a Moderate effect in EIA terms, which is a Significant adverse effect. Effects would be significant at up to the Regional Level for foraging habitat, which is equivalent to a Moderate effect in EIA terms, which is a Significant adverse effect. Effects would be significant at up to the Regional Level for commuting habitat, which is Moderate effect in EIA terms, which is a Significant adverse effect. This is the same for both detailed design component and outline design elements.

8.10.113 For "rarer" species (including those with restricted distribution in the region), if roosts were to be identified during pre-clearance checks, this would be significant at up to the County Level for roosts, which is equivalent to a **Moderate** adverse effect in EIA terms, which is a Significant adverse effect. No roosts for these species have been identified at the Site to date. Effects would be significant at up to the **Local Level** for foraging habitat, which is equivalent to a **Minor** effect in EIA terms, which is not significant. Effects would be significant at up to the Local Level for commuting habitat, which is **Minor** adverse effect in EIA terms, which is not significant. This is the same for both detailed design component and outline design elements.

8.10.114 For "widespread but with varying regional abundance" species, and particularly Natterer's bats, this would be significant at up to the County Level for roosts, which is equivalent to a **Moderate** adverse effect in EIA terms, which is a **Significant** adverse effect. Effects would be significant at up to the County Level for foraging habitat, which is equivalent to a **Moderate** adverse effect in EIA terms, which is a **Significant** adverse effect. Effects would be significant at up to the County Level for commuting habitat, which is **Moderate** adverse effect in EIA terms, which is a **Significant** adverse effect. This is the same for both detailed design components (Phase 1) and outline design elements.

8.10.115 For "widespread in all geographies" species, which are more tolerant of disturbance and lighting and are common and widespread in the local area, this would be significant at up to the County Level for roosts, which is equivalent to a **Moderate** effect in EIA terms, which is significant. Effects would be significant at up to the County Level for foraging habitat, which is equivalent to a **Moderate** effect in EIA terms, which is significant. Effects would be significant at up to the Local Level for commuting habitat, which is **Minor** adverse effect in EIA terms, which is not significant. This is the same for both detailed design component and outline design elements.

Completed Development Effects

8.10.116 The following completed development effects on bats have the potential to occur:

- Increased injury, killing or disturbance resulting from increased vehicular collisions, noise disturbance from increased traffic, recreational use of sensitive areas (such as woodland and riparian habitats, both within the Site and immediately adjacent), and light spill onto roost access and entry / exit flight paths; and
- Degradation of sensitive habitats due to pollution resulting directly from the Proposed Development (air quality, water quality and light pollution); and
- Provision of new habitat, and associated new opportunities for foraging and commuting.

8.10.117 In the absence of additional mitigation for bats, the completed development has the potential to result in permanent adverse effects including injury / killing fragmentation effects and habitat degradation on widespread in all geographies, widespread but with varying regional abundance, rarer and rarest species.

8.10.118 For "rarest" species (including Annex II species and very rare species), this would be significant at up to the District Level for roosts (specifically due to the potential for light spill onto roost access and entry / exit flight paths), which is equivalent to a **Moderate** adverse effect in EIA terms, which is a Significant adverse effect. Effects would be significant at up to the Regional Level for foraging habitat, which is equivalent to a **Moderate** adverse effect in EIA terms, which is a **Significant** adverse effect. Effects would be significant at up to the Regional Level for commuting habitat, which is a **Moderate** adverse effect in EIA terms, which is a **Significant** adverse effect. This is the same for both detailed design component and outline design elements.

8.10.119 For "rarer" species (including those with restricted distribution in the region), if roosts were to be identified during pre-clearance checks, this would be significant at up to the County Level for roosts (specifically due to the potential for light spill onto roost access and entry / exit flight

paths), which is equivalent to a **Moderate** adverse effect in EIA terms, which is a **Significant** adverse effect. No roosts for these species have been identified at the Site to date. Effects would be significant at up to the Local Level for foraging habitat, which is equivalent to a **Minor** adverse effect in EIA terms, which is not significant. Effects would be significant at up to the Local Level for commuting habitat, which is a **Minor** adverse effect in EIA terms, which is not significant. This is the same for both detailed design component and outline design elements.

8.10.120 For "widespread but with varying regional abundance" species, and particularly Natterer's bats, this would be significant at up to the County Level for roosts, which is equivalent to a **Moderate adverse** effect in EIA terms, which is a **Significant** adverse effect. Effects would be significant at up to the County Level for foraging habitat, which is equivalent to a **Moderate** adverse effect in EIA terms, which is a **Significant** adverse effect. Effects would be significant at up to the County Level for commuting habitat, which is **Moderate** adverse effect in EIA terms, which is a **Significant** adverse effect. This is the same for both detailed design component and outline design elements.

8.10.121 For "widespread in all geographies" species, which are more tolerant to light and other disturbances, it is not considered likely that effects on roosts higher than at the Local Level would occur during the completed development, which is equivalent to a **Minor** adverse effect in EIA terms, which is not significant. Effects would be significant at up to the Local Level for foraging habitat, which is equivalent to a Minor effect in EIA terms, which is not significant. Effects would be significant at up to the **Local Level** for commuting habitat, which is a **Minor** adverse effect in EIA terms, which is not significant. This is the same for both detailed design component and outline design elements.

Additional Mitigation

Demolition and Construction Stage Mitigation

8.10.122 Due to the presence of several bat roosts within the Site, a suitable Natural England licence will be required if felling, demolition or significant works resulting in the modification of roosts are required that may damage or destroy roosts at buildings or trees, or works that may disturb roosting bats. Up to 18 buildings/trees with roosts may require licensing, comprising common and soprano pipistrelle day roosts, natterer's bat day roosts, a brown long-eared maternity roost, and a Bechstein's day roost at a tree at the centre of the Site. The locations of the buildings and trees surveyed in 2022,2023 and 2024 which may require licensing are Buildings B2, B3, B9, B13, B20, B21a, B21b, B21c, B21c2, B22, B25 and B27 and Tree T365), Tree Group 2424A, Tree 2431, Tree 2436 and Tree 2440 (see ES Volume 2 Technical Appendix 8.35). Buildings B20 to B25 are off-Site, but may require licensing should work on the Site affect them. The location of the Bechstein's day roost is within the TA1 area (see ES Volume 2 Technical Appendix 8.21). Due to the importance of the Site overall for a diverse assemblage of bats, and the potential for tree roosts or roosts used by "rarest" species to be affected, a full European Protected Species (EPS) mitigation licence would likely be required. It is likely that a "phased" licence would be appropriate, depending on the proposed phasing of works throughout the Site.

8.10.123 A Bat Mitigation Strategy would be developed, detailing the appropriate additional mitigation and monitoring required for each phase of the Proposed Development, secured through a planning condition, and submitted with the EPS mitigation licence application to Natural England (NE). An ecological mitigation strategy has been produced for Phase 1 detailed component which includes tailored bat mitigation.

8.10.124 The mitigation strategy would include the following:

- Bat survey results, including results from all previous surveys conducted at the Site and including update surveys where appropriate (ensuring that up to date survey information is used to inform each phase of the Proposed Development);

- Method Statement for activities in the vicinity of retained bat roosts (including Toolbox Talks to ensure contractors are aware of the legal protection afforded to bats and the working methods required), foraging habitat and commuting features, to include details regarding capture and exclusion activities, destructive searches, provision of temporary flight lines and translocation activities;
- Habitat enhancement and creation strategy, including creation of areas of habitat within natural and semi-natural green space, ecological buffers and green corridors retaining connectivity through the Site (including road narrowing in residential areas and bat hop overs), tailored towards bat species requirements (particularly mimicking existing habitats found at the golf course, such as grassland and scrub mosaics);
- Plans showing the location of roosts, areas of highest risk with regards disturbance, temporary flightline routes (if required), and areas of compensation / enhancement;
- Roost compensation features at a ratio of 1:1, including provision of a suitable variety of tree-mounted bat boxes, boxes built into the fabric of new buildings, and veteranisation features at retained trees;
- HMMP, tailored towards species known to use the Site most frequently (such as common pipistrelles) and also rare species with notable records in the local areas (such as Bechstein's);
- Monitoring plans for retained / new roost features, foraging areas and commuting features, over a time period and at a frequency in accordance with current bat mitigation guidelines;
- Temporary flightline mitigation in the absence of planting can include Heras fencing panels with debris netting applied to mimic landscape features which bats have been using within the Site;
- Landscape planting design would provide appropriate woodland edge features for foraging and commuting bats as well as the retention and enhancement of key ecological corridors by retaining and improving connectivity such as north-south and east-west corridors;
- Where appropriate bat hop-overs will be incorporated into the long-term scheme design;
- Clear-span bridge structure to be constructed as part of the long-term scheme design which will provide a safe crossing point for bats to pass beneath the road and continue to follow the River Mole corridor; and
- Measures to enhance the value of the site for invertebrates will also be of benefit to the local bat species assemblage as providing potential feeding resources.

8.10.125 Within the ecological mitigation strategy for the Phase 1 detailed component, the above bat mitigation elements have been detailed:

8.10.126 The Bat Mitigation Strategy would also include parameters for a sensitive lighting strategy for bats, designed to avoid light spill onto sensitive habitats off-Site but immediately adjacent (such as Hyde Hill Wood to the south of the Site, Ifield Wood to the north-west, The Grove to the west, and Ifield Brook Wood and Meadows LWS to the east) and minimise light spill at new or retained habitats of importance for bats within the Site itself.

8.10.127 The lighting strategy for the Site (WOI-HPA-DOC-LIG-01) would be implemented at the demolition and construction phase, based on details in the OCEMP (ES Volume 2 Technical Appendix 5.1) and Phase 1 OCEMP for the detailed component (10051123-ARC-XXX-ZZ-TR-CM-00001-P02) though its continued use would go through the completed development phase. It would be devised with input from lighting specialists and experienced bat ecologists, following

current guidelines as set out by BCT[84] (or as updated) and adhering to the following parameters:

- Implementation of "dark sky hours", particularly at residential areas at the south of the Site, adjacent to the retained buffer at the Site boundary with Hyde Hill Wood;
- Using low or high-pressure sodium lights or LEDs instead of mercury or metal halide lamps where possible;
- Directing lighting to where needed and avoiding spillage, including the use of hoods, cowls, shields, task lighting or columns fitter with baffles etc. to avoid spillage onto sensitive areas;
- Only lighting areas which need to be lit, and using the minimal level of lighting required to comply with building regulations or standards for pedestrian or driver safety;
- Using where possible movement sensors or timers on security lighting;
- Consideration of use of red light where appropriate; and
- Avoiding the use of lamps greater than 150 W.

8.10.128 Habitat degradation arising due to air / water quality effects will be predominantly addressed by measures within the OCEMP (ES Volume 2 Technical Appendix 5.1) and Phase 1 OCEMP for the detailed component (10051123-ARC-XXX-ZZ-TR-CM-00001).

Completed Development Stage Mitigation

8.10.129 Effects arising due to noise are considered at the relevant chapter of this Environmental Statement (see ES Chapter 12), with mitigation and residual effects provided.

8.10.130 It is considered likely that the substantial amount of habitat retained and created at the north of the Site would act as alternative natural green space for recreational use, and in combination with lack of public access to surrounding woodlands (there are no Public Rights of Way through Ifield Wood or Hyde Hill Wood), adverse effects arising from recreational usage would be avoided.

8.10.131 A significant area of new woodland planting will be created at the south-west corner of the Site, and managed for nature conservation purposes, with Bechstein's bats as the primary target species (although this will also provide habitat for additional bat species known to use the Site and surrounding landscape). A sufficient buffer (35 m) at the south-west boundary of the Site, where residential parcels come into closest proximity with valuable off-Site habitat (i.e., adjacent to Hyde Hill Wood), will mitigate effects from human presence and light spill, at roosts within this woodland.

8.10.132 In addition to the buffer outlined above, woodland or hedgerow planting should be planted at the hard development edge (outside of residential curtilages). Careful consideration with regards building orientation and design layout of residential properties will also reduce light spill in this direction at the point of origin.

8.10.133 Given the presence of tree-dwelling, rarest bat species (Bechstein's bat) using habitat predominantly adjacent to the Site for roosting, it is considered proportionate to provide compensatory roosting habitat for loss of roosting opportunities throughout the Site, in the form of loss of trees with moderate or high potential roosting features. Although confirmed not to be currently used as roosts, these trees and their features provide a potential future opportunity for these populations to expand and increase in number, aiding in the overall aim of maintaining/restoring Favourable Conservation Status (FCS) of the species. Where trees with moderate roosting potential are lost, roosting opportunities will be provided on a 1:0.5 ratio.

[84] Bat Conservation Trust and Institute of Lighting Professionals (2023) GN08/23 Bats and Artificial Lighting at Night (2023) and Bat Conservation Trust (2018) Bats Artificial Lighting in the UK. Guidance Note 08/18

Where trees with high roosting potential are lost, roosting opportunities will be provided on a 1:1 ratio. Bechstein's bats have been recorded using appropriate bat boxes (predominantly domed Schwegler models). Compensatory roosting opportunities would be provided as a combination of appropriate boxes and veteranisation features on retained trees, where appropriate (and considering the long-term health of the trees in question).

8.10.134 Retained habitats at the north of the Site (adjacent to Ifield Wood and the River Mole), within Neighbourhood Parks throughout the Site, and at the new woodland planting and retained habitat buffer at the south of the Site, will be managed appropriately to encourage habitats of value for target species, specifically focusing on Bechstein's bats and their prey species (predominantly noctulid moths). This will include encouraging scrub and tree "shelter belts", creating wind breaks and the required micro-climates, and including larval food species, for the moth prey species on which Bechstein's bats feed.

8.10.135 The success of the implemented lighting strategy would be reviewed and monitored on a regular basis (such as in years three and six post-construction) and may need to be amended if it is found to be ineffective. This could be subject to a planning condition.

Enhancement Measures

8.10.136 In addition to those outlined above required as compensation, creation of new roosting opportunities at new buildings and retained trees throughout the Site would enhance the value of the Site for bat species currently using the foraging and commuting habitats within the Site.

8.10.137 As a variety of species have been recorded using the Site, a variety of enhancement roost features should be provided, including features built into new buildings (such as ridge tiles features, integrated bat boxes or bat lofts) and features on mature retained trees (such as bat boxes and veteranisation features). A variety of bat boxes, including different materials (woodcrete, wood, etc.) and designs (domed, coned, flat, etc.) will provide a variety of different roosting opportunities for different species requirements, with a minimum of 100 provided across the Site. This is a roughly 4:1 ratio with the number of confirmed roosts, buildings with bat potential but not confirmed as roosts and number of trees with moderate and high potential features (including those off-Site, but surrounded by the Site).

Demolition and Construction Residual Effects

8.10.138 With additional mitigation in place, the residual demolition and construction effects would be as a result of short-term foraging habitat loss whilst new habitat is being established, although the phasing of the Proposed Development would mean that at least some suitable habitat would always be available; and short-term fragmentation whilst construction works take place and new habitat is being established.

8.10.139 Whilst there is a lack of maternity roosts of "rarest" bats (Bechstein's, grey long-eared and barbastelle) within the Site, and areas within the Site are not considered likely to be core foraging areas for known maternity roosts of Bechstein's within woodlands adjacent to the Site, areas within the Site are used by juveniles associated with these maternity colonies. It is therefore considered likely that these short-term adverse effects would be significant for these rarest bat species at a Local Level, which is equivalent to a **Minor adverse** effect in EIA terms, which is **not significant**. This is the same for both detailed design components (Phase 1) and outline design elements.

8.10.140 Given the lack of roosts recorded for "rarer or restricted distribution" bat species (Leisler's and serotine), it is considered unlikely that these short-term adverse effects would be significant for these bat species at more than a Site Level, which is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design component and outline design elements.

8.10.141 Given that the Site contains suitable habitat within the CSZ of maternity roosts for a "widespread but with varying regional abundance" bat species (Natterer's), short-term adverse effects would be significant for this species at a Local Level, which is equivalent to a **Minor** adverse effect in EIA terms, which is **not significant**. Short-term adverse effects are not considered to be significant for any of the additional widespread but with varying regional abundance bat species recorded using the Site (for which no maternity roosts have been recorded within the Site) at more than a Site Level, which is equivalent to a **Negligible** effect in EIA terms, which **is not significant**. This is the same for both detailed design component and outline design elements.

8.10.142 Given that the Site contains suitable habitat within the CSZ of maternity roosts for a "widespread in all geographies" bat species (brown long-eared bat), short-term adverse effects would not affect the maintenance of the species' conservation status and longer term effects would be significant for this species at up to the Local Level, which is equivalent to a **Minor** adverse effect in EIA terms, which is **not significant**. Short-term adverse effects are not considered to be significant for any of the additional widespread in all geographies bat species recorded using the Site (for which no maternity roosts have been recorded within the Site) at more than a Site Level, which is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design component and outline design elements.

Completed Development Residual Effects

8.10.143 With additional mitigation in place, the residual completed development effects would be as a result of permanent increase in risk of injury or killing from increased vehicular collisions.

8.10.144 Given the relatively small number of "rarest" bats recorded using the Site (small numbers of Bechstein's, and individual grey long-eared bats and barbastelles only), and the provision of suitable buffers and new habitat providing foraging opportunities at areas away from new roads, it is considered likely that the increased risk of injury or killing from increased vehicular collisions on minor residential roads (with the speed limits proposed) would be **negligible** for these rarest bat species, which is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design components (Phase 1) and outline design elements.

8.10.145 Given the relatively small number of "rarer or restricted distribution" bats recorded using the Site (individual Leisler's and serotines only), it is considered likely that the increased risk of injury or killing from increased vehicular collisions on minor residential roads (with appropriate speed limits) would be **negligible** for these rarer bat species, which is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design components (Phase 1) and outline design elements.

8.10.146 Given that the Site contains suitable habitat within the CSZ of maternity roosts for a "widespread but with varying regional abundance" bat species (Natterer's), it is considered likely that the minor increased risk of injury or killing from increased vehicular collisions on minor residential roads (with the speed limits proposed) would be significant for this species at no more than a Local Level, which is equivalent to a **Minor** adverse effect in EIA terms, which is **not significant**. Increased risk of injury or killing from increased vehicular collisions are not considered to be significant for any of the additional widespread but with varying regional abundance bat species recorded using the Site (for which no maternity roosts have been recorded within the Site) at more than a Site Level, which is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design component and outline design elements.

8.10.147 Given the relatively high number of "common" bats recorded using the Site (specifically large numbers of common pipistrelles, although small numbers of soprano pipistrelles and brown long-eared bats are also present), it is considered likely that the increased risk of injury or killing

of small numbers of individuals from increased vehicular collisions on minor residential roads (with the speed limits proposed) would be **negligible** for these bat species, which is equivalent to a **Negligible** effect in EIA terms, which is **not significant.** This is the same for both detailed design component and outline design elements.

Badgers

8.10.148 A full assessment of effects in relation to badgers is provided in the Confidential Badger Appendix (ES Volume 2 Technical Appendix 8.33).

8.10.149 In summary, for both the Demolition and Construction stage and Completed Development Stage, there would be adverse effects significant at the **Site Level** for badgers, which is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. The mitigation and enhancements are considered within both detailed design components (Phase 1) and outline design elements.

8.10.150 Additional mitigation and enhancement is included within the Confidential Badger Appendix (ES Volume 2 Technical Appendix 8.33). With adoption of mitigation there would be adverse residual effects significant at the **Site Level** for badgers, which is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. The mitigation and enhancements are considered within both detailed design component and outline design elements.

Hazel Dormouse

Demolition and Construction Effects

8.10.151 No evidence of dormice was recorded on the Site. However, It is reasonable to assume that dormice may make occasional use of northern areas of the Site, and they may become more active on the Site in the future. Impacts on dormice which may become present on the Site are likely to be limited to temporary disturbance and loss of small amounts of habitat in the north of the Site during work associated with clearance and construction of the CWMMC and temporary work to enhance habitats in the north of the Site.

8.10.152 As the species is not currently present on the Site, assessment of effects at a geographic level are not appropriate.

Completed Development Effects

8.10.153 Following the completion of the Proposed Development, no significant adverse effects on dormice are considered likely to occur, and there is potential for beneficial effects with new planting consisting of broadleaved woodland and hedgerows providing new habitat and connectivity across the Site, potentially allowing dormice to move into the area in the future.

8.10.154 As the species is not currently present on the Site, assessment of effects at a geographic level are not appropriate.

Additional Mitigation

Demolition and Construction Stage Mitigation

8.10.155 In the event dormice are found to be present on the Site, an appropriate mitigation strategy would be implemented. It may be possible for work to be carried out under a method statement to avoid impacts on dormice. If impacts on dormice cannot be avoided, and they are found to be present on the Site in the future, work may need to proceed under licence from Natural England and in accordance with an appropriate mitigation strategy.

Completed Development Stage Mitigation

8.10.156 No mitigation at the completed development stage is envisaged at this stage based on existing survey data.

Enhancement Measures

8.10.157 Provision of additional habitat including scrub and woodland around the periphery of the Site would be considered enhancement for dormice, if they should become present on the Site in the future.

Demolition and Construction Residual Effects

8.10.158 As the species is not currently present on the Site, assessment of effects at a geographic level are not appropriate. However, with the implementation of an appropriate mitigation strategy, if identified on the site in the future, no significant adverse effects are considered likely to occur.

Completed Development Residual Effects

8.10.159 As the species is not currently present on the Site, assessment of effects at a geographic level are not appropriate. However, with the implementation of an appropriate mitigation strategy, if identified on the site in the future, no significant adverse effects are considered likely to occur.

Otters

Demolition and Construction Effects

8.10.160 As stated in Table 8-2, the range of otters is increasing and there is potential for otters to colonise the Site in the future and be present using the watercourses as part of a wider resource during future demolition and construction phases. Construction effects on otters are likely to be limited to disturbance around the Ifield Brook on the east of the Site and the River Mole in the centre of the Site.

8.10.161 As the species is not currently present on the Site, assessment of effects at a geographic level are not appropriate.

Completed Development Effects

8.10.162 Completed development effects on any otters using the site in the future are likely to be limited to disturbance around the Ifield Brook on the east of the Site and the River Mole in the centre of the Site, although with sufficient buffers around these features, effects would be minimal. Animals colonising the area in the future are likely to be relevantly tolerant to human disturbance. RTA are considered relatively unlikely to happen as river crossings would be clear-span with no culverts or piers, allowing safe passage beneath.

8.10.163 As the species is not currently present on the Site, assessment of effects at a geographic level are not appropriate.

Additional Mitigation

Demolition and Construction Stage Mitigation

8.10.164 Generic construction phase mammal mitigation measures such as the covering of excavations or the provisions of ramps to ensure otters do not get trapped in excavations would be applicable for otters as detailed in the OCEMP (ES Volume 2 Technical Appendix 5.1) and Phase 1 OCEMP for the detailed component (10051123-ARC-XXX-ZZ-TR-CM-00001).

8.10.165 Pre-construction checks for otters would be undertaken along the River Mole prior to any Site clearance or construction phase activities in this area progressing.

8.10.166 Landscape features potentially used by otters such as the River Mole would remain unlit during the construction phase and the watercourse banks would remain accessible for otters and passage beneath the scheme/ bridge structure retained during the construction phase.

8.10.167 The construction phase would ensure the longer-term permanent mitigation such as the provision of clear span structures crossing watercourses and the provision of otter fencing in

strategic locations along the scheme corridor where watercourses interface with the carriageway are effectively implemented for the long-term operational phase.

Completed Development Stage Mitigation

8.10.168 Given that otters are unlikely to be present on the Site at the current time, is expected that no further mitigation is required at the completed development stage and mitigation for effects of lighting on bats described above would equally benefit otters.

Enhancement Measures

8.10.169 No additional otter enhancement measures are proposed.

Demolition and Construction Residual Effects

8.10.170 As the species is not currently present on the Site, assessment of effects at a geographic level are not appropriate. However, with the implementation of an appropriate mitigation strategy, if identified on the Site in the future, **no significant** adverse effects are considered likely to occur.

Completed Development Residual Effects

8.10.171 As the species is not currently present on the Site, assessment of effects at a geographic level are not appropriate. However, with the implementation of an appropriate mitigation strategy, if identified on the site in the future, **no significant** adverse effects are considered likely to occur.

Hedgehog

Demolition and Construction Effects

8.10.172 Hedgehogs are likely to be present on the Site and have been assessed to be of Local Level importance.

8.10.173 Embedded mitigation for the Proposed Development has included avoidance where possible of key habitats, with buffers around them. It has not been possible to avoid development in all areas of suitable habitat. However, enhancement of existing and creation of new habitat would be undertaken. In addition, standard ecological mitigation as detailed in the OCEMP (ES Volume 2 Technical Appendix 5.1) and the Phase 1 OCEMP for the detailed component of the Hybrid Application (10051123-ARC-XXX-ZZ-TR-CM-00001) would reduce the potential effects.

8.10.174 The following demolition and construction impacts and effects on hedgehog have the potential to occur:

- Direct mortality of individuals due to construction vehicle movements, though this would be minimised through embedded mitigation.
- Habitat loss and conversion resulting from the clearance of vegetation for compounds and areas for construction;
- Destruction and degradation of resting places;
- Loss and/or fragmentation of foraging and commuting habitat; and
- Provision of new habitat.

8.10.175 These would result in adverse effects in the short term, significant at up to the Local Level. With the implementation of embedded mitigation including habitat retention, new landscape planting within the main areas of the Proposed Development and new habitats in the north of the Site, in the longer term (once new habitats have established) the effects would be unlikely to be significant beyond the Site Level. This is the equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design component and outline design elements.

Completed Development Effects

8.10.176 The following completed development effects on hedgehog have the potential to occur:

- Increased mortality resulting from RTAs. RTAs are most likely to be an issue along the CWMMC, and minor roads in the south of the Site may pose some risk to hedgehog.
- Increase in the footprint of the built environment with lack of connectivity between areas of suitable habitat and therefore, loss of foraging and sheltering habitat and fragmentation of habitats.
- The northern area of the Site and retained buffers in the south may have some vulnerability to increased recreational use of the Site, leading to human disturbance, pet predation and visitor pressure. It is considered that areas of retained and enhanced habitat is sufficiently large that the increased quality of habitat would continue to provide suitable habitat for hedgehogs.

8.10.177 In the absence of mitigation, during the completed development stage effects on hedgehogs have the potential to occur at up to the Local Level. This is equivalent to a **Minor** adverse effect in EIA terms, which is **not significant**. This is the same for both detailed design component and outline design elements.

Additional Mitigation

Demolition and Construction Stage Mitigation

8.10.178 Construction mitigation would comprise best practice measures such as the covering of excavations or the provisions of ramps to ensure hedgehogs do not get trapped in excavations and the removal of log piles and areas of suitable habitat by hand.

Completed Development Stage Mitigation

8.10.179 As detailed in the Design Code, fencing of gardens and any areas of habitat would include a gap of at least 12 cm at the bottom, or hole of at least 13 cm x 13 cm, to allow the passage of hedgehogs across the Site ('hedgehog highways'). These can include a sign to ensure residents understand their purpose. Provision of new habitat including dense thorny scrub would provide additional habitat suitable for use by hedgehogs. These measures can be secured by a suitably worded planning condition. Sections of dropped kerbs as described above in the amphibian section would also make it easier for hedgehogs to avoid RTAs.

Enhancement Measures

8.10.180 No additional hedgehog enhancement measures are proposed.

Demolition and Construction Residual Effects

8.10.181 With additional mitigation in place, the residual demolition and construction effects on hedgehogs would be unlikely to be significant beyond the Site Level. This is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design components (Phase 1) and outline design elements.

Completed Development Residual Effects

8.10.182 With additional mitigation in place, the residual completed development effects for hedgehogs would be at the Site Level. This is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design components (Phase 1) and outline design elements.

Harvest Mouse

Demolition and Construction Effects

8.10.183 Harvest mice are likely to be present on the Site and have been assessed to be of Local Level importance.

8.10.184 Embedded mitigation for the Proposed Development has included avoidance where possible of key habitats, with buffers around them. It has not been possible to avoid development in all areas of suitable habitat. However, enhancement of existing and creation of new habitat would be undertaken. In addition, standard ecological mitigation as detailed in the OCEMP (ES Volume 2 Technical Appendix 5.1) and the Phase 1 OCEMP for the detailed component of the Hybrid Application (10051123-ARC-XXX-ZZ-TR-CM-00001) would reduce the potential effects.

8.10.185 The following demolition and construction impacts and effects on harvest mouse have the potential to occur:

- Direct mortality of individuals due to construction vehicle movements, though this would be minimised through embedded mitigation.
- Habitat loss and conversion resulting from the clearance of vegetation for compounds and areas for construction;
- Destruction and degradation of resting places;
- Loss and/or fragmentation of foraging and commuting habitat; and
- Provision of new habitat.

8.10.186 These would result in adverse effects in the short term, significant at up to the Local Level. With the implementation of embedded mitigation including habitat retention, new landscape planting within the main areas of the Proposed Development and new habitats in the north of the Site, in the longer term (once new habitats have established) the effects would be unlikely to be significant beyond the Site Level. This is the equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design component and outline design elements.

Completed Development Effects

8.10.187 The following completed development effects on harvest mouse have the potential to occur:

- Increased mortality resulting from RTAs.
- Increase in the footprint of the built environment with lack of connectivity between areas of suitable habitat and therefore, loss of foraging and sheltering habitat and fragmentation of habitats.
- The northern area of the Site and retained buffers in the south may have some vulnerability to increased recreational use of the Site, leading to human disturbance, pet predation and visitor pressure. It is considered that areas of retained and enhanced habitat is sufficiently large that the increased quality of habitat would continue to provide suitable habitat for harvest mouse.

8.10.188 During the completed development stage effects on harvest mice have the potential to occur at up to the Site Level. This is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design components (Phase 1) and outline design elements.

Additional Mitigation

Demolition and Construction Stage Mitigation

8.10.189 No additional mitigation would be required during the demolition and construction stage.

Completed Development Stage Mitigation

8.10.190 No additional mitigation would be required during the demolition and construction stage.

Enhancement Measures

8.10.191 No additional harvest mouse enhancement measures are proposed.

Demolition and Construction Residual Effects

8.10.192 With additional mitigation in place, the residual demolition and construction effects on harvest mice would be unlikely to be significant beyond the Site Level. This is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design components (Phase 1) and outline design elements.

Completed Development Residual Effects

8.10.193 With additional mitigation in place, the residual completed development effects for harvest mice would be at the Site Level. This is equivalent to a **Negligible** effect in EIA terms, which is **not significant**. This is the same for both detailed design component and outline design elements.

8.11 Summary of Residual Effects

8.11.1 Table 8-12 provides a tabulated summary of the outcomes of the ecological assessment of the Proposed Development. These are for both the detailed design component and the outline design elements, unless otherwise stated.

Table 8-12: Summary of Residual Ecological Effects

Receptor	Description of Residual Effect	Additional Mitigation	Significance of Residual Effect at Geographic scale	EIA Scale and Significance of Residual Effect **	Nature of Residual Effect*				
					+ -	D I	P T	R IR	St Mt Lt
Demolition and Construction									
Designated Sites	Potential for pollution effects, reduced through implementation of OCEMP	None	Negligible	Negligible (not significant)	-	I	T	R	St
Habitats	Loss of and degradation of habitat, enhancement of existing habitats, creation of new habitat.	None	National Level (veteran tree, detailed design component); Local Level (longer term, exception of veteran tree, both detailed design and	Major - veteran tree (significant) Minor (not significant)	-	D	P	IR	Mt

Table 8-12: Summary of Residual Ecological Effects									
			outline design elements)						
Invertebrates	Mortality, loss, fragmentation and degradation of habitat, pollution.	Creation and management of existing and new habitats	Local Level (short term); Site Level (longer term).	Minor/Negligible (not significant)	-	D	T	IR	St/Lt
Amphibians	Mortality, loss, fragmentation and degradation of habitat.	Amphibian mitigation strategy which may include translocation and work under licence. Creation of new habitat.	Site Level (short term)	Negligible (not significant)	-	D	P	IR	St
Reptiles	Mortality, loss, fragmentation and degradation of habitat.	Reptile mitigation strategy, including translocation where appropriate and provision of new habitat.	Site Level (short term)	Negligible (not significant)	-	D	P	IR	St
Birds	Loss, fragmentation and degradation of habitat.	Creation and management of existing and new habitats.	Site Level (short term); Not significant (long term and WCA S1 species)	Negligible (not significant)	-	D	T	IR	St
Bats	Foraging habitat loss, fragmentation of habitats.	Alternative roosting provision provided with bat boxes. Work to be undertaken in accordance with mitigation licence from Natural England where appropriate, and in accordance with a bat mitigation strategy.	Local Level (Rarest Bats); Site Level (Rarer Bats); Local Level (Widespread and Widespresad but with varying regional abundance Bats);	Minor / Negligible (not significant)	-	D	P	IR	St
Badgers	Habitat loss and degradation.	Work to be undertaken in accordance with a mitigation strategy and under licence.	Site Level	Negligible (not significant)	-	D	P	IR	St

Table 8-12: Summary of Residual Ecological Effects									
Hazel Dormouse	Mortality, loss, fragmentation and degradation of habitat.	Updates surveys, mitigation strategy if needed	N/A – species not currently present on Site	N/A					
Otters	Mortality, loss, fragmentation and degradation of habitat.	Covering excavations, watercourse mitigation.	N/A - species not present on Site	N/A					
Hedgehog	Mortality, loss, fragmentation and degradation of habitat.	Covering excavations and holes, creating holes in fencing to allow hedgehog passage.	Site Level	Negligible (not significant)	-	D	P	IR	St
Harvest Mouse	Mortality, loss, fragmentation and degradation of habitat.	None	Site Level	Negligible (not significant)	-	D	P	IR	St
Completed Development									
Designated Sites	Increased visitor pressure.	None	Site Level	Negligible (not significant)	-	D	P	IR	Lt
Habitats	Habitat degradation and pollution, habitat creation and enhancement.	Habitat Management.	Negligible	Negligible (not significant)	+	D	P	IR	Lt
Invertebrates	Habitat degradation and pollution.	Habitat Management.	Site Level	Negligible (not significant)	-	D	P	IR	Lt
Amphibians	Mortality, disturbance and habitat degradation of retained habitats, depending on mitigation strategy undertaken.	Buffer areas and new habitat features including hibernacula, to be described in GCN Mitigation Strategy.	Site Level	Negligible (not significant)	-	D	P	IR	Lt
Reptiles	Mortality, disturbance and habitat degradation, not effecting the whole reptile population.	Buffer areas and new habitat features including hibernacula, to be described in Reptile Mitigation Strategy.	Site Level	Negligible (not significant)	-	D	P	IR	Lt

Table 8-12: Summary of Residual Ecological Effects									
Birds	Risk of mortality from predation, increase in disturbance.	Habitat management and enhancement, public education and awareness.	Site Level (general bird species - outline elements); None (general bird species – detailed design elements and WCA S1 species detailed design and outline design elements)	Negligible (not significant)	-	D	P	IR	Lt
Bats	Risk of mortality from vehicle collisions, increase in disturbance.	Lighting strategy, additional roost features, additional buffer planting.	Negligible (Rarest Bats); Negligible (Rarer bats); Local Level (Widespread but with varying abundance); Negligible (Widespread)	Minor / Negligible (not significant)	-	D	P	IR	Lt
Badgers	Risk of mortality from vehicle collisions.	None	Site Level	Negligible (not significant)	-	D	P	IR	Lt
Hazel Dormouse	Mortality, disturbance and habitat degradation of retained habitats, depending on mitigation strategy undertaken.	Mitigation Strategy	N/A - species not currently present on Site	N/A					
Otters	Mortality, disturbance and habitat degradation of retained habitats.	None	N/A – species not currently present on Site	N/A					
Hedgehog	Risk of mortality from road collisions, and habitat degradation.	None	Site Level	Negligible (not significant)	-	D	P	IR	Lt
Harvest Mouse	MortailityMortality, and habitat degradation.	None	Site Level	Negligible (not significant)	-	D	P	IR	Lt

Table 8-12: Summary of Residual Ecological Effects
Notes: * - = Adverse/ + = Beneficial/ +/- Neutral; D = Direct/ I = Indirect; P = Permanent/ T = Temporary; R=Reversible/ IR= Irreversible; St- Short term/ Mt –Medium term/ Lt –Long term. **Negligible/Minor/Moderate/Major

8.12 Cumulative Effects

Intra-Project Effects

8.12.1 As explained in ES Volume 1 Chapter 2: EIA Process and ES Methodology, intra-project cumulative effects are discussed in ES Volume 1 Chapter 16: Cumulative Effects.

Cumulative Effects

8.12.2 This section considers the potential for cumulative effects on ecological features from those proposed, applied, under construction and consented schemes closest to the study area by first describing the known conditions on each of those sites and then summarising the cumulative effect with the Proposed Development. Table 8-13 shows the cumulative developments that could result in cumulative effects on ecological features in combination with the Proposed Development. These cumulative developments occur within 2 km and are in the same zone of influence as the Proposed Development, with the exception of Land North of Horsham, which is over 4km away, but has the potential to impact bat populations potentially also using the Site.

8.12.3 Of those within 2 km of the Site, the Gatwick Airport Northern Runway expansion, which is approximately 1 km from the Site, has the potential to result in cumulative effects. The Planning Inspectorate, on behalf of the Secretary of State, accepted the application for Development Consent Order on 3rd August 2023 and issued a "Minded to Approve" letter in February 2025. The proposed airport expansion boundary area is largely dominated by existing hardstanding and hard infrastructure. Surveys for Bechstein's bats have been undertaken as part of the assessment, and there is potential for effects on this and other bat species. The River Mole is culverted beneath the existing airport, and there is also potential for cumulative effects on this feature and species associated with it. The remaining ecological features are considered unlikely to be subject to cumulative effects due to the distance from the Site and the limited sensitivity of the features. Cumulative effects on Bechstein's are considered unlikely, assuming that appropriate mitigation is undertaken for the Proposed Development and the Gatwick scheme and given limited interaction identified between the two populations (Bechstein's bats using the Gatwick Airport Site have been identified to be part of a population considered most likely to be centred around higher value habitat to the west of Gatwick[85]). Bechstein's bats making use of the Site are individual animals forming part of a wider population in the local area. Cumulative effects on the assemblage of bats as a whole have the potential to occur, particularly for foraging bats which may make use of both the Site and the Gatwick scheme at the demolition and construction and stage. Appropriate mitigation would be implemented for foraging bats for both developments, and vegetation clearance and planting of new vegetation at the Proposed Development would be undertaken on a phased basis and not all at the same time. There remains the potential for short-term adverse residual cumulative effects to occur whilst new habitats develop at both sites. This would be significant at up to the Local Level, which is equivalent to a **Minor** adverse effect in EIA terms, which is **not significant**. Assuming appropriate mitigation for direct and indirect effects on the River Mole are implemented for both the Proposed Development and the Gatwick Airport scheme, including for the species

[85] Gatwick Airport (2021) Preliminary Environmental Information Report Chapter 9: Ecology and Nature Conservation https://www.gatwickairport.com/globalassets/company/future-plans/northern-runway/2021/peir/vol1/peir-chapter-9-ecology-and-nature-conservation.pdf accessed 13/06/2023

utilising the river corridor, cumulative effects on this ecological receptor are also considered to be unlikely.

Table 8-13: Inter-Project Cumulative Effects

Cumulative Development	Demolition and Construction		Completed Development	
	Cumulative Effects Likely?	Reason	Cumulative Effects Likely?	Reason
Gatwick Airport	Yes	See above paragraph– Minor in EIA terms	No	See above paragraph
Breezehurst Drive (CR/2020/0192/RG3)	No	Suburban location with limited ecological importance. Sufficient ecological mitigation committed to as part of the development. No bat roosts present within the site.	No	As per comments for demolition and construction stage.
Kilnwood Vale (DC/10/1612)	No	Potential for some cumulative effects, as this is within 2 km to the south of the Site, and involves development adjacent to woodland which may be used by Bechstein's bats. No mitigation for this species has been identified for the development, which is being built. However, as sufficient mitigation for Bechstein's within the Site is being implemented, it is not considered that cumulative effects beyond the individual effects of both developments would occur.	No	As per comments for demolition and construction stage.
Reserved Land – Kilnwood Vale (DC/17/2481)	No	As above.	No	As above.
Land North of Horsham (DC/16/1677)	No	Potential for some cumulative effects, as this project involves development adjacent to woodland which may be used by Bechstein's bats. However, this is over 4 km from the Site, and as sufficient mitigation for Bechstein's within the Site is being implemented, it is not considered that cumulative effects beyond the individual effects of both developments would occur.	No	As per comments for demolition and construction stage.

8.12.4 Other developments within 2-5 km of the Site are considered to be sufficiently distant, and of a size and nature, that they would not be expected to result in cumulative effects beyond those assessed and mitigated within the individual developments.

8.13 Summary of Assessment

Background

8.13.1 This chapter has detailed the potential Biodiversity effects due to the demolition and construction and completed development stages of the Proposed Development. The

assessment of demolition and construction and completed development stages has been undertaken taking into account the relevant national and local guidance and regulations. Importance levels of ecological features are presented using the CIEEM geographic scale.

8.13.2 The designated sites within 2 km of the Site have varying ranges of ecological importance from **Local** to **National Level**.

8.13.3 The habitats on Site provide a varying level of ecological importance from **Negligible** to **National**, with the following habitats of **National Level** importance: Ancient Woodland and veteran trees.

8.13.4 Invertebrate assemblages are considered to be of **Regional Level** importance at the Site as it has the habitat to support a large number of rare and nationally scarce invertebrate species.

8.13.5 Great crested newt (GCN) are considered to be of **Local** importance at the Site. GCN were found in eight ponds within 500 m of the Site. Five of these ponds were breeding ponds for GCN. The Site also provides suitable terrestrial habitats for GCN including hedgerows, woodland and scrub. Other amphibian species are of **Site Level** importance.

8.13.6 Reptile assemblages are of **County Level** importance at the Golf Course and **Local Level** importance for the remainder of the Site. At the Golf Course, three species of reptiles were recorded (grass snake, slow worm and common lizard).

8.13.7 Breeding and wintering birds, including Wildlife and Countryside Act Schedule 1 species barn owl, kingfisher and red kite at the Site are considered to be up to **Local Level** importance.

8.13.8 Bats using the Site as considered to be of **County Level** importance for widespread bat species (common pipistrelle, soprano pipistrelle and brown long-eared), **County Level** importance for widespread but with varying regional abundance bats (Myotis other than Bechstein's bat), **County Level** importance for rarer bat species (noctule, serotine and Leisler's) and **Regional Level** importance for rarest bat species (grey long-eared, Bechstein's and barbastelle).

8.13.9 Badgers are considered to be of **Site Level** importance at the Site. They are considered further within the Confidential Badger Report (ES Volume 2 Technical Appendix 8.34).

8.13.10 Hazel dormice and otter have not been confirmed as using the Site, but may become present in the future.

8.13.11 Hedgehogs and harvest mice are considered to be of **Local Level** importance.

Demolition and Construction Effects

8.13.12 During demolition and construction works, effects on biodiversity are likely to arise as a result of loss of habitat, construction traffic movement, disturbance and pollution.

8.13.13 This would result in a major effect on habitats (specifically one veteran tree), which would occur as part of the detailed Phase 1 design component, and minor effects on other habitats, bats, birds and invertebrates in the short term, with negligible effects for other receptors for both detailed design component and outline design elements.

8.13.14 Appropriate additional mitigation is described for all receptors.

8.13.15 Overall, it is considered that the demolition of the existing site and construction of the Proposed Development would result in an adverse effect on biodiversity and identified receptors, and as such would give rise to short term significant effects on biodiversity.

Completed Development Effects

8.13.16 Following completion of the development, effects on biodiversity are likely to arise as a result of increased disturbance and visitor pressure, loss of habitat connectivity, and road traffic accidents.

8.13.17 This would result in minor effects for bats and negligible effects for all other ecological receptors. This is the same for both detailed design component and outline design elements.

8.13.18 Appropriate additional mitigation is described for all receptors.

8.13.19 Overall, it is considered that the completed Proposed Development would result in a negative effect on some sensitive biodiversity receptors, though there are also positive effects on less sensitive receptors and a biodiversity net gain in habitats can be made, and as such the Proposed Development would give rise to significant effects on biodiversity.

Cumulative Effects

8.13.20 Cumulative effects are not considered likely to be significant for biodiversity beyond short term adverse effects on foraging bats whilst new habitats are establishing.

8.13.21 In conclusion, with the implementation of appropriate mitigation, the demolition and construction and completed development stages of the Proposed Development would result in adverse effects on biodiversity and identified receptors, and would give rise to negative effects on some biodiversity receptors, with positive effects on less sensitive receptors and a biodiversity net gain in habitats.