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## 12 ECOLOGY & BIODIVERSITY

### 12.1 Introduction

12.1.1 This chapter of the Environmental Statement (ES) has been prepared by Ecology Solutions, and is based on the equivalent chapter prepared by Wardell Armstrong LLP and E3 Ecology to accompany the previous application in March 2020. This chapter assesses the likely significant effects of the development proposals on the ecology and biodiversity of the site and locality, describing the baseline conditions, the effects of the proposed development on them, the measures required to avoid, mitigate or compensate for any significant adverse effects and the likely residual effects after these measures have been adopted.

12.1.2 The effects of developing the site were set out in the March 2020 ES, and it is the purpose of this chapter to review and update the ecological baseline (as necessary) to confirm the findings of that assessment with respect to the new application proposals, and to identify and assess significant effects (where appropriate).

12.1.3 The chapter should be read in conjunction with the Chapters 1 to 5 of this ES, as well as Chapter 17 'Cumulative Effects' and the final chapter, 'Summary of Residual Effects' (Chapter 18). Regard has been had to the landscape strategy for the proposed development, included in Chapter 3.

12.1.4 The chapter is supported by the following technical appendices:

- Appendix 12.1 Ecological Appraisal, IAMP ONE Phase Two, E3 Ecology Ltd, February 2020.
- Appendix 12.2 West Moor Farm Ecological Impact Assessment Bat and Barn Owl Report, DWS Ecology, April 2021.
- Appendix 12.3 Interim Bat Survey Report, Ecology Solutions, June 2021.
- Appendix 12.4 Wintering Birds Survey, Final Report, IAMP, Durham Wildlife Services, May 2019.
- Appendix 12.5 Breeding Birds Survey Report, Ecology Solutions, June 2021.
- Appendix 12.6 Biodiversity Net Gain Assessment, Ecology Solutions, June 2021.

12.1.5 The site location is shown on Figure 12.1 and the distribution of habitats shown on Figure 12.2. Statutory and non-statutory designations in proximity to the site are shown on Figure 12.1, while the wider context of statutory designations (including those referred to by the Air Quality Assessment) is shown on Figure 12.3, which

comprises a map obtained from the MAIC website. Full details of the proposed development and development parameters for assessment are included in Chapters 1 and 3 of this ES.

## 12.2 Consultation and scope of the assessment

12.2.1 Owing to the confidential nature of this project, consultation on the scope of the environmental impact assessment (EIA) update has been limited. It is noted that the earlier ES prepared in March 2020 was informed by consultation with Sunderland City Council (SCC), and that this was to include an update on the potential presence of bats and barn owl *Tyto alba* within the West Moor Farm buildings (proposed for demolition as part of the development of the IAMP ONE area). The assessment was also to include consideration of Biodiversity Net Gain, following adoption of the Sunderland City Council Core Strategy and Development Plan (CSDP) (2015 to 2033).

12.2.2 This current assessment essentially follows the model of the previous approach. An updated walkover survey has been completed to inform the assessment, and reference is made to surveys and reports completed since March 2020 as well as to earlier work where this remains relevant. Regard is had to the interest of the wider IAMP site with respect to cumulative effects.

## 12.3 Assessment methodology and significance criteria

### *Scope of the assessment*

12.3.1 The scope of the assessment is limited to the habitats and species within the site and those in the immediate locality. Regard is had to designated sites in the vicinity, within the zone of influence of the proposed development, in particular with respect to air quality effects.

### *Extent of the study area*

12.3.2 The extent of the general study area is shown on Figure 12.1. Regard is had to the wider IAMP site and to designated sites within the zone of influence of the proposed development.

### *Consultation and desk study*

12.3.3 A desk study has been completed to inform the assessment, including:

- Environmental Records Information Centre North East (ERIC NE).
- Multi-Agency Geographic Information for the Countryside (MAGIC) website.

- Existing survey and monitoring reports for the wider IAMP site completed by various parties.

### ***Site surveys***

- 12.3.4 A full review of the earlier survey work completed at the site was undertaken as part of this assessment. A significant body of evidence was already in place from work completed to inform previous assessments, not least the March 2020 ES and application.
- 12.3.5 The distribution of habitats within the site was defined in the Ecological Appraisal completed by E3 Ecology, which is included at Appendix 12.1. To complement this, walkover surveys were undertaken in April and May 2021 to check the status and distribution of habitats and to establish whether any new opportunities for protected or notable species had become established.
- 12.3.6 A specific assessment of bats and barn owls at the West Moor Farm complex was completed by DWS Ecology, the details of which are included at Appendix 12.2. A programme of updated bat surveys is underway across the site, but owing to unsuitable weather conditions throughout much of the early season in 2021, a single survey has been completed to date. Details of this are included at Appendix 12.3. Further surveys are to be completed over the remainder of the survey season. The report at Appendix 12.3 reviews the significant body of earlier work undertaken at the site and wider IAMP area, and given the nature of the habitats present and the fact they have not changed significantly since this earlier work was completed, there is no reason to suggest that the further survey updates to be completed in 2021 will deliver results that are significantly different to those already obtained.
- 12.3.7 The most recent round of wintering birds surveys was completed by DWS Ecology and reported in May 2019; this is included at Appendix 12.4. Ecology Solutions completed a series of breeding birds surveys in spring and earlier summer 2021, the results of which are included at Appendix 12.5. This report also reviews the earlier survey work completed at the site and environs.

### ***Assessment methodology***

- 12.3.8 The assessment methodology for this chapter follows that established and agreed for the March 2020 ES. The approach is reiterated below.

12.3.9 The approach taken to assess ecological effects has regard to the guidance document produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2018). These guidelines set out the process for assessment and include the following stages:

- Describing the ecological baseline through survey and desk study.
- Assigning a value to key ecological resources - these are the sites, habitats and species of highest ecological value.
- Identifying and characterising the potential effects on these ecological resources based on the nature of construction, operation and decommissioning activities associated with the proposed development.
- Describing any mitigation, compensation and/or enhancement measures associated with the development and assessing residual significance.
- Identification of any monitoring requirements.

12.3.10 The magnitude of effects is predicted quantitatively, where possible. The assessment also takes into account whether the effect is beneficial or adverse, short-term (for example only during construction) or long-term (throughout the lifetime of the development), reversible or permanent. The degree of confidence in the assessment is provided where relevant.

12.3.11 The significance of predicted environmental effects is determined through an assessment of the magnitude and likelihood of change arising from the development, coupled with the sensitivity of the ecological resource affected. Impacts can be either beneficial or adverse.

*Value / importance of ecological resources*

12.3.12 The following levels of value / importance can be applied to the ecological resources of an area:

- International:
  - An internationally designated site or candidate site.
  - A viable area of a habitat type listed in Annex I of the Habitats Directive, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole.
  - Any regularly occurring population of an internationally important species, which is threatened or rare in the UK.

- Any regularly occurring, nationally significant population/number of any internationally important species.
- National:
  - A nationally designated site;
  - A viable area of a priority habitat identified in the former UK BAP, or smaller areas of such habitat, which are essential to maintain the viability of a larger whole.
  - Any regularly occurring population of a nationally important species, which is threatened or rare in the region or county.
  - A regularly occurring regionally or county significant population/number of any nationally important species.
  - A feature identified as of critical importance in the (former) UK BAP.
- Regional:
  - A regionally designated site.
  - A viable area of a priority habitat identified in the former UK BAP which is important in maintaining the viability of a larger whole.
  - A regularly occurring population of a regionally important species, which is at below optimum levels.
  - A feature identified as important in the (former) UK BAP.
- County:
  - A site designated at County level.
  - A viable area of a habitat of importance at the County level.
  - A regularly occurring population of a regionally important species, which is at near optimum levels.
  - A feature identified as important in any local BAP.
- Local (e.g. district, borough, parish or other):
  - A site designated at local level.
  - A viable area of a habitat of importance at the local level.
  - A regularly occurring population of a species common at the local level.
  - A feature identified as locally important in any local BAP.

*Sensitivity of the receptor / resource*

12.3.13 Sensitivity of the ecological receptor / resource is classified with reference to the value levels set out above and is typically identified as:

- **High** - The ecological resource is of International or national importance / value.
- **Medium** - The ecological resource is of regional, county or district importance / value.
- **Low** - The ecological resource is of parish or other local / lower importance / value.

12.3.14 Sensitivity can be adjusted to have regard for the vulnerability of the ecological resource or receptor to the specific impact and its ability to be tolerant to change of the nature predicted. For example, a barn owl breeding site (an ecological resource of District importance) would not necessarily be vulnerable to short-term disturbance of a nesting site during the winter months. In such an instance, sensitivity would be downgraded.

*Magnitude of effect*

12.3.15 The magnitude of an effect (i.e. change) references aspects such as the size of area affected, the quantity or amount of change (e.g. habitat loss), intensity and volume (e.g. percentage decline in a species population). Aspects such as the timing and frequency or duration of an effect and its reversibility are also relevant considerations when assessing potentially significant adverse effects.

12.3.16 The criteria used in determining the magnitude of effect / change are:

- **Major** - Total loss or major / substantial alteration to key elements or features of the baseline (pre-development) conditions such that the post-development character / composition / attributes will be fundamentally changed.
- **Moderate** - Loss or alteration to one or more key elements or features of the baseline conditions such that post-development character / composition / attributes of the baseline will be materially changed.
- **Minor** - A minor shift away from baseline conditions. Change arising from the loss / alteration will be discernible/detectable but not material. The underlying character / composition / attributes of the baseline condition will be similar to the pre-development circumstances / situation.
- **Negligible** - Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

*Significance criteria*

12.3.17 The level of an environmental effect (and whether it is Significant or Not Significant in EIA terms) is determined through the consideration of sensitivity and magnitude . The assessment is undertaken using a matrix (Table 12.1, below), noting that the preferred approach set out in the CIEEM guidance is to avoid the use of matrices (albeit that the guidance notes that these can be used to provide consistency across ES topics).

<b>Table 12.1: Effect Significance Matrix</b>			
	<b>Sensitivity</b>		
<b>Magnitude</b>	<b>High</b>	<b>Moderate</b>	<b>Low</b>
<b>Major</b>	Major Adverse / Beneficial	Major-Moderate Adverse / Beneficial	Moderate-Minor Adverse / Beneficial
<b>Moderate</b>	Major-Moderate Adverse / Beneficial	Moderate Adverse / Beneficial	Minor Adverse / Beneficial
<b>Minor</b>	Moderate-Minor Adverse / Beneficial	Minor Adverse / Beneficial	Minor-Negligible
<b>Negligible</b>	Negligible	Negligible	Negligible

**12.4 Legislation, policy and guidance**

12.4.1 Relevant legislation, policy and guidance are set out, below.

***Legislative framework***

12.4.2 The following legislation is relevant to this assessment:

- The Conservation of Habitats and Species Regulations 2017 (as amended).
- The Wildlife and Countryside Act 1981 (as amended).
- Natural Environment and Rural Communities (NERC) Act 2006.
- The Protection of Badgers Act 1992.
- The Hedgerows Regulations 1997.

***Planning policy***

***National Planning Policy Framework (2019)***

12.4.3 Guidance on national policy for biodiversity and geological conservation is provided by the National Planning Policy Framework (NPPF), published in March 2012, revised on 24 July 2018, 19 February 2019 and again on 20 July 2021. It is noted that the



NPPF continues to refer to further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system provided by Circular 06/05 (DEFRA / ODPM, 2005) accompanying the now-defunct Planning Policy Statement 9 (PPS9).

- 12.4.4 The key element of the NPPF is that there should be “a presumption in favour of sustainable development” (paragraphs 10 to 11). It is important to note that this presumption “does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site” (paragraph 182). ‘Habitats site’ has the same meaning as the term ‘European site’ as used in the Habitats Regulations 2017.
- 12.4.5 Hence, the direction of Government policy is clear. That is, the presumption in favour of sustainable development is to apply in circumstances where there is potential for an effect on a European site, if it has been shown that there will be no adverse effect on that designated site as a result of the development in prospect.
- 12.4.6 A number of policies in the NPPF are comparable to those in PPS9, including reference to minimisation of impacts to biodiversity and provision of net gains to biodiversity where possible (paragraph 174).
- 12.4.7 The NPPF also considers the strategic approach that Local Authorities should adopt with regard to the protection, maintenance and enhancement of green infrastructure, priority habitats and ecological networks, and the recovery of priority species.
- 12.4.8 Paragraphs 179 to 181 of the NPPF comprise a number of principles that Local Authorities should apply, including encouraging opportunities to incorporate biodiversity in and around developments; provision for refusal of planning applications if significant harm cannot be avoided, mitigated or compensated for; applying the protection given to European sites to potential Special Protected Areas (SPA), possible Special Areas of Conservation (SAC), listed or proposed Ramsar sites and sites identified (or required) as compensatory measures for adverse effects on European sites; and the provision for the refusal for developments resulting in the loss or deterioration of ‘irreplaceable’ habitats – unless there are ‘wholly exceptional reasons’ (for instance, infrastructure projects where the public benefit would clearly

outweigh the loss or deterioration of habitat) and a suitable compensation strategy exists.

12.4.9 National policy therefore implicitly recognises the importance of biodiversity and that with sensitive planning and design, development and conservation of the natural heritage can co-exist and benefits can, in certain circumstances, be obtained.

***Local Planning Policy – Sunderland City Council***

***International Advanced Manufacturing Park (IAMP) Area Action Plan (AAP) 2017***

12.4.10 The IAMP AAP forms part of the local development plan, and policies EN2 and EN3 are relevant to ecology and nature conservation.

12.4.11 Policy EN2: Ecology states:

- a) *To protect and enhance biodiversity, development must:*
- i) *avoid, minimise and mitigate or compensate any adverse impacts on biodiversity and provide net gains where possible;*
  - ii) *maintain and enhance the River Don as a functional wildlife corridor, through improvements to its water quality and geomorphology, and through the implementation of an ecological buffer along the River Don corridor and around Local Wildlife Sites (with the exception of the new bridge crossing);*
  - iii) *design swales and Sustainable Drainage Systems (SuDS) to take account of additional wildlife benefits;*
  - iv) *restrict or minimise public access to areas of ecological sensitivity;*
  - v) *create ecological links between retained and new habitat areas within and beyond the IAMP AAP area; and*
  - vi) *secure through requirements in a DCO or planning conditions and/or planning obligations, provision for the maintenance and monitoring of appropriate mitigation and or compensation measures.*
- b) *To support proposed development an Ecological Impact Assessment must be included as part of the Environmental Impact Assessment. This is required to ensure potential impacts are prevented or mitigated and / or compensated where mitigation is not feasible. Ecological mitigation measures must be designed in conjunction with landscape and drainage specialists (where applicable), to maximise the ecological value of landscape planting and drainage features. Proposals must include an appropriate long-term Management and Maintenance Plan that will ensure long-term ecological value is maintained.*
- c) *The designated Ecological and Landscape Mitigation Area, as shown on the Policies Map, will provide the focus for necessary ecological mitigation and compensation measures.*

12.4.12 The supporting text (paras. 145-153) reinforces and expands on the reasoning for this policy.

12.4.13 Policy EN3: Green Infrastructure states:

- a) *To provide green and open spaces for recreational use, development must:*
- i) *incorporate a minimum 50 m wide buffer from the riverbanks on both sides along the River Don (to maintain a total minimum 100 m wide corridor), linking with the wider Green Infrastructure corridor to the east and west beyond the Plan boundary, and allow recreational access within this buffer where there is a low risk of harm to ecological receptors;*
  - ii) *retain and enhance existing mature trees, woodland and hedges around the edges of the development, along the River Don, and east of Elliscope Farm;*
  - iii) *create green linkages along main roads through the provision of tree-lined streets and landscaped areas of public rights of way; and*
  - iv) *Incorporate informal open spaces within the IAMP AAP boundary to provide recreational and wildlife benefits and green links between habitats.*

12.4.14 Supporting text at paras. 154-156 also expands on the reasoning behind this policy.

#### *Core Strategy and Development Plan 2015-2033*

12.4.15 Policy NE1 Green and blue infrastructure is as follows:

1. *To maintain and improve the Green Infrastructure Network through enhancing, creating and managing multifunctional greenspaces and bluespaces that are well connected to each other and the wider countryside, development should:*
  - i) *incorporate existing and/or new green infrastructure features within their design and to improve accessibility to the surrounding area;*
  - ii) *address corridor gaps and areas of corridor weakness where feasible;*
  - iii) *support the management of existing wildlife corridors, including reconnecting vulnerable and priority habitats (see policy NE2);*
  - iv) *apply climate change mitigation and adaptation measures, including flood risk and watercourse management;*
  - v) *link walking and cycling routes to and through the corridors, where appropriate;*
  - vi) *include and/or enhance formal and natural greenspace and bluespace provision;*
  - vii) *protect and enhance landscape character;*
  - viii) *have regard to the requirements of the Green Infrastructure Delivery Plan and make contributions proportionate to their scale towards the establishment, enhancement and on-going management; and*
  - ix) *protect, enhance and restore watercourses, ponds, lakes and water dependent habitats.*

2. *Development that would sever or significantly reduce green infrastructure will not normally be permitted unless the need for and benefits of the development demonstrably outweigh any adverse impacts and suitable mitigation and/or compensation is provided.*

#### 12.4.16 Policy NE2 Biodiversity and geodiversity states:

1. *Where appropriate, development must demonstrate how it will:*
  - i) *provide net gains in biodiversity; and*
  - ii) *avoid (through locating on an alternative site with less harmful impacts) or minimise adverse impacts on biodiversity and geodiversity in accordance with the mitigation hierarchy.*
2. *Development that would have an impact on the integrity of European designated sites that cannot be avoided or adequately mitigated will not be permitted other than in exceptional circumstances. These circumstances will only apply where there are:*
  - i) *no suitable alternatives;*
  - ii) *imperative reasons of overriding public interest;*
  - iii) *necessary compensatory provision can be secured to ensure that the overall coherence of the Natura 2000 network of European sites is protected; and*
  - iv) *development will only be permitted where the council is satisfied that any necessary mitigation is included such that, in combination with other development, there will be no significant effects on the integrity of European Nature Conservation Sites.*
3. *Development that would adversely affect a Site of Special Scientific Interest, either directly or indirectly, will be required to demonstrate that the reasons for the development, including the lack of an alternative solution, clearly outweigh the nature conservation value of the site and the national policy to safeguard the national network of such sites.*
4. *Development that would adversely affect a Local Wildlife Site or Local Geological Site, either directly or indirectly, will demonstrate that:*
  - i) *there are no reasonable alternatives; and*
  - ii) *the case for development clearly outweighs the need to safeguard the intrinsic value of the site.*
5. *Development that would adversely affect the ecological, recreational and / or educational value of a Local Nature Reserve that will demonstrate:*
  - i) *that there are no reasonable alternatives; and*
  - ii) *the case for development clearly outweighs the need to safeguard the ecological, recreational and/or educational value of the site.*
6. *Development that would have a significant adverse impact on the value and integrity of a wildlife corridor will only be permitted where suitable replacement land or other mitigation is provided to retain the value and integrity of the corridor.*

12.4.17 It is noted that the requirement at Section 1 is simply to provide net gains, rather than a reference to a specific threshold. The emerging Environment Act, as drafted, requires a net gain of 10%.

12.4.18 Policy NE3 Woodlands / hedgerows and trees states:

*To conserve significant trees, woodlands and hedgerows, development should:*

1. *follow the principles below to guide the design of development where effects to ancient woodland, veteran / aged trees and their immediate surroundings have been identified:*
  - i) *avoid harm;*
  - ii) *provide unequivocal evidence of need and benefits of proposed development;*
  - iii) *provide biodiversity net gain;*
  - iv) *establish likelihood and type of any impacts;*
  - v) *implement appropriate and adequate mitigation and compensation;*
  - vi) *provide adequate buffers; and*
  - vii) *provide adequate evidence to support proposals;*
2. *retain, protect and improve woodland, trees subject to Tree Preservation Orders (TPOs), trees within conservation areas, and 'important' hedgerows as defined by the Hedgerows Regulations 1997;*
3. *give consideration to trees and hedgerows both on individual merit as well as their contribution to amenity and interaction as part of a group within the broader landscape setting; and*
4. *ensure that where trees, woodlands and hedgerows are impacted negatively by proposed development, justification, mitigation, compensation and maintenance measures are provided in a detailed management plan.*

12.4.19 It is noted that the policy again refers to biodiversity net gain.

12.4.20 Policy NE4 Greenspace is inter alia concerned with access to open space, and relevant in part to nature conservation issues, as follows:

*The council will protect, conserve and enhance the quality, community value, function and accessibility of greenspace and wider green infrastructure, especially in areas of deficiency identified in the council's Greenspace Audit and Report by:*

...

4. *refusing development on greenspaces which would have an adverse effect on its amenity, recreational or nature conservation value unless it can be demonstrated that:*
  - i) *the proposal is accompanied by an assessment that clearly demonstrates that the provision is surplus to requirements; or*

- ii) *a replacement facility which is at least equivalent in terms of usefulness, attractiveness, quality and accessibility, and where of an appropriate quantity, to existing and future users is provided by the developer on another site agreed with the council prior to development commencing; or*
- iii) *replacement on another site is neither practicable or possible an agreed contribution is made by the developer to the council for new provision or the improvement of existing greenspace or outdoor sport and recreation facilities and its maintenance within an appropriate distance from the site or within the site.*

*The impact of development on greenspace provision will need to be considered on a case-by-case basis in terms of its potential impact on Natura 2000 (N2K) sites.*

### ***Draft Sunderland Allocations and Designations Plan (December 2020)***

- 12.4.21 The draft Sunderland Allocations and Designations Plan includes a series of policies on the natural environment. These policies are brief, and in the main refer to the Policies Map.
- 12.4.22 Policy NE13 Regionally and Locally protected Wildlife and Geodiversity sites notes that such sites are designated as locally protected sites. Policy NE14 Wildlife Network states that land designated as part of this network is shown on the Policies Map. Similarly, land designated for greenspace under Policy NE15 Greenspace is also shown on the Policies Map.
- 12.4.23 A specific policy is included for Washington Meadows, an area allocated for development to the west of the site. Inter alia, policy SS9 states that the development of that site should *“maintain wildlife and green infrastructure corridors, limit any impact on the area’s landscape character and provide suitable ecological mitigation where appropriate [and] provide greenspace / green infrastructure within the site”*.

### ***Guidance***

- 12.4.24 The applicable guidance is summarised as follows:
- CIEEM (2018). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.1 – Updated September 2019. Chartered Institute of Ecology and Environmental Management, Winchester.

- Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey – A Technique for Environmental Audit*. England Field Unit, Nature Conservancy Council, reprinted JNCC, Peterborough.
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## 12.5 Baseline conditions

### ***Statutory designated sites***

- 12.5.1 The Site itself does not lie within or adjacent to a statutory designated site. The closest SSSIs to the site are Hylton Castle Cutting SSSI (some 2.4 km to the east) and Wear River Bank SSSI (some 2.4 km to the southeast). These SSSIs are well separated from the site by existing built form, including major roads and existing industrial and residential development, and there is no ecological connectivity between them and the site. There is therefore no likelihood of significant adverse effects as a result of the proposed development. Several other SSSIs are present in the locality at greater distances, as shown on Figures 12.1 and 12.3, but for similar reasons no adverse effects are likely.
- 12.5.2 A series of statutory designations is present to the north and east of the site along the coast. While there is no ecological connectivity from the site to these designations and no significant direct effects are likely, an assessment of air quality effects during the operational phase of the proposed development has given due consideration to these designations. The sites in question are as follows:
- Durham Coast Special Area of Conservation (SAC), located approximately 7.6 km

to the northeast at its closest point. The SAC is designated on account of the presence of the Annex I habitat *Vegetated sea cliffs of the Atlantic and Baltic Coasts*.

- Northumbria Coast Special Protection Area (SPA), located approximately 7.3 km to the east at its closest point. The SPA is classified for the presence of breeding populations of little tern *Sterna albifrons*, and overwintering turnstone *Arenaria interpres* and purple sandpiper *Calidris maritima*.
- Northumbria Coast Ramsar Site, the boundary for which is concurrent with that of the SPA. The reasons given for designation are similar to that of the SPA (i.e. that the site supports internationally important wintering populations of turnstone and purple sandpiper).
- Durham Coast Site of Special Scientific Interest (SSSI), which underlies the SAC, SPA and Ramsar designations above. The SSSI is designated variously for its considerable biological, geological and physiographic interest. It contains most of the paramaritime Magnesian Limestone vegetation in Britain, as well as a species-rich dune system, and supports nationally important numbers of wintering shore birds and breeding little terns which contribute to the internationally important populations of the northeast coast.

12.5.3 Two Local Nature Reserves (LNRs) are present within 2 km of the Site. These are:

- Barmston Pond LNR.
- Hylton Dene LNR.

12.5.4 There is no ecological connectivity between the site and these LNRs, but the potential for air quality effects during the operational phase has been given due consideration as part of the assessment.

#### ***Non-statutory designated sites***

12.5.5 There are no non-statutory designations within the site, though several are present within 2km of the site, as follows (the majority of these are illustrated on Figure 12.1):

- Elliscope Farm East / Hylton Bridge Local Wildlife Site (LWS);
- Strother House Farm LWS;
- Wardley Colliery LWS;
- Follingsbury Pond / River Don Streambank LWS;



- River Don, East House LWS;
- River Don proposed Local Wildlife Site (pLWS);
- Upper Don Tributaries pLWS;
- Usworth Burn pLWS;
- Usworth Pond LWS;
- Severn Houses LWS;
- Peepy Plantation LWS;
- Hylton Plantation LWS;
- Barmston Pond LWS;
- Wear River Bank Woods LWS;
- Barons Quay Wood and Barons Quay LWS;
- Tiledsheds LWS;
- Hylton Castle Grassland LWS;
- Downhill Meadows LWS;
- Downhill Old Quarry LWS;
- Make-Me-Rich Meadow LWS; Mount Pleasant Marsh LWS;
- Boldon Lake LWS;
- Calf Close Burn LWS;

The majority are well separated from the site by existing development, including major roads and industrial and residential areas. Significant adverse effects on these sites are not considered likely. Those within the wider IAMP area, namely Elliscope Farm East / Hylton Bridge LWS, River Don, East House LWS, River Don pLWS and Usworth Burn pLWS could be affected by construction. Information provided for the LWS designations by ERIC NE and the Sunderland City Council Local Wildlife Site Report (as appropriate) is as follows:

- Elliscope Farm East / Hylton Bridge LWS *“consists of two small woodlands and the linking section of the River Don, leading east from Hylton Bridge Farm. Elliscope Farm East is a linear, mature broadleaf plantation dominated by sycamore, with ash and elder. The understorey has bramble and species-poor neutral grassland”.*

- The River Don, East House LWS “consists of a section of the River Don between East House Farm and Hylton Bridge Farm. In this stretch the Don has mostly unmodified riverbank with features such as meanders, eroding earth cliffs, riffles and pools, and dead wood. Substrates vary from coarse silts to gravel, cobbles and the occasional boulder. The aquatic and marginal vegetation within the river channel typically includes branched bur-reed, reed canary-grass, fool’s watercress and Himalayan balsam”.
- River Don pLWS “consists of the two kilometre stretch of the River Don between Hylton Bridge and the disused Wardley to Washington rail line. In places the river has been deeply cut and embanked, in order to drain the farmland. The river increases noticeably in size downstream of the inflow from the Usworth Burn. The aquatic vegetation has few species; stands of branched bur-reed are the main emergents, with some soft rush, reed canary grass and yellow flag. Water cress, water mint and water starwort are present along the length of the river”.
- Usworth Burn pLWS “consists of the 2.5km long course of the Usworth Burn between its confluence with the River Don and the disused Wardley to Washington rail line. The LWS covers the burn itself, a tributary going south towards Seven Houses and an adjacent copse. The aquatic vegetation has few species; stands of branched bur-reed are the main emergents, with some soft rush, reed canary grass and yellow flag. Water cress, water mint, water plantain, and water starwort are present along the length of the burn. Broad-leaved and small pondweeds are present where there is sufficient depth of water”.

#### **Habitats present within the site**

- 12.5.6 Land within the site comprises former agricultural land (within the area to the west of the north-south hedgerow adjacent to West Moor Farm) and land which has been affected by the ongoing development works within the wider IAMP ONE Phase One site (to the east of this hedgerow boundary).
- 12.5.7 Agricultural land comprises a mix of arable, improved grassland and poor semi-improved grassland. Areas of bare ground and ephemeral vegetation are present, particularly to the east where land has been used to house a construction compound for the IAMP ONE site.
- 12.5.8 Species-poor hedgerows, both intact and defunct, are present along with an area of dense scrub adjacent to West Moor Farm and a single ash *Fraxinus excelsior* tree is

situated within a field boundary to the north. Occasional hedgerow trees are present within both the west-east and north-south hedgerows. An area of ephemeral standing water was present within the field to the east of the farm when the site was surveyed in January 2020, but this was absent during the most recent walkover surveys in April and May 2021.

12.5.9 No signs of invasive non-native species were recorded in the earlier surveys, and none were seen in the 2021 walkover.

12.5.10 The overall conclusion of the 2021 walkover surveys is that the nature and distribution of the habitats present has not changed significantly from the information reported in March 2020. Full details of habitats are provided within Appendix 12.1. Habitats are concluded to be of local value.

### ***Species present within the site***

#### ***Bats***

12.5.11 DWS Ecology was commissioned by IAMP LLP in March 2021 to undertake update bat surveys at West Moor Farm (see Appendix 12.2). DWS Ecology established that the proposals would result in the loss of two common pipistrelle *Pipistrellus pipistrellus* day roosts likely to comprise small numbers of male and / or non-breeding female bats. There was a maximum count of two roosting bats on one survey occasion. Loss of a roost of any size requires a European Protected Species (EPS) Licence, which must be obtained prior to the buildings being demolished. The roost is, nonetheless, considered to be of low significance with the species being common and widespread and thus only of local value.

12.5.12 A transect survey across the site completed by Ecology Solutions on 26 May 2021 (see Appendix 12.3) recorded relatively limited activity, the majority of which was attributed to common pipistrelles. Some activity from soprano pipistrelles *Pipistrellus pygmaeus* and Nathusius' pipistrelles *Pipistrellus nathusii* was also recorded.

12.5.13 Further transect surveys are to be completed over summer 2021, but for the reasons expressed above activity levels are considered unlikely to be significantly different to those previously recorded and, overall, the site is considered to be of local value to bats.

### Barn Owls

- 12.5.14 Updated Barn owl surveys were completed at West Moor Farm by DWS Ecology in 2021 (see Appendix 12.2). Barn owl pellets were present within Building 8, on the floor at the southern end, and on a plank above a series of grain stores in the upper storey of the building. There was a large number of fresh pellets present in both February and March 2021, with a barn owl seen here during the February visit. (barn owl presence was also recorded here during Ecology Solutions’ survey in April 2021, though not on the return visit in May.) Smaller owl pellets were also present in the adjacent upper storey room, with a little owl *Athene noctua* seen in February 2021. Barn owl pellets were also present above beams in Building 7 at the northern end. Old pellets were present in the upper section of Building 5. Overall, Building 8 was deemed to be a Potential Nesting Site (PNS), with Active Roosting Sites (ARS) in Buildings 7, 8 and a Temporary Roost Site (TRS) in Building 5.
- 12.5.15 Barn owl is listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended). These barn owl features are considered to be of local value.

**Table 12.1.** Barn owl survey results 2021 (reproduced from DWS Ecology, April 2021).

Building Reference	Description	Barn Owl Signs
1	Farmhouse	None
2	Outbuildings	None
3	Cottage	None
4	Outbuildings	None
5	Stone Barn	Old pellets in upper storey
6	Open-front Barn	Barn owl pellets where barn joins with 7
7	Breezeblock Barn	Barn owl pellets at northern end
8	Two-storey Barn	Large accumulations of pellets (including fresh) at southern end on floor. Barn owl seen here in February (and April). Pellets on plank above grain store. Old little owl pellets in upper storey of eastern part of barn. Little owl seen in February.
9	Brick Byre	None
10	Stone and brick barn	None
11	Large metal barn	None

### Wintering birds

- 12.5.16 A wintering birds survey completed during the period September 2018 to March 2019 by DWS Ecology (see Appendix 12.4) covered the full IAMP site. Table 12.2, below, details the notable species recorded within the current site. Detailed results for the full site including distribution maps are provided in Appendix 12.4.

Species	BTO Code	Survey						
		Sept 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	March 2019
Bullfinch	BF							1
Dunnock	D.				1			2
Grey Partridge	P.	10				11		2
Greylag Goose	GJ					2		
Herring Gull	HG							2
House Sparrow	HS					6		
Kestrel	K.		1	1				
Lapwing	L.							4
Linnet	LI	4		35				10
Meadow Pipit	MP	1	1					
Redwing	RE							1
Skylark	S.	10						2
Song Thrush	ST		1					
Tree Sparrow	TS	13						3
Yellowhammer	Y.							3

12.5.17 The wintering bird surveys recorded a total of 10 BoCC<sup>1</sup> Red List species within the current application area (grey partridge *Perdix perdix*, herring gull *Larus argentatus*, house sparrow *Passer domesticus*, lapwing *Vanellus vanellus*, linnet *Linaria cannabina*, redwing *Turdus iliacus*, skylark *Alauda arvensis*, song thrush *Turdus philomelos*, tree sparrow *Passer montanus* and yellowhammer *Emberiza citrinella*) and five BoCC Amber List species (bullfinch *Pyrrhula pyrrhula*, dunnock *Prunella modularis*, greylag goose *Anser anser*, kestrel *Falco tinnunculus* and meadow pipit *Anthus pratensis*). Of these species, redwing is also listed under Schedule 1 of the Wildlife and Countryside Act (1981).

12.5.18 The wider IAMP survey area was concluded to be of county value (see Appendix 12.4 for full details), but the assemblage within the current site, a subset of the wider assemblage, is considered to be a receptor of no more than local value as per the criteria set out above.

#### *Breeding birds*

12.5.19 Ecology Solutions completed a breeding birds survey across the site from April to June 2021 (see Appendix 12.5). Table 12.3 below summarises the notable species recorded. Full results are included in Appendix 12.5.

<sup>1</sup> Birds of Conservation Concern.

<b>Species</b>	<b>BTO Code</b>	<b>BoCC Status</b>	<b>Breeding</b>
Dunnock	D.	Amber	Likely
Grey Partridge	P.	Red	Likely
Herring Gull	HG	Red	No
Kestrel	K.	Amber	Possible
Lapwing	L.	Red	Yes
Linnet	LI	Red	Possible
Meadow Pipit	MP	Amber	Yes
Reed Bunting	RB	Amber	Likely
Skylark	S.	Red	Yes
Starling	SG	Red	Possible
Yellowhammer	Y.	Red	Likely

12.5.20 The breeding bird surveys recorded seven BoCC Red List species within the site (grey partridge, herring gull, lapwing, linnet, skylark, starling *Sturnus vulgaris* and yellowhammer) and four BoCC Amber List species (dunnock, kestrel, meadow pipit and reed bunting *Emberiza schoeniclus*). None of these species are listed under Schedule 1 of the Wildlife and Countryside Act (1981). Overall, the breeding bird assemblage within the site is considered to be of local value.

*Other wildlife*

12.5.21 The walkover survey completed by Ecology Solutions in April and May 2021 had full regard to the potential presence of other protected and notable species. No signs of additional species not previously identified were recorded. In particular, no evidence of the presence of badgers *Meles meles* was observed. A fox *Vulpes vulpes* was recorded during Ecology Solutions’ walkover survey in May 2021. An assemblage of small common mammal species will be present, and some habitats are suitable for hedgehog *Erinaceus europaeus*, a species that has undergone significant declines in recent years and is listed under Section 41 of the NERC Act 2006 as a species of principal importance for the conservation of biodiversity in England (i.e. a priority species). If present, hedgehog would be of local value.

12.5.22 Previous survey work at the site has not recorded the presence of reptiles or amphibians. The habitats present will support an assemblage of common invertebrates, but there is no evidence to suggest that any rare or notable species would be present.

***Sensitive receptors***

12.5.23 In summary, the sensitive receptors are considered to be the following:

- Designated sites.
- Bats.
- Barn owls.
- Wintering and breeding birds.

## 12.6 Assessment of effects

### *Design solutions and assumptions*

- 12.6.1 The air quality assessment found that there are no established critical loads for the sensitive feature within Durham Coast SAC, and no features sensitive to acid deposition. As such, this designated site was not considered further within the assessment.
- 12.6.2 The results confirm that the maximum modelled Process Contributions (PCs) for both nutrient nitrogen and acid deposition do not exceed 100% of the long-term critical loads, for the protection of vegetation, for any of the modelled receptor points within the nearby LNRs. In addition, the results confirm that the maximum modelled PCs do not exceed 10% of the short-term or 1% of the long-term critical levels, for the protection of vegetation, for any of the modelled receptor points within the Northumbria Coast Ramsar site / SPA.
- 12.6.3 It is, therefore, not necessary to proceed to a comparison of (Predicted Environmental Concentrations (PECs) against the critical loads, as nitrogen dioxide (NO<sub>2</sub>) emissions are considered to be **Not Significant** at the designated habitat sites considered (in accordance with EA guidance). Full details of the air quality assessment are considered in Chapter 6 of this ES.
- 12.6.4 In-light of the conclusion of findings of the air quality assessment in these respects, there is not a need to consider mitigation measures in relation to effects on designated sites in the locality.

### *Assessment of effects*

#### **Demolition and construction phase**

##### *Habitat loss / modification*

- 12.6.5 It is assumed that the proposals will result in the loss of all existing habitats within the site. This will comprise approximately:

- 3.6 ha of arable land.
- 0.6 ha of improved grassland.
- 0.06 ha of dense scrub.
- 12.4 ha of poor semi-improved grassland.
- 5.6 ha of ephemeral vegetation.
- 420 m of intact species-poor hedgerow.
- 860 m of defunct species-poor hedgerow.

12.6.6 The remainder of the area is principally mainly bare ground from construction disturbance and access tracks.

12.6.7 In addition, proposals will result in the loss of some trees (though these will be retained wherever possible), an area of ephemeral standing water and areas of bare ground, hardstanding and built development (circa 0.65 ha) at West Moor Farm.

12.6.8 All the habitat types detailed above are considered to be receptors of local value, common within the wider landscape and / or readily replicated and therefore of low sensitivity. Losses of the scale anticipated are considered to be of minor magnitude, equating to Minor-Negligible Adverse Effects (**Not Significant**).

#### *Demolition of West Moor Farm*

12.6.9 Demolition of the buildings at West Moor Farm (subject to a separate planning application) will:

- Cause the loss of two intermittently used common pipistrelle day roosts of local value.
- Risk killing / injuring / disturbing any bats that may be using the buildings at the time of demolition.
- Cause the loss of a barn owl roost site of local value and potential disturbance of a roosting barn owl, if present at the time of demolition.

12.6.10 Common pipistrelle day roosts used by individual bats are considered to be receptors of local value and low sensitivity. *Bat Mitigation Guidelines* considers them to be of low conservation significance, with mitigation requirements being “flexibility over provision of bat boxes, access to new buildings, etc.; no conditions about timing or monitoring”. The loss of these roost sites and the potential for harming / disturbing individual bats during demolition is considered to be an impact of minor magnitude



in relation to the local common pipistrelle population, equating to a Minor-Negligible Adverse Effect (**Not Significant**).

12.6.11 The loss of a barn owl roost site and the potential for disturbing a roosting barn owl during demolition works is anticipated to be a Minor-Negligible Adverse Effect (**Not Significant**) in relation to the local barn owl population.

12.6.12 A barn owl roost is considered to be a receptor of local value and low sensitivity. Loss of the roost site and potential disturbance of an individual roosting bird is considered to be an impact of minor magnitude in relation to the local population and, overall, the effect is Minor-Negligible Adverse (**Not Significant**).

#### *Wintering birds*

12.6.13 The existing wintering bird assemblage utilising the site is likely to be largely displaced due to a combination of habitat loss and disturbance. The assemblage is considered to be of local value and, therefore, low sensitivity. In relation to local wintering populations, the majority of which will range across a relatively wide area, this displacement is anticipated to be an impact of minor magnitude. This equates to a Minor-Negligible Adverse Effect (**Not Significant**).

#### *Breeding birds*

12.6.14 The breeding bird assemblage will also be displaced to surrounding habitats during construction. The assemblage is considered to be of local value and the effect is considered to be minor; thereby resulting in Minor-Negligible Adverse Effect (**Not Significant**). There is potential for disturbance of birds in their nests if works are undertaken during the nesting period.

#### **Operational phase**

12.6.15 Without appropriate design, the operational phase may result in an increase in noise and light pollution into adjacent areas of retained / enhanced habitats, displacing bats and reducing the value of these habitats to a range of wildlife (particularly bats and farmland birds).

12.6.16 Ongoing operation of the site may also result in an increase in general disturbance levels within and adjacent to the site, and an increase in littering or informal recreational activity in adjacent areas of retained / enhanced habitat.

12.6.17 Common pipistrelle bats and farmland birds are considered to be receptors of local value and low sensitivity. Operational disturbance is considered to be an impact of

minor magnitude in relation to the local populations of these species, equating to a Minor-Negligible Adverse Effect (**Not Significant**).

## 12.7 Mitigation and compensation measures

12.7.1 A Biodiversity Construction Environment Plan (BCEMP) will be provided for the proposed development. This document includes Method Statements in relation to a range of elements, including site clearance, pre-construction badger (and other species) check surveys, noise and light effects, protected species and invasive species.

12.7.2 An Ecological Clerk of Works (ECoW) would be appointed to oversee the implementation of the BCEMP.

### *Designated sites*

12.7.3 The BCEMP will detail a series of measures to avoid significant indirect effects on non-statutory designated sites within the wider IAMP site north of the proposed development. This would include dust suppression and appropriate responses to spillages.

### *Habitats*

12.7.4 A range of new habitats are proposed as part of the landscape strategy. These include native tree planting; extensive native shrub (i.e. scrub) planting; native hedgerows; native wet woodland; and a native marginal planting mix. An ornamental shrub mix closer to the buildings will provide further habitat for wildlife, as well as year-round visual amenity for the development. Areas of grassland proposed comprise wildflower meadow (Emorsgate EM1 mix), flood meadow (Emorsgate EM8 mix), and shade-tolerant wildflower mix (Emorsgate EH1), all subject to appropriate management, as well as areas of more closely mown lawn closer to the buildings. The landscape strategy is included in Chapter 3.

12.7.5 Appendix 12.6 sets out the Biodiversity Net Gain assessment for the site, taking into account the on-plot measures summarised above. Overall, a net gain for biodiversity of 3.17% is expected, in line with the requirements of the AAP and Sunderland City Council's Core Strategy and Development Plan policies.

12.7.6 While a net gain is expected for the site when considered alone, additional biodiversity benefits are to be delivered as part of the wider IAMP development. A comprehensive habitat enhancement scheme is being implemented for the land to

the north and northwest of the site, known as the Ecological and Landscape Mitigation Area (ELMA).

### ***Demolition of West Moor Farm***

12.7.7 Demolition will not be undertaken during the bird nesting period (i.e. March to August inclusive) unless a check survey by a suitably qualified and experienced ornithologist has confirmed that active nests are absent. This will be controlled through the separate planning application for the demolition of these buildings.

#### *Barn owl*

12.7.8 The site is currently considered to support only a potential nesting site for barn owl, and is considered to be an active roosting site. Prior to demolition, a check survey will be undertaken to establish the absence of active nests.

12.7.9 Mitigation measures for effects on barn owl are set out Appendix 12.2. Three barn owl boxes will be erected as mitigation, including two boxes within Hylton Bridge Farm stables and barn (located circa 1 km to the northeast). Barn owl pellets have been found within these buildings and the addition of boxes will provide additional nesting opportunities. These buildings are due to be retained. This will also be done prior to the demolition of West Moor Farm. A third box will be erected in a tree located within the ELMA mitigation area (see Figure 6 in Appendix 12.2). The tree selected is in the open, mature and forked and thus ideal for a barn owl box.

12.7.10 Demolition of all buildings on site will not be carried out while barn owls are breeding on site to ensure there is no disturbance to the owls during this period. The main breeding period is March to September inclusive, but as barn owls can breed all year round, checks will be made prior to demolition.

12.7.11 Mitigation for the loss of Elliscrope Farm in the north of the wider IAMP site includes three barn owl boxes in trees in close proximity to the farm and a wildlife tower in the field to the south of the farm.

12.7.12 All new provision will be in place for at least 30 days prior to the demolition of the buildings. The two barn owl boxes at Hylton Bridge Farm were erected in June 2021.

12.7.13 Overall, the package of barn owl mitigation will ensure that opportunities for the species remain within the landscape. The measures proposed for the ELMA and general on-plot landscaping will encourage new and replacement foraging resources.

### *Bats*

12.7.14 Mitigation measures for bats are set out in Appendix 12.2. Retention of existing bat roosts on site is not possible due to the farm being situated within the development area.

### Timing of works

12.7.15 Demolition of buildings 2 and 5 will not commence until a Natural England EPS Licence has been obtained. All other structures will be demolished to a precautionary method statement.

12.7.16 Bat boxes (as detailed below) will be provided within the wider land ownership prior to works commencing to provide roosting opportunities during the works.

12.7.17 Prior to works commencing, a site induction meeting will be held that will be attended by the project ecologist and lead contractors.

12.7.18 Works will not commence until a detailed inspection of the structures where roosts have been recorded (i.e. buildings 2 and 5) has taken place, with the provision of scaffolding / cherry picker access to facilitate this inspection.

12.7.19 As a precaution, demolition of buildings 1, 2, 3, 5 and 8 will avoid the core hibernation period (i.e. December to February inclusive) in order to avoid potentially disturbing hibernating bats.

### Working methods and best practice

12.7.20 A copy of the relevant Natural England licence method statement will be provided to contractors prior to the induction process at the start of works, in relation to buildings 2 and 5. The project ecologist will review all key points with contractors during the induction and provide all necessary training.

12.7.21 A detailed precautionary method statement for the other buildings will be provided to contractors as part of the induction process at the start of the works.

12.7.22 Old slates, coping stones, ridge tiles and barge boards will be removed carefully by hand, being aware that bats may be present beneath slates or ridge tiles, within mortise joints, cavity walls, between loose stones, between lintels and in gaps around window frames.

12.7.23 If bats are found during works when the ecologist is not onsite, works will stop in that area and the ecological consultant will be immediately contacted. If it is

necessary to move the bats for their safety, this will be undertaken by a licensed bat worker.

#### Replacement roost provision

12.7.24 Alternative provision will be provided in the form of three woodcrete or woodstone bat boxes erected within the woodland immediately south of the farm (see Figure 6 in Appendix 12.2). A hibernation box will also be installed within this woodland. At the time of writing, these boxes had recently been installed. Boxes installed to the south of West Moor Farm consist of 3no Vivara Pro WoodStone Bat Box and 1no 1FS Schwegler Large Colony Bat Box installed north facing for hibernation purposes.

12.7.25 The timing for the demolition of the buildings, together with the requirement for the checking surveys and provision of the bat and barn owl mitigation, will be controlled and secured through the separate planning application for the demolition work.

#### ***Hedgehogs***

12.7.26 Wherever possible, ground cover habitats suitable for hedgehog will be cleared outside of the winter hibernation period (i.e. October/November to March/April, depending on the weather). The planting of native species and / or species of known ecological value will provide both foraging and commuting opportunities for any hedgehogs that may be present. The site boundaries will remain permeable through the incorporation of hedgehog gateways to allow for continued access and dispersal.

#### ***Breeding birds***

12.7.27 As a precaution to avoid a possible offence, removal of suitable nesting habitats will be undertaken outside the breeding season (i.e. March to August inclusive) or following a check for nesting birds by a trained ecologist immediately prior to removal. Any confirmed nests must be left in situ until the young have fledged. New landscape planting will include a number of fruit-bearing species to offer a foraging resource. As an enhancement, a series of boxes for swifts *Apus apus* will be installed on the new structure. Opportunities for including a kestrel box will be investigated.

### **12.8 Residual effects**

12.8.1 In-line with the definitions set out in ES Chapter 2, **no significant residual effects on ecology and biodiversity are anticipated.**

12.8.2 There will be a residual loss of habitats of open farmland and their associated bat and bird populations. Habitat creation works within the site and wider ELMA area

will cater for a range of species, particularly those associated with hedgerow and scrub, and include significant areas of open grassland. The objective would be for such areas to encourage farmland birds (e.g. grey partridge, skylark and lapwing), though it is accepted that not all species may be retained in the same numbers as within the current site. The design of the ELMA is intended to promote overall enhancement for the local bird assemblage.

- 12.8.3 In the context of the wider IAMP ONE development and the associated ELMA, the loss of arable land associated with the current application is considered to be a Minor Adverse Effect (**Not Significant**) that is likely to be mitigated for by the ELMA in the medium to long-term, given good quality habitat creation and management. Monitoring is proposed that can identify net changes and any residual effects could be addressed through) further habitat enhancement within the ELMA and / or the current site (if required).

## 12.9 Cumulative Effects

- 12.9.1 It is considered that the primary driver of any significant cumulative effects will be the wider IAMP development. However, it was concluded within the 2018 ES produced in relation to IAMP ONE that, with the implementation of the BCEMP, Habitat Management Plan (HMP) and ELMA, although adverse residual impacts would be experienced in the short-term, these would become neutral or beneficial in the medium to long-term (IAMP ONE 2018 ES, chapter K, section K.7.0, final para.).
- 12.9.2 The HMP for IAMP ONE proposes frequent surveys for bats, birds and invertebrates. To help ensure that cumulative effects are assessed and addressed, standard survey techniques (e.g. the BTO territory mapping method for breeding birds and fixed transect routes for bat and invertebrate surveys) will be agreed. Targets can then be set based on the population levels needed to demonstrate no net loss from the pre-development baseline, and measures identified to address any shortfall (including, if required, revisions to the management of the area).
- 12.9.3 Given this, and the anticipated limited residual effects of the current application detailed above, **no significant inter-cumulative effects** are anticipated from the combination of effects of the site with the wider IAMP development or with other planned developments within the local area.
- 12.9.4 Other applications in the locality with the potential for cumulative effects (as set out in chapter 2) include the approved IAMP ONE Phase One to the immediate east of

the site, and the A19 Downhill Lane Junction Improvements DCO, located some 0.7 km to the northeast of the site. While these are significant schemes in their own right, the potential for significant adverse effects on ecological receptors would have been given due consideration as part of their respective assessments. In the case of IAMP ONE Phase 1, the ELMA is to provide the necessary mitigation measures along with further measures on-plot. Other schemes in the locality have been given due consideration as part of this assessment, but are further afield, and will similarly be expected to bring forward their own avoidance and mitigation schemes in line with policy and legislation. Hence the combination of the effects of the site with these is unlikely to result in any significant inter-cumulative effects on the ecology and biodiversity of the local area

### 12.10 Limitations of Study

12.10.1 No significant limitations to the survey work completed were identified as part of the assessment. The cold weather in May 2021 meant a later start to the bat activity work, but as previously noted it is considered that there is already a good general understanding of bat activity within the site and wider area.

### 12.11 Summary

12.11.1 This chapter of the ES provides an assessment of the effects on the ecology and biodiversity within the site, and relates to the loss of barn owl and bat habitat associated with the demolition of the West Moor Farm buildings, as well as the loss of a small area of arable land and associated hedgerows, and the effects of this on wintering and breeding birds.

12.11.2 The site does not lie within nor in close proximity to any designated areas of ecological interest. Analysis of the ecological interest of the Site has identified this to be of no greater than local level.

12.11.3 **No significant adverse effects** on the ecology and biodiversity of the local area are predicted, including cumulative effects. Mitigation and compensation measures are proposed to ensure that the development of the site can make a long-term, positive contribution to the local ecology and biodiversity interest of the area.

12.11.4 These mitigation measures include the provision of barn owl and bat boxes as compensation for loss of the barns within West Moor Farm. Demolition of the buildings will only commence once a Natural England licence method statement is in place for key buildings (along with precautionary method statements for other

buildings) and checking surveys of all the buildings have been completed. Swift boxes will be provided on the new building.

12.11.5 A comprehensive on-plot landscape strategy is proposed, to include a diverse range of habitats consisting of native species. A net gain for biodiversity as measured by the metric is expected, in accordance with national and local planning policy, to be secured by condition. The ELMA to the north and northwest of the site will deliver significant further biodiversity benefits for the wider IAMP scheme.

12.11.6 **No significant adverse inter-cumulative effects** have been identified in relation to ecology and biodiversity.