

12 ECOLOGY & BIODIVERSITY

12.1 Introduction

12.1.1 This chapter of the Environmental Statement (ES) has been prepared by Wardell Armstrong LLP (WA). This chapter assesses the likely significant effects of the AESC Plant 3 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 This chapter is prepared taking into account the previous developments within the wider area (namely AESC Plant 2, and the Early Infrastructure and Northern Employment Area planning permissions). This is because the proposed AESC Plant 3 development lies partially within the footprint of the Environmental and Landscape Mitigation Area (ELMA), secured for the development of IAMP including AESC Plant 2.

12.1.3 This chapter should be read in conjunction with the Chapters 1-5 of this ES as well as Chapter 20 Summary of Effects. This chapter is also supported by the following appendices:

- Appendix 12.1 – Habitat Assessment (WA, 2024)
- Appendix 12.2 – Ecological Appraisal (E3 Ecology Ltd, 2020)
- Appendix 12.3 – IAMP One Phase Two ES Chapter 12 Ecology and Biodiversity (WA, 2021)
- Appendix 12.4 – West Moor Farm Ecological Impact Assessment Bat and Barn Owl report (DWS Ecology, 2021)
- Appendix 12.5 – North Moor Farm, Bat and Barn Owl Report (DWS Ecology, 2022)
- Appendix 12.6 – Interim Bat report (Ecology Solutions, 2021);
- Appendix 12.7 – IAMP Bat Transect Report (DWS Ecology, 2022);
- Appendix 12.8 – GCN Survey Report (DWS Ecology, 2022);
- Appendix 12.9 – Otter and Water Vole Survey Report (DWS Ecology, 2022);
- Appendix 12.10 – ELMA 1 Breeding Bird Survey Report (DWS Ecology, 2022);
- Appendix 12.12 – IAMP ELMA 1, Update Barn Owl Report (DWS Ecology, 2023);
- Appendix 12.13 – Biodiversity Net Gain Assessment (WA, 2024);
- Appendix 12.14 – Farmland Birds Technical Note WA, 2023);

- Appendix 12.15 – Breeding Bird Survey Report (Ecology Solutions, 2021);
- Appendix 12.16 – Wintering Bird Survey Report (DWS Ecology, 2019); and
- Appendix 12.17 – Aerial Inspections for Roosting Bats, WA 2023.
- Appendix 12.18 – River Morphological Assessment, WA 2024.

12.1.4 The site location is shown on 200-P03-Existing Site Plan and Location Plan and Figure 1.1 Site Extents, and the distribution of habitats is shown on the Figure 12.4 Habitat Plan. Full details of the proposed development and development parameters are given in Chapters 1 and 3 of this ES. Figure 1.1 shows the extents of the site relative to the other IAMP proposals, including the ELMA AESC Plant 2.

12.2 Consultation and Scope of the Assessment

12.2.1 Owing to the sensitive nature of this project, consultation on the scope of the Environmental Impact Assessment (EIA) has been limited. At the time of writing, consultation with the Local Authority Ecologist over appropriate levels of compensation for farmland birds is ongoing. This includes a number of meetings and the development of a bespoke calculation / strategy to objectively assess the farmland bird compensation requirements (see Appendix 12.14).

12.3 Legislation and Policy

12.3.1 In order to assess the significance of potential impacts, the following legislation and policy has been considered:

- Conservation of Habitats & Species Regulations 2019 (and as amended in England and Wales). This protects a range of species, including bats, otter and great crested newt.
- Wildlife & Countryside Act (WCA) 1981 (as amended). This protects Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), and a range of species, including bats, great crested newt, otter, water vole and all wild birds. This also includes partial protection for adder, slow worm, common lizard and grass snake. Additional protection is provided to birds listed on Schedule 1 of WCA against disturbance of any schedule-listed bird (or young while nesting). Section 14 of the WCA prohibits the release of any Schedule 9 (part 2) species.
- Natural Environment & Rural Communities (NERC) Act 2006. This requires the Secretary of State (SoS) to publish a list of habitats and species of principal importance for the conservation of biodiversity in England.



- Environment Act (2021). This provides the legislative framework for Biodiversity Net Gain in England, preceded by the Environment Bill.
- Hedgerow Regulations 1997. This allows identification of hedgerows classified as ‘important’ against the Wildlife and Landscape Criteria (the ‘criteria’).
- The Protection of Badgers Act 1992. This protects badger setts, as well as the animals from disturbance.
- The National Planning Policy Framework (NPPF) and National Planning Practice Guidelines (NPPG).
- Proposed Delivery Model for the provision of Biodiversity Net Gain (Sunderland Council, 2024).

12.3.2 A summary of the relevant protected species provisions is listed in Table 12.1, below.

Table 12.1: Protected Species Legislation	
Species	Key Legal Protection
Badger	Badgers are the subject of separate legislation contained within the Protection of Badgers Act 1992. It is unlawful to knowingly kill, capture, disturb or injure any individual or intentionally damage, destroy or obstruct an area used for breeding, resting or sheltering badgers. A licence is required for heavy machinery work within 30m, light machinery within 20m and hand digging within 10m of a badger sett.
Bats (all species), Otter and Great Crested Newt	<p>These species and their breeding sites / resting places are protected under Regulation 41 of the Conservation of Habitats & Species Regulations 2019 (as amended), which makes it illegal to:</p> <ul style="list-style-type: none"> • Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs; • Deliberately disturb such an animal; or • Damage or destroy a breeding site or resting place of such an animal. <p>European Protected Species (EPS) licenses can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following three tests (set out in the EC Habitats Directive) are passed:</p> <ul style="list-style-type: none"> • The development is for reasons of overriding public interest; • There is no satisfactory alternative; and • The favourable conservation status of the species concerned will be maintained and / or enhanced. <p>Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a duty to ‘have regard to the requirements of the EC Habitats Directive’ (i.e. LPA’s must consider the above tests when determining whether planning permission should be granted for developments likely to cause an offence under the Conservation Regulations).</p>



Species	Key Legal Protection
Nesting Birds	All wild birds (as defined by the WCA) are protected under the WCA, which makes it illegal (subject to exceptions) to: <ul style="list-style-type: none"> • Intentionally kill, injure or take any wild bird; and / or • Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.
WCA Schedule 1 listed Birds	Additional protection is provided to birds listed on Schedule 1 of the WCA. In addition to the offences detailed above relating to all wild birds, it is illegal to ‘intentionally or recklessly disturb any bird listed on Schedule 1, or their dependent young while nesting’.
WCA Schedule 9 listed animals (Part 1) and plants (part 2)	Certain species of plants and animals that do not naturally occur in Great Britain have become established in the wild and represent a threat to the natural fauna and flora. Section 14 of the WCA prohibits the release of any animal species that are “...not ordinarily resident in and is not a regular visitor to Great Britain in a wild state”.

12.3.3 The National Planning Policy Framework (NPPF) 2023 underpins the Government’s planning policies for England and how these are to be applied. The central theme of the NPPF is a presumption in favour of sustainable development. This presumption does not apply where development requiring Appropriate Assessment (AA) under the Birds or Habitats Directives is being considered, planned or determined unless an AA has concluded that “*the plan or project will not adversely affect the integrity of the habitats site*” (paragraph 188).

12.3.4 A number of policies in the NPPF are comparable to those in PPS9¹, including reference to minimisation of impacts to biodiversity and provision of net gains to biodiversity where possible (paragraph 180). 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.

12.3.5 Paragraphs 185 to 187 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

¹ Planning Policy Statement 9: Biodiversity and Geological Conservation (PPS9), now replaced by the National Planning Policy Framework (NPPF).

or deterioration of 'irreplaceable' habitats – unless there are 'wholly exceptional reasons'.

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

Local Planning Policy – Sunderland City Council

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

- 12.3.7 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.

12.3.8 The supporting text (i.e. paragraphs 145-153) reinforces and expands on the reasoning for this policy.

12.3.9 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 Elliscrope 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 habitat.*

12.3.10 Policy NE2 Biodiversity and geodiversity states:

- A. *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.*
- B. *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.

- C. 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.*
- D. 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.**
- E. 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.**
- F. 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.*

12.3.11 It is noted that the requirement at Section 1 is simply to provide net gains, rather than a reference to a specific threshold. The Environment Act 2021 requires a mandatory net gain of 10% for all development (as of January 2024). The NPPF requirement is widely interpreted as requiring at least 0.1% biodiversity net gain.

12.3.12 Policy NE3 Woodlands / hedgerows and trees states:

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

- A. 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;*
- B. 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;*
- C. 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*
- D. 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.*

12.3.13 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:

- A. 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)

12.3.14 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. 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.

12.3.15 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*”.

12.3.16 With regards to the provision of an external offset site to deliver the required BNG, a memo has recently been released² summarising the Council’s position on BNG stating:

“Cabinet is recommended to:

Approve the principle of the use of appropriate Council sites for the delivery of BNG and authorise the Executive Director of City Development, in consultation with the Deputy Leader and the Director of Finance, to identify and determine which Council sites shall be made available for BNG;

Authorise the Director of Finance, in consultation with the Executive Director of City Development and the Cabinet Secretary, to grant leasehold interests on such terms as are approved (including where appropriate the grant of rent concessions) to relevant third parties of Council land for the delivery and management of BNG.”

12.4 Assessment Methodology and Significance criteria

Assessment methodology

12.4.1 The approach taken to assess ecological effects has regard to the 2018 guidance

² Sunderland City Council, Item No. 20. Cabinet Meeting – 14 March 2024. Executive Summary Sheet – Part I
NT15821/ES/12
April 2024

document produced by the Chartered Institute of Ecology and Environmental Management (CIEEM). 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 (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.

12.4.2 The assessment of significance of impacts has been determined by identifying the presence of ecological features, evaluating their importance or value and defining the magnitude of the effects. In order to objectively assess effects arising from a particular development/activity, it is essential to establish the sensitivity of each ecological receptor. The sensitivity has been evaluated within a geographical context, with each receptor falling into one or more of the following categories:

- International and European;
- National (within England);
- Regional (North East);
- County (Tyne and Wear);
- Local (Sunderland);
- Site (i.e. within the defined survey area); and / or
- Of negligible importance.

12.4.3 The magnitude of effect is predicted quantitatively, where possible. The assessment takes into account whether the effect is beneficial or adverse, short-term (e.g. during construction, only) or long-term (e.g. throughout the lifetime of the development), reversible or permanent. The degree of confidence in the assessment is provided where relevant. The significance of predicted environmental effects is determined through an assessment of the magnitude and likelihood of change arising from the development, together with the sensitivity of the ecological resource affected. As stated, above, impacts can be beneficial or adverse.

Value / importance of ecological resources

12.4.4 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.
- Site (i.e. within the defined survey area); and
- Of negligible importance

Sensitivity of the receptor / resource

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

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

12.4.6 Sensitivity can be adjusted to have regard for the vulnerability of the ecological resource or receptor to the specific impact and its ability to tolerate the 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 and, in such an instance, sensitivity would be downgraded.

Magnitude of effect

12.4.7 The magnitude of an effect (i.e. magnitude of 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. 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

12.4.8 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 12.2, below).

Table 12.2: Effect Significance Matrix			
Magnitude	Sensitivity		
	High	Moderate	Low
Major	Major Adverse / Beneficial	Major-Moderate Adverse / Beneficial	Moderate-Minor Adverse / Beneficial
Moderate	Major-Moderate Adverse / Beneficial	Moderate Adverse / Beneficial	Minor Adverse / Beneficial
Minor	Moderate-Minor Adverse / Beneficial	Minor Adverse / Beneficial	Minor-Negligible
Negligible	Negligible	Negligible	Negligible

12.4.9 Whilst the preferred approach set out in the CIEEM guidance is to avoid the use of matrices, the guidance notes that these can be used to provide consistency across ES topics.

12.5 Survey Methodology

Scope of the Assessment

12.5.1 The scope of the assessment is limited to the habitats and species within the site and those in the immediate locality. Due regard is made to impacts on 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

12.5.2 The extent of the general study area is shown on Figure 12.4. Consideration is given to the wider IAMP site, specifically AESC Plant 2 and to designated sites located within the zone of influence of the proposed development. The location of the AESC Plant 3

development is located within the ELMA – and overlaps with the application boundary for the AESC Plant 2 development, hence mitigation delivered within the ELMA for the loss of habitats associated with AESC will no longer be available. This impact assessment this report shall, therefore, address the losses of habitats from the AESC 2 development (refer to habitats as described within Appendix 12.2 as well as from AESC Plant 3

Site Surveys

12.5.3 The assessment of the site has been carried out through a combination of desk-based and site surveys. Detailed methodologies for the surveys undertaken at the site are set out in the appendices to this chapter (i.e. Appendices 12.1 to - 12.16).

Desk-Based Study

12.5.4 A desk-based study has been completed accessing aerial photos and 1:25,000 Ordnance Survey (OS) maps and reviewing:

- Local Biodiversity Action Plans (BAPS), (the relevant Local BAP in this case is the Durham Local BAP),
- Ecological records from Environmental Records Information Centre North East (ERIC NE);
- Information available from the Multi-Agency Geographic Information for the Countryside (MAGIC) website; and
- Existing survey and monitoring reports for the wider IAMP site completed by various parties.

Habitat Survey and Protected Species Assessment

12.5.5 An update habitat survey, an assessment of trees for bat roost suitability and a check for badger activity (WA, 2024) were undertaken on land within the application boundary on 13th September 2023 and again on the 10th April 2024, during which time those habitats present within the survey area and adjacent land were recorded (see Figure 12.4 and 12.5). The survey followed the 'UK Habitat Classification Version 2' (UKHab 2023) methodology with each of the main habitats classified according to the relevant criteria including vegetation composition expressed according to the DAFOR system, and using randomly sampled quadrats.

Protected Species

12.5.6 A review of the earlier survey work completed within the application area and of

adjacent land was undertaken as part of this assessment. A significant body of baseline evidence is already in place from work completed to inform previous assessments for immediately adjacent AESC Plant 2 development, not least the June 2021 ES and application.

Badger Survey

12.5.7 As part of the Preliminary Ecological Appraisal (PEA) undertaken on 13th September 2023, an assessment of the habitats onsite and within 50m of the planning application redline (where accessible) suitability to support badger *Meles meles* was carried out. Observations of badger and the potential for the species to occur onsite were recorded. Signs searched for included the following:

- Sett entrances;
- Foraging, feeding remains, snuffle holes, dug out wasp nest;
- Dung pits and latrines;
- Badger hairs; and
- Runs and footprints.

Bat Survey

Preliminary Tree Survey

12.5.8 A preliminary ground-based assessment of all trees /tree groups present on the site was carried out during the update habitat assessment (WA, 2023). This assessment took into account the nature of the trees, the potential roost sites provided and the surrounding habitat. Full details are provided within Appendix 12.1.

Aerial Inspection of Trees

12.5.9 An aerial inspection of six trees which had been identified as having cavity features potentially suitable for roosting bats was undertaken by ecologists from WA in February 2024. Only trees which lie within the development footprint and are to be removed were subject to inspection. Trees subject to detailed inspection included T7, TG8 East TG9 West, T9 and T10 plus an additional ash tree (T9+) that was considered as offering potential roosting features at the time of the inspections.

12.5.10 In addition, a large over-mature willow tree was inspected from the ground but was considered unsafe to climb.

12.5.11 The detailed methods are provided in Appendix 12.17

Dusk Emergence / Dawn Re-entry Survey of Buildings

- 12.5.12 Original surveys undertaken by White Young green (WYG) identified buildings at North Moor Farm as being suitable for roosting bats. Repeat surveys undertaken by DWS Ecology in 2018 and 2022 validated the results of the building assessments.
- 12.5.13 Ten buildings were recorded as being present in 2022 (DWS Ecology, 2022). One building, the farmhouse (B5), had Moderate suitability for roosting bats and three buildings, the Stables (B3) and the cattery buildings (B8 and B9), had Low suitability for roosting bats. The remaining buildings (B1, B2, B4, B6, B7 and B10) were considered Negligible for roosting bats.
- 12.5.14 Building B3, B5, B8 and B9 were subject to further emergence surveys to determine presence/infer absence. Emergence surveys were undertaken in accordance with the Bat Conservation Trust's (BCT) best practice survey guidelines (Collins, 2016). Building B5 received two roost/emergence surveys and buildings B3, B8 and B9 all received a single survey. All other buildings were ruled out from further survey for bats. Prior to surveys in 2022, roost surveys were undertaken by WYG that identified no bat roosts within North Moor Farm Buildings.
- 12.5.15 The nocturnal surveys were conducted by surveyors equipped with Echo Meter 3 and EM Touch bat detectors. Three infrared cameras were also used (Nightfox Swift) adjacent to each surveyor on the farmhouse. The emergence survey commenced 15 minutes before sunset and continued until all bats were considered to have emerged in accordance with the BCT Guidelines (Collins, 2016). Full details of the survey are provided in Appendix 12.5.

Bat Activity Surveys

- 12.5.16 Bat activity surveys were undertaken in 2022 by DWS Ecology. The extent and number of habitats present onsite was utilised to identify the number of transects required. Given the sites' Low suitability for bats, seasonal activity surveys were undertaken. A single transect route was walked by two suitably qualified ecologists during spring, summer and autumn (as per the Good Practice Survey Guidelines (Collins, 2016)). Static points were included in the transect for focusing survey effort, whereby ecologists paused for approximately three-minute intervals. The routes taken were varied to account for the limitation caused by this method since a lot of activity can be missed depending on the time of evening, location and sunset / sunrise times.
- 12.5.17 To supplement data collected during the transect surveys, three Song Meter Mini static detectors were deployed within the proposed development area in May, July,

and September 2022. These locations were fixed throughout the period. The detectors were left out for a minimum of five nights. The data from the detectors was downloaded and analysed using Analook Insight software. The locations of the detectors were determined by trying to represent the full range of habitats present across the site, as well as taking into account constraints such as risk of theft or trampling by livestock. All bat activity surveys and static detector surveys were undertaken in good weather conditions (full details provided in Appendix 12.7).

Great Crested Newts (GCN)

12.5.18 A total of fourteen ponds were identified within 500m of the redline application boundary and surveyed (DWS Ecology, 2022). Thirteen ponds were recently created SuDS ponds, created as part of the IAMP scheme, with a further pond located by My Pet Stop. Environmental DNA (eDNA) surveys were conducted on all fourteen ponds. A number of surveys have been completed across the site by several ecological companies, including WYG in 2014 and 2015, ARUP in 2016-2017, and DWS Ecology in 2018/2019 & 2020. These surveys all returned a negative result for GCN *Triturus cristatus* presence. Full details of the most recent survey report by DWS Ecology are provided within Appendix 12.8.

Otter and water vole

12.5.19 An otter *Lutra lutra* and water vole *Arvicola amphibius* survey was undertaken (DWS Ecology, 2022) of the Usworth Burn (section 3) and the River Don (Section 1-2 and 4-7) to confirm presence / infer absence of otter and water vole from the survey area and beyond.

12.5.20 The ecological assessment for otter and water vole took place in May 2022, with a second survey in September 2022 in accordance with the standard guidelines outlined in Ecology of the European Otter (Chanin, 2003), Water Vole Conservation Handbook (Strachan and Moorhouse, 2011) and the Water Vole Mitigation Handbook (2016), respectively. The water vole survey was undertaken simultaneously with the otter survey along the length of the Usworth Burn that bounds the AESC Plant 3 application area. In addition, the River Don was also surveyed.

12.5.21 A number of surveys have already been completed across the site by several ecological companies, including WYG in 2014 and 2015, and DWS Ecology in 2018 and 2020. Full methodology of the most recent survey (DWS Ecology, 2022) is provided in Appendix 12.9.

Barn Owl

- 12.5.22 A specific assessment of bats and barn owls *Tyto alba* at North Moor Farm complex was completed by DWS Ecology in 2022, the details of which are provided within Appendix 12.5. In addition, a detailed assessment by DWS Ecology in 2021 for barn owls in adjacent habitats at West Moor Farm was also undertaken for the earlier AESC Plant 2 application.
- 12.5.23 The survey for barn owls involved external and internal examination of the buildings for evidence of occupation in the form of droppings, pellets, feathers, nests and actual barn owls following the methodology outlined in the Barn Owl Survey Methodology and Techniques for use in Ecological Assessment (Shawyer, 2011) and the Barn Owl Conservation Handbook (The Barn Owl Trust, 2012). The update bat and barn owl risk assessment survey took place on the 2nd February 2022 by an experienced surveyor (Barn Owl Licence CL29/00411). Previous surveys also carried out in 2015 (WYG 2015), 2018 (DWS, 2018), but are summarised within the 2022 report.
- 12.5.24 In addition, an update activity survey for barn owl was undertaken across the ELMA ONE area. Functionally linked land at the IAMP site was also undertaken during June 2023. A predetermined transect route based upon prior site knowledge was walked across all accessible areas of the ELMA ONE and functionally linked land. Vantage point watches of key areas were utilised during the survey. Methods were adapted from those recommended in Gilbert et al (2011) to fit site-specific conditions. The survey began approximately one hour prior to sunset and lasted until all natural light had faded.
- 12.5.25 A nest box inspection of previously provided compensation specifically for barn owls as part of the wider IAMP development was undertaken for the following:
- Two boxes erected in the stables at Hylton Bridge;
 - A box erected in a tree northwest of West Moor Farm (farm complex now demolished);
 - Three boxes in trees south of Elliscope Farm (farm complex now demolished); and
 - A Wildlife Tower in the field south of Elliscope Farm Breeding Birds
- 12.5.26 Checks were undertaken by an experience barn owl surveyor and tree climber in July 2023. Surveys were undertaken to avoid the sensitive early breeding period (i.e. May to June) when disturbance could lead to clutch abandonment. Signs of evidence searched for included feathers, eggs, pellets and chicks.

Breeding Birds

- 12.5.27 Six breeding bird surveys of the ELMA (including AESC Plant 3) were undertaken by DWS Ecology in 2022, with limited (three visits during April, May and June) surveys of the AESC Plant 2 undertaken during 2021.
- 12.5.28 The survey methodology for the 2022 breeding birds survey was based on the guidelines developed by the steering group The Bird Survey Guidelines (available at <https://birdsurveyguidelines.org/>). The territories of all breeding birds were mapped to allow an assessment of population. Six surveys between late-March and early-July were undertaken. Surveys generally started between thirty-minutes prior to sunrise and thirty-minutes after sunrise and concluded no later than 11am. At least one of the six surveys covered crepuscular and nocturnal species. The nocturnal survey was undertaken approximately one hour prior to sunset and lasted at least one hour after sunset, when all natural light had faded. Territory estimations and extrapolation were assessed and mapped for priority species (e.g. amber / red-listed species of conservation concern, S41 species and Schedule 1 species, etc.) only, but registrations of all encounters have been mapped (see Appendix 12.10 for full details).
- 12.5.29 Days of inclement weather were avoided and there were no significant limitations to the survey. The dates and weather conditions during the 2022 surveys are detailed in Table 12.3. Dates and weather conditions for the three surveys of AESC Plant 2 are provided in Appendix 12.15. The methodology for these surveys also used a version of the approach described above, over three survey visits in April, May and June 2021.

Wintering Birds

- 12.5.30 The survey methodology for wintering birds survey adapted and combined the Common Bird Census (CBC) and Winter Farmland Bird Survey devised by the British Trust for Ornithology (BTO) based on Bibby (2000). This technique records the location and movements of individual birds present within a defined survey area. The surveys were carried out in the autumn and winter period to ensure that both resident wintering birds and migrant wintering birds were recorded.
- 12.5.31 A number of surveys have already been completed across the site, focusing on the wider area as part of the IAMP developments, by several ecological companies including WYG in 2014/15, ARUP in 2016/17 and DWS Ecology in 2018/19. Tetra Tech also carried out monitoring of the core survey area in 2020/21. The report provided in Appendix 12.11 focuses on the 2022 wintering bird assemblage of the ELMA. Surveys of the AESC Plant 2 site were undertaken during 2018/19 by DWS Ecology and included transect surveys each month between September 2018 and March 2019,

inclusive. All surveys were conducted in suitable weather conditions, between the hours of 7:30am and 4:00pm. Days of inclement weather were avoided and there were no significant limitations to the survey.

Arboricultural Survey

Survey methodology

12.5.32 A tree quality assessment is made for each tree or group of trees as recommended in BS 5837:2012³. All observations were from ground level. Height was measured, where possible, using a clinometer and is expressed in metres (m). Crown spread is also expressed in metres. In dense tree cover height and crown spread may have been estimated. Stem diameter at 1.5 m was measured using calibrated DBH (diameter at breast height) tape and is expressed in millimetres (mm).

Root Protection Area

12.5.33 The Root Protection Area (RPA) is represented by an area in m² around a tree and acts as a protective zone. In the schedule of trees it is expressed both as the RPA and as the Root Protection Radius (RPR). The RPR is a figure given in metres used to identify the radius of a circle around a tree and serves to act as the RPA. In certain circumstances, the shape of the RPA may be altered to suit site specific factors such as the presence of buildings, roads and other trees, etcetera.

12.6 Baseline conditions

Statutory Designated Sites

12.6.1 No statutory designated sites lie within the application redline boundary. A summary of the statutory and non-statutory designated sites relevant to the ecological assessment is provide in Table 12.3, below, with a value assigned to each based on the level of designation.

Name of Designated Site	Distance from Site	Site Description	Value
Durham coast SAC	7.6km NE	The SAC is designated on account of the presence of the Annex I habitat Vegetated Sea Cliffs of the Atlantic and Baltic Coasts.	International
Northumbria Coast SPA	7.3km E	The SPA is classified for the presence of breeding populations of little tern <i>Sterna albifrons</i> , and overwintering turnstone <i>Arenaria interpres</i> and purple sandpiper <i>Calidris maritima</i> .	International
Northumbria Coast Ramsar Site	7.3km E	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 SSSI	7.3km E	The SSSI is designated variously for its considerable biological, geological and physiographic interest. It contains most of the	International

³ British Standard 5837:2012 - Trees in Relation to Design, Demolition and Construction– Recommendations.



Name of Designated Site	Distance from Site	Site Description	Value
		para-maritime 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.	
Barmston Pond Local Nature Reserve (LNR)	0.9.km S	A large subsidence pond lying amongst pasture with an extensive rush dominated marsh border, and many submerged plants. The wetland and grassland areas have been enhanced by recent management, while planting to the east has also provided extra cover for many nesting and wintering birds. The pond is noted for attracting migrant wading birds, while its population of great crested newts is also of particular interest	County
Hylton Dene LNR	1.9kmS E	Ancient woodland and wildflower meadows	County
Usworth Burn LWS	Parallel to northern boundary	A tributary of the River Don LWS.	Local
Elliscope FarmEast / Hylton Bridge Local Wildlife site (LWS)	0.52km NE	The 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 <i>Acer pseudoplatanus</i> , with ash <i>Fraxinus excelsior</i> and elder <i>Sambucus nigra</i> . The understorey has bramble and species-poor neutral grassland.	Local
River Don LWS	0.41km N	The River Don LWS 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 emergent, with some soft rush <i>Juncus effusus</i> , reed canary grass <i>Phalaris arundinacea</i> and yellow flag <i>Iris pseudacorus</i> . Water cress <i>Nasturtium officinale</i> , water mint <i>Mentha aquatica</i> and water starwort <i>Callitriche sp</i> are present along the length of the river.	Local
Usworth Pond LWS	0.70km W	A shallow, well established, mining subsidence pond is fringed with emergent vegetation and provides a habitat for breeding birds and a staging post for migrant birds. Amphibians are well represented, as are invertebrates.	Local
Severn Houses LWS	0.45km SW	The site includes an elongated subsidence pond located within old ridge and furrow pasture which is locally dominated by gorse scrub and is particularly notable for a large population of great crested newt which is present together with other amphibians.	Local
Peepy Plantation LWS	0.4km S	A mature plantation with interesting woodland flora and fauna is also notable for invertebrate and woodland birds.	Local
Hylton Plantation LWS	0.83km SE	A mixed plantation dominated by coniferous trees with scattered broad-leaved trees. Trees and scrub provide shelter for a thriving woodland bird community.	Local
Follingsby Pond / River Don Streambank / River don LWS	0.78km NW	Pond and stream habitats of particular botanical interest exhibit luxuriant flora associated with steep clay river banks and overhanging crack willow <i>Salix fragilis</i> . The Site of Nature Conservation Importance (SNCI) is partly located within the Gateshead and South Tyneside Metropolitan Borough Councils.	Local
Wardley Colliery LWS	0.97km NW	A former colliery site mostly comprising a large, raised area of colliery spoil. It is the largest early successional brownfield site in South Tyneside. The site is largely naturally regenerated but supports some planted trees. Site supports wall brown	Local

Name of Designated Site	Distance from Site	Site Description	Value
		<i>Lasiommata megera</i> and dingey skipper <i>Erynnis tages</i> butterflies, which are S.41 species of principle importance.	
Strother House farm LWS	0.9km N	The LWS is situated to the north of Strother House Farm and occupies an area of marshy ground approximately 0.3 ha in extent, bound by a ditch to the south and east. The candidate LWS qualifies as a LWS as it meets the definition of lowland fen habitat.	Local
Make Me Rich Meadow LWS	1.4km NE	The site comprises damp species rich meadow adjacent to (and includes a section) of the Rove Don, located between the A19 and the A184. The lowland meadow is a Durham BAP Habitat and the river done supports water vole and otter.	Local
Bolden Lake LWS	2km NE	A man-made lake with species rich damp grassland immediately adjacent. Both he lake and the grassland are Durham BAP priority habitats of principle importance.	Local
Mount Pleasant Marsh LWS	1.7km NE	Mount Pleasant Marsh is within the grounds of an electricity substation and is the setting for the Bolden Environmental Education Centre. The site supports ponds, species rich damp grassland, and fen habitats.	Local
Downhill Old Quarry LWS	1.8km NE	A former magnesian limestone quarry which is shown on OS maps from 1855. The site support exposed limestone cliff, magnesian limestone grassland and broadleaved woodland.	Local
Downhill Meadows LWS	1.7km E	The site incorporates large areas of calcareous grassland with areas of tree planting, rank neutral grassland and small amounts of scattered scrub.	Local
Wear Riverbank Woods LWS	2km S	The steep slopes of the River Wear Valley support areas of mixed deciduous woodland of considerable nature conservation interest. The structure and canopy of the numerous woodlands including their ground floras vary according to the type of soil (predominantly calcareous) and their position above the river, producing a rich and varied collection of plant communities.	Local
Calf Close Burn LWS	2km N	Calf Close Burn is a linear site that follows the course of a small burn as it flows across agricultural land towards the Fellgate Estate. The site supports lowland Fen vegetation, a Durham BAP priority habitat.	Local

Habitats within the application site.

- 12.6.2 Land within the redline application boundary for AESC Plant 3 comprises former agricultural land, approximately 42.5ha in size, and includes a combination of species of poor neutral grassland and modified grassland fields, hedgerows and mature trees, scrub, ditches, a stream, buildings associated with North Moor Farm and areas of hard standing and unvegetated unsealed surface in the form of bare earth and hardcore access tracks.
- 12.6.3 The location of the AESC Plant 3 development is located within the ELMA and overlaps with the application boundary for the AESC Plant 2 development, hence mitigation delivered within the ELMA for the loss of habitats associated with AESC will no longer be available. The AESC Plant 2 application area covered approximately 26.15 ha, with a combined development area of approximately 58.46 ha. Habitats are described in detail, below, for the AESC Plant 3 site. Habitats for AESC Plant 3 are listed, below,

with their value (for full habitat descriptions, please see Appendix 12.1).

Other neutral and modified grassland

- 12.6.4 A large proportion of the AESC Plant 3 site to the north supports species poor – other neutral grassland habitat. The fields have been left unmanaged for at least 18 months and support abundant Yorkshire fog *Holcus lanatus*, frequent perennial rye-grass *Lolium perenne*, crested dog's-tail *Cynosaurus cristatus*, creeping buttercup *Ranunculus repens*, Timothy *Phleum pratense*, dandelion *Taraxacum agg*, and occasional ribwort plantain *Plantago lanceolata* and hogweed *Heracleum spondylium*.
- 12.6.5 A corner of landscaped other neutral grassland (part of AESC Plant 2 development) that falls within the redline boundary is present to the eastern edge of the site. This grassland habitat comprises cock's-foot *Dactylis glomerata*, creeping bent *Agrostis stolonifera*, with frequent perennial rye-grass, false oat-grass *Arrhenatherum elatius*, and has been planted with scrub whips of gorse *Ulex europaeus* and hawthorn *Crataegus monogyna*. Patches of tall ruderal vegetation (g3c(16)) are present along the Usworth burn corridor, which supports dense common nettle *Urtica dioica*, great willowherb *Epilobium hirsutum* and field bindweed *Convolvulus arvensis*.
- 12.6.6 The modified grassland fields present to the southern end of the site have also been left unmanaged for at least 18 months. The perennial rye-grass and soft brome *Bromus hordeaceus* grasslands have become tall with patches of dense spear thistle *Cirsium vulgare*, creeping thistle *Cirsium arvensis* and common ragwort *Senecio jacobaea*.
- 12.6.7 The grassland habitats onsite are considered to be of **Site** value.

Hedgerows and Mature Trees

- 12.6.8 The AESC Plant 3 site supports several hedgerows onsite, ranging from young and recently planted to mature with standard trees (see Appendix 12.13 Habitat Survey for full details). All hedgerows onsite are considered to be priority habitat of principle importance. Numerous mature trees are located within the hedgerow boundaries. The exception is a small number of mature Crack Willow *Salix fragilis* that are located along the Usworth Burn (northern boundary).
- 12.6.9 The hedgerow and mature tree habitats onsite are considered to be of **Local** value.

Scrub

- 12.6.10 Patches of mixed dense and scattered scrub are present along the stream corridor and hedgerow boundaries, comprising crack willow, grey willow *Salix cinerea*, hawthorn

and bramble *Rubus fruticosus*.

12.6.11 The planted scrub within the grassland field to the east of the site, which is considered to be landscaped mitigation / compensation for the AESC Plant 2 development, comprises planted gorse *Ulex europea* and hawthorn.

12.6.12 The value of scrub onsite is considered to be at **Site** value.

Stream Habitat

12.6.13 The Usworth Burn is a tributary of the River Don, which runs along the northern boundary of the site. The stream is heavily shaded by dense and scattered scrub and tall bankside vegetation comprising common nettle, great willowherb, creeping thistle, false oat-grass and field bindweed. The channel is approximately 1m wide with slow to moderate (west to east) flowing water.

12.6.14 The stream habitat onsite is considered to be of **Local** value.

Ditches

12.6.15 Several ditches (D1-D8) are present onsite and, with the exception of D1, D3, D4 and D7, all are dry. None of the drains onsite support aquatic flora or emergent vegetation. A full description of each of the drains is provided within Appendix 12.1.

12.6.16 The ditches onsite are considered to be of **Site** value.

Buildings

12.6.17 The three buildings that were previously part of North Moor Farm (the demolition of which will be completed by the 12th April 2024) comprised a former residential bungalow, a stable and a large open fronted steel barn. All buildings associated with North Moor Farm have now been demolished. The Morgan Sindall compound is now located at North Moor Farm. West Moor Farm, which was located in the far south western corner of the application area is now absent.

12.6.18 The buildings present within the application area are considered to be of **Site** value.

Artificial Unvegetated, unsealed surface.

12.6.19 Several newly created hardcore tracks have been laid around the farmland to provide access routes for construction vehicles working on the decommissioning and relocation of power lines and pylons. In addition, areas of crushed hardcore / hardstanding are present around the North Moor Farm complex. Areas of bare earth and disturbed land are also present around the pylon bases and around West Moor farm.

12.6.20 The areas of artificial unvegetated unsealed surface are considered to be of **Negligible** value.

Species

Badger

12.6.21 No badger setts or evidence of badger was recorded onsite (WA, 2023) and no evidence has been recorded by surveys of the wider survey IAMP area (E3 Ecology, 2020). However, suitable habitat for foraging and sett creation is present onsite within farmland habitats. The desk study results showed very low numbers of records within 2km, the most recent of which was nine years ago.

12.6.22 The site is considered to be of **Site** value to badgers.

12.6.23 Given that no badger setts or signs of badger activity have been recorded onsite during ecology surveys since 2014, impacts to badger are scoped out of this assessment.

Bat Roosts

12.6.24 A bat preliminary assessment of buildings at North Moor Farm (WYG, 2014 and DWS Ecology 2022) and West Moor Farm (WYG, 2014 and DWS Ecology 2018) have been undertaken. The assessment of buildings at North Moor Farm identified that ten buildings were present within the North Moor Farm complex (at that time). Out of the ten buildings that were present, four (B3, B5, B8 and B9) were identified as having features suitable for use by roosting bats (DWS Ecology, 2022).

12.6.25 Emergence and dawn re-entry surveys were undertaken of North Moor Farm in accordance with survey guidelines (Collins, 2016) during 2022 (DWS Ecology, 2022), with no evidence of roosting bats recorded.

12.6.26 The buildings onsite are considered to be of **Negligible** value for roosting bats.

12.6.27 Based upon this, they are excluded from further assessment within this assessment.

12.6.28 Update bat surveys at West Moor Farm (see Appendix 12.2) was completed by DWS Ecology in 2021. 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 bats. There was a maximum count of two roosting bats on one survey occasion.

12.6.29 A mitigation licence from Natural England was sought with mitigation and compensation provided. These buildings have since been demolished. The roosts were considered to be of low significance with the species being common and

widespread and only of **Local** value. The compensation provided for the loss of two low status common pipistrelle roosts was provided to the south of West Moor Farm and shall not be affected by the AESC Plant 3 works. Given that the buildings are now demolished and the compensatory habitats are to be retained and unaffected by proposed development, they are considered to be of **Negligible** value and are not taken further within this assessment.

Bats in Trees

- 12.6.30 A provisional ground-based assessment of trees within the application area (WA, 2023) identified ten trees with features suitable for roosting bats. Six of these lie within the development footprint and will be removed. The climbed inspection surveys of these trees revealed various cavity features which are suitable for roosting bats. However, no evidence of roosting was recorded by the surveys which were exhaustive, with the exception of a single over-mature willow tree which was unsafe to climb and hence had un-surveyed at height features.
- 12.6.31 A further survey of the willow tree which had inaccessible at height features (close to TG8) will be required to establish the presence/absence of roosting bats as this tree cannot be retained by the development. Hence, a provisional impact assessment is made based on a reasonable scenario, which is that the tree supports a low status roost of widespread bat species such as common / soprano pipistrelle. In the event that a roost is present, appropriate mitigation will be secured via the Mitigation licence process.
- 12.6.32 In addition to the above, a single tree was previously recorded with Low suitability for roosting bats. This has since been removed to accommodate the new AESC Plant 2 development.
- 12.6.33 The trees are considered to be of **Local** value to roosting bats.

Bat Foraging and Commuting

- 12.6.34 Seasonal transect surveys across the site were completed by DWS Ecology (2022) (see Appendix 12.7). Manual transect surveys recorded relatively limited activity, the majority of which was attributed to common pipistrelles (88%) and infrequent noctule (12%). Lower activity was recorded in May with similar levels across July and September. The cooler weather during the spring survey may account for the difference.
- 12.6.35 Three static detectors were placed onsite during spring summer and autumn and the

data sets show that the peak activity was recorded in May 2022. The activity levels largely tie-in with linear habitat onsite, with most activity recorded along scrub and trees that lie adjacent to the River Don tributary in May and along the hedgerow with trees in the centre of the site during July and September. It is not unexpected that less activity was recorded at the southern end of the site as the automated detector was with a defunct and gappy hedgerow and adjacent to the AESC Plant 2 development site. Detailed tables, and graphics are provided within the Bat Transect Survey report given as Appendix 12.7.

12.6.36 Bat activity transects have been undertaken of land on the AESC Plant 2 site prior to the commencement of the surveys. A transect survey across the site completed by Ecology Solutions on 26 May 2021 (see Appendix 12.6 and summarised in the 2021 ES Ecology Chapter 12.3) and 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.

12.6.37 Overall, the site is considered to be of **Local** value to bats.

Otter and Water vole

12.6.38 The repeat survey of the River Don and the Usworth burn (a tributary of the River Don) was undertaken during 2022 and recorded no current evidence to suggest that water voles are present. Water voles were found within the survey area of the River Don by WYG in 2014/15, but only abandoned burrow systems were found during repeat surveys in 2018, 2020 and 2022 (mink signs were recorded 2018 and 2020, and in September 2022). The desk study identified that water vole were recorded along the Usworth Burn to the west of the IAMP site in 2020. Therefore, although they appear to have been lost from the IAMP area, there is potential for recolonisation in the future.

12.6.39 Evidence of otter activity was recorded within the Usworth Burn and the River Don during surveys in 2022. A single spraint was recorded to the Usworth Burn to the east of the site, with prints, further spraint and a possible holt recorded along the River Don to the east, away from the application site. However, the Usworth burn is considered to be a commuting route for otter. The AESC Plant 2 site contains no suitable habitat for otter or water vole.

12.6.40 The site is considered to be of **Local** value to otter and water vole.

Great crested Newts

- 12.6.41 Surveys for great crested newts (GCN) have been undertaken across the IAMP site during 2014/15 (WYG), 2016/17 (ARUP), and 2018/19 and 2020 (DWS Ecology). Desk study records show that there are many records of GCN within the 2km of the site, the majority of which are for the Severn Houses LWS that lies 450m distant. However, the pond at this LWS actually lies 500m distant and is separated by the A1290. No records were identified from the application site nor within 500m of the application site.
- 12.6.42 A large number of SuDs ponds have been installed around the new development in IAMP ONE over the last 2 to 3 years. This has resulted in thirteen waterbodies now being present within the IAMP area, with an additional pond lying just outside the IAMP boundary at My Pet Stop (which is greater than 0.6km away).
- 12.6.43 Environmental DNA (eDNA) surveys of the ponds were undertaken (DWS Ecology, 2022), with only ponds P8 to P14 sampled for eDNA as P1-P7 were dry. All ponds tested negative for GCN eDNA and the site does not fall within 500m of a known GCN pond.
- 12.6.44 The site is considered to be of **negligible** value for GCN.
- 12.6.45 On the basis of this, GCN are not considered further within this assessment.

Barn Owl

- 12.6.46 Numerous barn owl surveys of the wider IAMP area have been undertaken since 2014. The WYG (2014/15) report details Temporary Roosting Sites (TRS) for barn owls at West Moor Farm (demolished) and Elliscope Farm, located c. 800m north-east (demolished) of the application area.
- 12.6.47 Surveys in 2018 (DWS Ecology) identified pellets within West Moor Farm and the site was confirmed (ARS) as an active roost site when barn owls were recorded returning to the buildings during nocturnal surveys. Old pellets were recorded at Elliscope farm during the 2018 surveys, but the site was not confirmed (ARS) as supporting. During surveys in 2020/21 (DWS Ecology), fresh pellets were recorded at both Hylton Farm and Elliscope farm and, in 2021, barn owls were recorded breeding. There are no previous records of barn owl at North Moor Farm. The loss roosting and breeding sites for barn owl at West moor Farm and Elliscope farm has been compensated for by the following:
- The provision of two barn owl boxes erected in the stables at Hylton Bridge (outside the application area).

- A barn owl box erected in a tree north-west of West Moor farm (on the western boundary of the application site).
- Three boxes in trees to the south of the former Elliscope Farm.
- A wildlife tower in the field south of the former Elliscope Farm (outside the application area).

12.6.48 During surveys of North Moor Farm in 2022 (DWS Ecology), an active roost site was recorded in Building 2 and Building 3 where the presence of fresh pellets was recorded. These buildings are considered unsuitable for breeding barn owl and are now demolished. No barn owls were recorded during nocturnal surveys.

12.6.49 Monitoring surveys of the wider IAMP site during June 2023 have identified that a single barn owl was recorded hunting within the application area and carrying food towards the wildlife tower. Upon further inspection of the compensatory boxes, an active roost site within the wildlife tower and an active nest (with three chicks) within a box to the north of Hylton Farm were recorded.

12.6.50 The site is considered to be of **Local** value to barn owl.

Breeding Birds

12.6.51 Breeding bird surveys of the application area and functionally linked land have been undertaken between 11th April and 11th June 2022 (DWS Ecology). In total, sixty eight bird species were recorded over the course of the breeding bird surveys across the core survey area (scheme footprint and functionally linked boundary habitats). There were twenty-five confirmed breeding, eight probable breeding, twelve possible breeding, and twenty-one non-breeding species within the core survey area. Additionally, barn owl was confirmed to be breeding offsite but foraging onsite during the breeding season. Full results are provided in Appendix 12.10.

12.6.52 The breeding bird surveys recorded sixteen Birds of Conservation Concern (BoCC) red-list species, twenty-four amber-list species and twenty-five green-list species. Two species (avocet and golden plover) are listed on Annexe 1 of the Birds Directive), five of the species are listed on Schedule 1 of the WCA and thirteen of the species are listed on S.41 of the NERC Act.

12.6.53 Using the Fuller (1980) criteria, the breeding assemblage present is at least of **District** level importance for its breeding assemblage due to the number of confirmed / probable / possible breeding species identified during the surveys. However, weight is added due to the number of amber and red-listed species of conservation, and

several Schedule 1 and Annex 1 species utilise the site. Further, the site attains **County** level importance (>1% threshold) for some of the breeding species (e.g., little ringed plover).

12.6.54 Barn owl is known to breed within the wider area and hold home ranges across the site. A single calling quail was only heard on one occasion, but this was within suitable breeding habitat. Avocet were observed mating onsite by visiting bird watchers, but no evidence of nesting onsite was observed.

12.6.55 Breeding bird surveys undertaken over three survey visits (during April, May and June 2021) confirmed the results of a number of earlier surveys; that the AESC Plant 2 site supports a **Local** value population. The breeding bird surveys from 2021 confirmed that the site supports seven BoCC red-listed species (i.e. grey partridge *Perdix perdix*, herring gull *Larus argentatus*, lapwing *Vanellus vanellus*, linnet *Linaria cannabina*, skylark *Alauda arvensis*, starling *Sturnus vulgaris* and yellowhammer *Emberiza citrinella*), and barn owl was the only Schedule 1 species recorded. The results are discussed in detail in Appendix 12.15.

Wintering Birds

12.6.56 A number of surveys have been completed across the site (focusing on the wider area as part of the IAMP developments) by several ecological companies, including WYG in 2014/15, ARUP in 2016/17, Dendra in 2017/18 and DWS in 2018/19.

12.6.57 Winter bird surveys were undertaken between January and March 2022 covering the AESC Plant 3 site. A total of 46 species were recorded over the course of the surveys carried out between January 2022 and March 2022, with an average of 33.7 species per survey recorded. The full details of the findings can be found within Table 12.11.

12.6.58 A total of 10 BoCC red-listed species (22%) and 20 BoCC amber-listed species (43%) species were recorded, which gives a combined total of 30 notably listed species (65%). In addition, 15 BoCC green-listed species (33%) and 1 introduced species (2%) have been identified across the site during the surveys.

12.6.59 Based on the 2022 survey findings and using the adapted CIEEM and Fuller (1980) criteria, the AESC Plant 3 site is considered to be of at least **District** level importance for its winter assemblage.

12.6.60 With regards to the AESC Plant 2 site, there is an absence of survey baseline that solely covers this area, as the previous surveys (DWS 2018/19) cover a wider area (the IAMP and ELMA). However, this information is summarised, below, and is provided in full



at Appendix 12.16. Some 74 species were recorded over the course of the surveys carried out between September 2018 and March 2019. Incidental of species recorded from other site visits during this time period include European stonechat *Saxicola rubicola*, pink-footed goose *Anser brachyrhynchus*, common snipe *Gallinago gallinago*, Eurasian siskin *Spinus spinus*, Eurasian teal *Anas crecca*, European golden plover *Pluvialis apricaria*, peregrine falcon *Falco peregrinus*, marsh harrier *Circus aeruginosus*, long-eared owl *Asio otus*, and tawny owl *Strix aluco*. Including the additional incidental species, a total of 79 species have been observed across the site. In-line with previous assessment by both WYG and Dendra and using the CIEEM and Fuller (1980) criteria, the site is considered to fall within **County** level of importance.

Other Wildlife

12.6.61 The walkover survey (WA, 2023) has given full regard to the potential presence of protected and notable species. No signs of additional species not previously identified was recorded.

12.6.62 Hedgehog *Erinaceus europaeus* and brown hare *Lepus europaeus* are species that have undergone significant declines in recent years and are listed under S.41 of the NERC Act 2006 as priority species of principal importance. Hedgehog and brown hare populations are considered **Local** value receptors.

12.6.63 Previous survey work at the site (Ecology Solutions, 2021, and WA, 2023) has not recorded the presence of reptiles. Whilst the habitats present will support an assemblage of common invertebrates, there is no evidence to suggest that any rare or notable species would be present. The site is considered to be of **negligible** value for these species and they are, therefore, not taken further within the assessment.

Arboriculture

12.6.64 Three groups of trees and several hedgerows were surveyed and examined for physiological and structural defects. The results of the survey are provided in full within Appendix 12.16 and are summarised in Table 12.4, below.

Table 12.4 – Summary of the tree quality assessment	
Category	Tree /Group Number
High	None
Moderate	G1, G2, G3
Low	H1
Unsuitable for retention	None

12.6.65 The tree and hedgerow resource onsite is considered to be of **Street** and **Site** value, respectively, within the Arboriculture Report (Dendra, 2023). However, as the assessment methodology for ecology does not use ‘street level’ as a value, the

receptor is upgraded to **Local** Value.

12.7 Sensitive receptors

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

- Designated Sites (indirect impacts to statutory and local sites);
- Potential bat roost in trees, and foraging/commuting habitat;
- Habitats ;
- Barn owl;
- Breeding and wintering birds; and
- Hedgehog and brown hare.

12.8 Assessment of effects

12.8.1 Each of the receptors identified above, as being potentially subject to impacts, is considered in turn, below. Construction phase and operational phase impacts are considered separately, where relevant.

12.8.2 *Designated sites (Durham coast SAC, Northumbria Coast Special Protection Area (SPA) Northumbria Coast Ramsar Site and Durham coast SSSI)*

12.8.3 The air quality assessment⁴ found that there are no established critical loads for the sensitive features within the coastal designated sites network, and no features sensitive to acid deposition. In addition, the results confirm that the maximum modelled Process Contributions (PC) 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. It is, therefore, not necessary to proceed to a comparison of Predicted Environmental Concentrations (PECs) against the critical loads as nitrogen dioxide (NO₂) emissions are considered to be **Not Significant**³ at the designated habitat sites considered (in accordance with EA guidance). In-light of the conclusion of findings of the air quality assessment in these respects, there is no need to consider mitigation measures in relation to effects on designated sites in the locality as effects are **Negligible (Not Significant)**.

Demolition and Construction Phase

Designated Sites (indirect impacts to non-statutory sites)

12.8.4 Indirect impacts to the Usworth Burn LWS, Elliscope Farm / Hylton Bridge LWS, the

⁴ Full details of the air quality assessment are provided within Chapter 6 of this ES.

River Don LWS and the Make Me Rich Meadow LWS may occur as a result of water runoff from the site during site clearance works and construction phase. The LWS sites lie downstream of the development site. The LWSs are considered to be of Local value. Without suitable mitigation, the incidental pollution of local watercourses may result in the permanent or long-term deterioration of the LWS, resulting in an impact of moderate magnitude and a **Minor Adverse** effect (**Not Significant**).

Loss of habitats

12.8.5 The proposal will result in the loss of all central habitats within the AESC Plant 3 site and internal boundary features. Habitat losses for AESC Plant 2 are also considered. Baseline habitats are taken from the site prior to the development commencing to reflect original predevelopment conditions. In combination, this will comprise approximately:

- 3.5 ha of cropland;
- 13.85 ha of modified grassland;
- 32.80 ha of other neutral grassland;
- 1.01km of species-rich hedgerows;
- 0.87km of species-poor hedgerow;
- 0.178ha of wet ditches;
- 0.55 km lines of trees;
- 1 Pond (0.016 ha);
- 4.6658 ha of sparsely vegetated land; and
- 5.41 ha of urban habitats (to include bare ground, artificial unvegetated; unsealed surface and developed land; sealed surface).

12.8.6 In addition, the proposals will result in the loss of mature trees that form a component of the hedgerows. The northern and western boundary features of AESC Plant 3 shall be retained.

12.8.7 In terms of tree / hedgerow losses, the proposed development will result in the loss of four trees / tree groups and 1.88 km of hedgerows. The location of tree resources is provided within Appendix 12.16, with losses considered in the BNG assessment provided as Appendix 12.13, with the River Morphological Assessment provided as Appendix 12.18.

12.8.8 All habitat features above are considered to be receptors of Site / 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 High magnitude equating to Minor (Habitats) and **Moderate (Hedgerows) Adverse effects (Significant)** in the absence of mitigation. A separate Biodiversity Net Gain (BNG) calculation has been undertaken that provides details on the extent of losses. The BNG calculation demonstrates that, currently, the proposals will result in a circa -25.03% net loss in biodiversity (habitats), -27.85% (hedgerows) and -26.04% (watercourses). This is equivalent to -61.39, -11.00 and -1.62 units for habitats, hedgerows and watercourses, respectively, which will be offset by habitat creation and enhancement of an area of land outside the application boundary.

12.8.9 At the time of writing, negotiations regarding this land are currently ongoing with Sunderland City Council and will be reported separately, upon agreement (see paragraph 12.3.16). To inform this, a survey of the baseline habitats at the offset sites will be required and a further BNG calculation undertaken to ensure that sufficient uplift can be achieved in order to accommodate the BNG loss from the development site(s). It is also envisaged that a Habitat Management and Monitoring Plan (HMMP) will be required to provide detailed prescriptions, roles and responsibilities together with necessary monitoring protocols.

Bats – Roosts in Trees

12.8.10 Ten trees / tree groups have features suitable for use by roosting bats. It is likely that at least four trees / tree groups (i.e. T7, TG8, T9 and T10) shall be lost during site clearance. These trees have been subject to further surveys and no evidence recorded. One over mature willow tree could not be fully inspected due to the at height features being unsafe to access. Hence this tree shall be subject to further bat survey prior to felling.

12.8.11 For the purposes of this assessment, it is provisionally assumed that the tree could support a low status roost of a widespread species, such as common and soprano pipistrelles. As such, the trees onsite are considered to be a receptor of Local value to roosting bats. If a roost is present within the tree, the loss of a roost would be a high magnitude and, therefore, a **Moderate Adverse effect (Significant)**.

Bats Foraging

12.8.12 Any loss of linear habitats across the AESC Plant 3 and AESC Plant 2 will have a detrimental impact on bat populations utilising the sites. As habitats have been shown

to be used for foraging and (mostly) commuting, the loss of hedgerows and trees lines would lead to valuable habitat loss and increase fragmentation for bats within the local area. Importantly, one of the most actively used foraging corridors, the Usworth Burn shall be retained (this stream corridor provides connectivity to the wider area).

- 12.8.13 The foraging and commuting routes for bats are considered to be of Local value and moderate sensitivity. Without mitigation the loss of linear foraging routes for bats would result in an impact of moderate magnitude, equating to a **Moderate Adverse effect (Significant)**.

Otter and water vole

- 12.8.14 The Usworth Burn shall be retained throughout the development, with an appropriate buffer. No works to the banks of the Usworth Burn will be carried out and no direct impact to otter or water vole shall occur. However, indirect impacts through disturbance and pollution during the constructional phase of works may occur in the absence of appropriate mitigation.

- 12.8.15 Water run-off from the construction works (without mitigation) could discharge a range of sediment and silts, containing fertilizer, oil, pesticides and other pollutants into the Usworth channel. Polluted runoff may deteriorate the water quality; thereby affecting food sources for both species.

- 12.8.16 The Usworth Burn and River Don habitat is considered to be of Local value for otter and water vole and of moderate sensitivity. Without mitigation, the indirect impact on the Usworth Burn/River Don habitat would result in an impact of Minor magnitude, equating to a **Minor Adverse effect (Not Significant)**.

Barn Owl

- 12.8.17 The demolition of North Moor Farm (buildings 2 and 3) had the potential to result in the killing and injuring of barn owl during works, disturbance of barn owl during construction and the loss of two buildings used as a roost site. A pre-commencement of works nesting bird check was undertaken by DWS Ecological Services on the 18th March 2024 during which it was confirmed that no active nests were present. North Moor Farm was subsequently demolished.

- 12.8.18 The loss of foraging habitat may occur within the central areas of both the AESC Plant 2 and the AESC Plant 3 developments. No loss of roost compensation associated with the AESC 2 development will occur as a result of the proposed AESC Plant 3 development. The compensation that has been provided for within the ELMA is a tree

mounted barn owl box along the western boundary, which shall be retained.

- 12.8.19 The site is of local value to barn owl and of low sensitivity. Without appropriate mitigation, the impact on barn owl foraging would be of Moderate magnitude and a **Minor adverse effect (Not Significant)**.

Breeding Birds

- 12.8.20 The breeding bird assemblage will be displaced to surrounding habitats during construction works. The Bird surveys of the adjacent AESC Plant 2, which is currently under construction, utilised land within the application area known as the ELMA to offset impacts associated with the AESC Plant 2 development. As the ELMA land is now to be used for development of AESC Plant 3, the impacts are assessed for loss of breeding bird territories within the footprints of both the AESC Plant 3 and AESC Plant 2 developments. The site assemblage for AESC Plant 2 and AESC Plant 3 is considered to be of Local and District value, respectively, and, as such, a higher level of District value has been used to assess the impacts. In the absence of mitigation, the impact of habitat losses and displacement would be a high magnitude and **Major Adverse effect (Significant)**.

Wintering Birds

- 12.8.21 The wintering bird assemblage which utilises the site is likely to be largely displaced due to habitat loss and disturbance. The site assemblage for AESC Plant 2 and AESC Plant 3 was considered to be of Local and District value, respectively. Taking into account losses from AESC Plant 3 and the adjacent AESC Plant 2, the impacts of habitat loss and displacement are considered to be of high magnitude equating to a **Major Adverse** effect in the absence of mitigation.

Hedgehog and Brown Hare

- 12.8.22 The loss of large areas of grassland, cropland and hedgerow habitat will result in the displacement of these two species into available habitat, elsewhere. It is considered that the habitat creation and enhancement measures, which will include areas of grassland, hedgerows and scrub / woodland, will result in an overall net benefit. During the construction phase, there is potential for harm by incidental killing / injury and entrapment in deep excavations. In the absence of mitigation measures, impacts are considered to be Moderate magnitude and the effect is **Minor adverse (Not Significant)** given the wide availability of supporting habitats that may accommodate displaced individuals in the short-term.

Operational Phase

- 12.8.23 Without appropriate design, the operational phase may result in an increase in noise and light pollution into adjacent areas of retained / enhanced habitats, displacing fauna and reducing the value of these habitats to a range of wildlife (particularly bats and farmland birds).
- 12.8.24 The air quality modelling results confirm that the maximum modelled 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 or the coastal Statutory designations. As such, air quality effects to designated and local wildlife sites are considered to be **Negligible (Not Significant)**.
- 12.8.25 Farmland birds may be adversely impacted by predator shadow, which involves increased nest predation by corvids and raptors that may preferentially perch on the edge of tall buildings to observe nearby nests. Ground-nesting species, such as skylark, may be subject to displacement from otherwise viable nesting habitat in the vicinity of tall buildings, power lines and woodland. The extent of such effects depends on site conditions (although predator shadow buffers in the region of 80m have been cited in research).
- 12.8.26 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.
- 12.8.27 Bats and farmland birds are considered to be receptors of Local and District value. Operational disturbance is considered to be an impact of minor magnitude in relation to the local populations of these species, equating to a **Minor adverse** effect (Not Significant).

12.9 Mitigation measures

- 12.9.1 A Biodiversity Construction Environment Management Plan (BCEMP) will be provided for the proposed development. This document shall include 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. An Ecological Clerk of Works (ECoW) will be appointed to oversee the implementation of the BCEMP.
- 12.9.2 A Habitat Management Plan (HMP) will also be provided to ensure that adequate management prescriptions are in place, with roles and responsibilities set out for the

creation and enhancement of habitats together with a monitoring programme to ensure that modifications to management practices.

Designated Sites

- 12.9.3 The BCEMP will detail a series of measures intended to avoid significant indirect effects on Local sites within the wider IAMP site, north of the proposed development. This would include dust suppression and pollution control including silt and sediment runoff and appropriate responses to spillages.

Habitats

- 12.9.4 A range of new habitats are proposed as part of the landscape strategy (RPS, 2023). These include a species-rich neutral grassland along the perimeter of the site, with standard (rural) trees, an area of wet woodland and hedgerow planting between new buildings. In addition, such retained habitats as sections of hedgerow and associated ditches shall be enhanced.
- 12.9.5 Assuming there are no changes to the landscape design proposals and site layout, the scheme will deliver a circa -25.03% net loss in biodiversity (habitats), -27.85% (hedgerows) and -26.04% (watercourses). This is equivalent to -61.39, -11.00 and -1.62 units for habitats, hedgerows and watercourses, respectively (see Appendix 12.13 for the BNG assessment).
- 12.9.6 Given that the assessment identifies a reduction in onsite biodiversity following development, and Trading Rules have not been met, an external offset will be required. At the time of writing, the delivery of an external offset is under review and will be confirmed by Sunderland City Council (see paragraph 12.3.16).
- 12.9.7 A Landscape and Biodiversity Management Plan will be required in order to confirm the habitat creation, management and monitoring requirements over the 30-year management period. In particular, this Landscape and Biodiversity Management Plan will need to consider detailed agricultural management of benefit to farmland birds.

Bats – Tree roosts

- 12.9.8 In the event that a bat roost is located within a single willow tree which could not be fully inspected for health and safety reasons, a mitigation licence from Natural England shall be obtained prior to any affecting works. As part of the licence, a range of compensation and enhancement measures will be provided. In any event, all trees with features suitable for roosting bats will be climbed within 24hrs of felling to consider whether any bats have begun roosting after the earlier surveys but in

advance of the works taking place. Any cavity features which cannot be exhaustively searched will be subject to a soft felling protocol, the detailed methodology to be provided in a Method Statement and to include the presence of an ECoW during felling works.

Bat Foraging and Commuting

- 12.9.9 Retention of a wide buffer (at least 20m) around the peripheral western and northern boundaries (Usworth Burn) shall maintain a corridor of foraging opportunities for bats. In addition, no night time working shall occur to avoid illumination of hedgerow boundaries. In the event that lighting is required, a sensitive lighting scheme shall be incorporated to make sure that the hedgerow boundaries are not illuminated during construction.

Otter and Water Vole

- 12.9.10 The retention of a wide buffer zone (at least 10m) along the Usworth Burn shall provide a safe movement corridor for Otter and water vole. And, in order to mitigate indirect impacts to otter and water vole as a result of water run-off into the Usworth Burn, pollution prevention should be incorporated into the CEMP for the site.

Barn owl

- 12.9.11 The AESC Plant 3 site is considered to support an active roost site for barn owls within Building 2 and 3 at North Moor Farm (now demolished). Prior to demolition of the farm buildings, a roost check was carried out to establish the absence of nests.
- 12.9.12 As part of the AESC Plant 2 development, three barn owl boxes have already been erected, nearby, one a mature tree along the western boundary of the AESC Plant 3 development and two within Hylton Bridge Farm (stables). A further three tree mounted boxes have been erected near the former Elliscope Farm and a wildlife tower. All boxes shall be checked annually to ensure they are intact and functioning. In addition, a programme of monitoring shall be undertaken every three years for the a 20 year period. These checks commenced in 2022 (DWS Ecology, 2022).
- 12.9.13 In order to compensate for the reduction in foraging opportunities onsite, particularly associated with the ELMA, neutral grassland buffers/strips will be included along the hedgerows and managed as tussocky / rough grassland with expected high populations of small mammals. Overall, the package of barn owl mitigation will ensure that opportunities for the species remain within the landscape.

Breeding and Wintering Birds

- 12.9.14 The quantum of compensatory land required to be enhanced to accommodate the populations of farmland birds that will be displaced by the loss of supporting habitats is considered in detail in a separate Technical Note (see Appendix 12.14). The calculation is based on the requirements of skylark, as this is the species for which potentially the largest land area is required. The calculation has been undertaken objectively and is based on the most recent survey information, which identified 11 pairs of skylark to be lost from the AESC Plant 2 and AESC Plant 3 sites. It is assumed for the purposes of the calculation that an area of winter sown cereal field habitat will be purchased and made available to management prescriptions to enhance the area for farmland birds in general and that this land will be maintained as such in perpetuity.
- 12.9.15 In this case, a relevant enhancement for skylark (for example) would be a change in farmland management from winter sown cereal production to organic spring sown cereals, with retention of overwintered stubble. The exact nature of habitat measures required to generate a sufficient uplift in breeding density will be dependent on the habitats already extant on the land to be purchased and, as such, surveys of this land (including breeding bird surveys) will be required to inform the detailed proposal.
- 12.9.16 It is also envisaged that other measures designed to enhance farmland habitats for birds will be included within a Habitat Management Plan. Such measures will include the laying of hedgerows on a ten yearly cycle to ensure that hedgerows are allowed to attain full height and maximise shelter opportunities and berry / nut production. A wide grassland buffer strip adjacent to the hedgerows will also be provided, lightly managed to encourage the development of a rough, tussocky grassland sward for the benefit of foraging barn owl. Arable fields will be at least 2 ha in size and some will include areas of lightly grazed (by cattle) damp pasture with 'wader scrapes' to ensure that habitat is available for breeding curlew and lapwing. Winter stubbles will be retained and (ideally) the habitats will be farmed without widespread pesticide application. There will also be areas seeded with a wild bird cover / seed mix to ensure that winter food resources are maintained.
- 12.9.17 A monitoring protocol will also be initiated to consider any changes to management requirements in the light of adverse results. A farmland habitat compensation area in the order of 50 - 70 ha will be required in order to offset the harm from the loss of habitats within the AESC Plant 2 and AESC Plant 3 developments. This includes measures for skylark and other species, including grey partridge, northern lapwing, linnet, starling, tree sparrow *Passer montanus*, whitethroat *Curruca communis*,

yellowhammer and barn owl. An area of 3.4 ha will be retained within a single large parcel in the north-west corner of the application site that will be managed as tall, species-rich grassland and will (in its own right) be suitable breeding habitat for skylark.

12.9.18 The compensatory package to be delivered for farmland breeding birds will largely ensure that the wintering assemblage is also provided for in terms of habitat quality and availability, although a number of shallow pools that retain winter all-year will be required so that habitat for migrating wading birds is provided.

Hedgehog and Brown Hare

12.9.19 During the construction phase, there is potential for harm by incidental killing / injury and entrapment in deep excavations. This can be overcome by avoiding the winter period (i.e. November to February, inclusive) for the clearance of such sensitive habitats as woodland, scrub and hedgerow, and by ensuring all deep excavations are either fenced-off or have a shallow batter on one edge so that animals can climb free.

12.9.20 Regarding compensatory provisions, these will include significant areas of neutral grassland, managed by a late summer hay cut and areas of arable land supporting spring sown cereals. Both of these measures will be of benefit to brown hare. An enhanced hedgerow network both onsite and within the mitigation areas will also benefit hedgehog with wide grassy margin also of benefit to brown hare.

12.10 Residual effects

12.10.1 Table 12.5, below, summarises the residual ecological impacts onsite post mitigation.

Table 12.5 Summary of Impacts and Mitigation				
Interest feature	Impacts	Impact (without mitigation)	Mitigation/compensation	Residual Impacts (with mitigation)
Non-statutory sites	Indirect effects from pollution / water runoff and dust.	Minor Adverse	<ul style="list-style-type: none"> Retain a minimum 15 m buffer around the Usworth Burn. Produce a CEMP to include pollution control. 	Neutral
Habitats	Loss of hedgerows, trees, grassland, a pond and ditches, including ELMA habitats.	Moderate Adverse	<ul style="list-style-type: none"> Compensation and enhancement of onsite retained areas including green infrastructure proposals. Compensation and enhancement of yet to be confirmed offsite areas in-line with BNG and farmland bird management requirements. 	Minor positive
Bats (trees roosts)	Possible loss of tree roost(s).	Minor Adverse	<ul style="list-style-type: none"> Undertake activity surveys (if necessary). Advance climbed inspections and soft felling protocol to be detailed in a Method Statement and ECoW presence. If a roost is present obtain a mitigation licence from Natural England with 	Neutral



Table 12.5 Summary of Impacts and Mitigation				
Interest feature	Impacts	Impact (without mitigation)	Mitigation/compensation	Residual Impacts (with mitigation)
			appropriate levels of mitigation and compensation.	
Bats (foraging and commuting)	Loss of habitat especially within ELMA.	Moderate Adverse	<ul style="list-style-type: none"> Retention of peripheral hedgerows and trees. Planting of native hedgerows between buildings. Planting of wet woodland habitat onsite. Provision of compensatory habitat within off set area to be functionally linked by green infrastructure (where possible) and managed for the purpose of biodiversity. 	Neutral - minor positive
Otter and water vole	Indirect effects of disturbance during commuting and pollution of watercourse	Minor adverse	<ul style="list-style-type: none"> Retain a buffer along the Usworth burn (at least 10 m). Incorporate pollution prevention methods into the CEMP to ensure site run off is dealt with appropriately. 	Neutral
Barn Owl	Loss of active roost site. Loss of foraging habitat.	Minor adverse	<ul style="list-style-type: none"> Retention of boundary features and a buffer zone along Usworth Burn. Replanting of species rich grassland around the periphery of the site, providing on site foraging opportunities. Provision of a range of barn owl boxes as part of the AESC Plant 2 and wider IAMP development. 	Neutral
Breeding Birds	Loss of open farmland habitat suitable for breeding ground nesting birds	Major Adverse	<ul style="list-style-type: none"> Retention and enhancement of boundary hedgerows and grassland habitats in the north-west corner of the AESC Plant 2 Site and along northern and western boundaries. Wader scrapes / shallow pools on land in north-west of AESC Plant 2 boundary to retain habitats for migratory wading birds. Enhancement of a c.50 to 70 ha off site habitat specifically for farmland birds. 	Neutral - minor positive
Wintering Birds	Loss of overwintering and foraging habitat for migrant birds	Major Adverse	<ul style="list-style-type: none"> Retention and enhancement of boundary hedgerows and grassland habitats in the north-west corner of the AESC Plant 2 Site and along northern and western boundaries. Wader scrapes/shallow pools on land in north-west of AESC Plant 2 boundary to retain habitats for migratory wading birds. Enhancement of a c.50 to 70 ha offsite habitat specifically for farmland birds, including overwinter stubble within cereal fields. 	Neutral – minor positive
Hedgehog and brown hare	Loss of habitat	Minor adverse	<ul style="list-style-type: none"> Retention of mature hedgerow and Usworth Burn corridor with buffer. Provision of neutral grassland margins suitable for foraging. ECoW checks prior to hedgerow removal, particularly during the winter months. Provision of grassland and spring sown cereal field of benefit to brown hare in mitigation land. 	Neutral

12.11 Cumulative effects

- 12.11.1 Significant inter-cumulative effects will potentially arise as a result of the combined IAMP developments.
- 12.11.2 It was concluded within the 2021 AESC Plant 2 ES that no significant adverse effects would arise with the implementation of mitigation and longer-term compensation provisions via the ELMA; hence residual adverse effects may be apparent in the short-term, which would be neutral or beneficial upon the maturity of ELMA habitats. However, a proportion of the ELMA will be lost to the AESC Plant 3 development and will not be available. As such, it is important that alternative offsite provisions are secured. A combination of the remaining ELMA area and the offsite areas of land to be purchased for farmland bird mitigation to accommodate displaced populations from the AESC Plant 2 and AESC Plant 3 developments will be sufficient to ensure cumulative significant adverse effects are avoided.
- 12.11.3 It will be essential to understand the baseline population levels of key breeding bird and bat species within the offsite mitigation areas and to provide habitat enhancement measures that are quantifiable and demonstrate that an appropriate uplift can be achieved. The methods used in the Technical Note at (Appendix 12.14) should be followed.
- 12.11.4 In addition to the baseline surveys, monitoring will also be required in the form of frequent surveys for bats and birds (potentially) in combination with fixed point photography to consider general habitat changes. Targets can then be set based upon 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).
- 12.11.5 Given the anticipated limited contribution to inter-cumulative harm from the assessment of 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 developments or with other planned developments within the local area.
- 12.11.6 Other applications in the locality with the potential for cumulative effects (as set out in chapter 2) are given in Table 12.6 below. As this scheme does not impact any statutory designated sites, only developments within 2km are considered: These schemes in the locality have been given due consideration as part of this assessment, 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.



Table 12.6: Cumulative Assessment						
Address	Planning Application Ref. No.	Description of Development	Current Known Status	Location in relation to Site	Residual effects with mitigation / compensation	Cumulative effects
IAMP ONE, Phase 1	18/00092/HE4	Full planning permission for light industrial, general industrial and storage or distribution (Class B1(c), B2 and B8), with ancillary office and research and development floorspace (Class B1(a) and B1(b)) with associated access, parking, service yards and attenuation basins, as well as the temporary construction route, internal spine road, utility diversions, with two accesses onto the A1290 and associated infrastructure, earth works and landscaping (under construction) Outline planning permission for the erection of industrial units for light industrial, general industrial and storage or distribution (Class B1(c), B2 and B8) with ancillary office and research and development floorspace (Class B1(a) and B1(b)) with internal accesses, parking, service yards, attenuation basins, electricity substations, foul pumping station, realignment of the access road to North Moor Farm and associated infrastructure, earthworks and landscaping (All Matter Reserved).	Approved May 2018.	IAMP ONE	No significant adverse effects would arise, with the implementation of mitigation and longer-term compensation provisions via the ELMA and off-site mitigation. It is thought that short term residual adverse effects may be apparent but that short term, but these would be neutral or beneficial upon the maturity of habitats.	No inter-cumulative effects.
IAMP ONE, Phase 2 (AESC Plant 2)	20/00556/OU4	Erection of industrial units (up to 98,937.2sqm) (Gross Internal Area) for light industrial, general industrial and storage & distribution uses (Class B1(c), B2 and B8) with ancillary office and research & development floorspace (Class B1(a) and B1(b)) with internal accesses, parking, service yards, electricity substations, attenuation basins and associated infrastructure, earthworks and landscaping, as well as the demolition of the existing buildings at West Moor Farm. (All matters are Reserved).	Approved June 2020.			
IAMP ONE, Washington	21/01764/HE4	Erection of industrial unit to be used for the manufacture of batteries for vehicles with ancillary office / welfare floorspace and associated infrastructure provision, accesses, parking, drainage and landscaping.	Approved October 2021 (construction in progress).			
	19/00245/REM	Reserved matters approval for the access, layout, scale, appearance and landscaping of the development for Plot 4 of hybrid planning application 18/00092/HE4.	Approved May 2019 (completed and occupied by Faltec).			



Table12.6: Cumulative Assessment

Address	Planning Application Ref. No.	Description of Development	Current Known Status	Location in relation to Site	Residual effects with mitigation / compensation	Cumulative effects
	19/00280/REM	Reserved matters approval for the access, layout, scale, appearance and landscaping of the development for Plots 5 and 6 of hybrid planning application 18/00092/HE4.	Approved April 2019 (completed and currently vacant). Temporarily used as Nightingale Hospital during COVID-19 pandemic			
IAMP TWO and Early Infrastructure	21/02807/HE4 and STC/1172/21/FUL	Hybrid planning application including demolition works, erection of industrial units (up to 168,000sqm) (Gross Internal Area) for light industrial, general industrial and storage & distribution uses (Class E(g)(iii), B2 and B8)) with ancillary office and research & development floorspace (Class E(g)(i) and E(g)(ii) with internal accesses, parking, service yards and landscaping, and associated infrastructure, earthworks, landscaping and all incidental works (Outline, All Matters Reserved); and dualling of the A1290 between the A19/A1290 Downhill Lane Junction and the southern access from International Drive, provision of new access road including a new bridge over the River Don, electricity sub-stations, pumping station, drainage, and associated infrastructure, earthworks, landscaping and all incidental works (Detailed)	Approved July & August 2023.	IAMP TWO	Compensatory hedgerow, woodland, tussocky grassland and scrub planting, enhancements to retained habitats, enhancements to the River don to increase structural diversity create wetland areas. Designated areas and protected species safeguarded via CEMP, pollution prevention measures, pre-works checks and ECoW. Retention of tree bat roosts, sensitive lighting scheme and phased approach. Hedgehog holes and bird boxes. No adverse residual effects.	No inter-cumulative effects.
IAMP, Washington	21/01670/S37	Diversion of overhead line at IAMP.	To complete September 2023.	To the west and north of site boundary.	Loss of scrub, grassland from the base of the towers and a1-3m of hedgerow shall be re-instated upon completion. Enhancements covered by wider IAMP ELMA. Neutral residual effects	No inter-cumulative effects.

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Address	Planning Application Ref. No.	Description of Development	Current Known Status	Location in relation to Site	Residual effects with mitigation / compensation	Cumulative effects
A19 Downhill Lane Junction Improvements	Development Consent Order: TR010024	Project to enhance capacity of junction to support the IAMP. Includes construction of new bridge to south of existing (A1290) bridge across the A19 to create a more traditional roundabout layout above the A19. New slip roads will connect the A19 to the south	Approved July 2020 (Completed)	Located north east of IAMP ONE	Compensatory habitat planting, timing to avoid nesting bird season, translocation of protected species, landscape planting to discourage barn owl. Pollution prevention measures, sensitive lighting scheme and removal of Sch 9 Invasive plant species. Residual impacts to common toad.	No inter-cumulative effects.
1 To 5 Usworth Cottages and Chalet, Washington Road	20/01915/FUL	Demolition of numbers 1 to 5 Usworth Cottages and the Chalet, including associated garages and outbuildings	Approved November 2020 (Completed)	Located south east of IAMP ONE	Loss of bat roost under license, implementation of bat boxes.	No inter-cumulative effects.
West Moor Farm, Cherry Blossom Way	21/01330/FUL	Demolition of buildings comprising West Moor Farm	Approved August 2021 (Completed)	Located on Envision GIGA Plant site	Loss of bat roosts under license, bat boxes (inc. hibernation box) proposed. Barn owl boxes and wildlife tower, demolition of barn owl nest whilst inactive. Long term monitoring.	No inter-cumulative effects.
Land adjacent to the Three Horseshoes, Washington Road	18/01869/FUL and 19/02161/VAR	Proposed three-storey 36 bed hotel with parking on land adjacent to the Three Horseshoes, Washington Road (variation of condition application ref. 19/02161/VAR forms part of this application)	Approved October 2019 Approved March 2020 (Not Yet Implemented)	Located south east of the Site boundary	PWMS for bats regarding low-moderate trees. Works undertaken outside of nesting bird season. Bat and bird boxes recommended, sensitive lighting scheme.	No inter-cumulative effects.
Land west of International Drive	22/02384/FU4	Erection of a 275kV substation and 66kV substation with associated infrastructure.	Submitted November 2022 (pending consideration).	Located within IAMP ONE.	Loss of farmland bird habitat (5.75ha) resulting in the displacement of 2 lapwing territories (no skylarks) c.0.02% of the breeding population. Accepted that there is a minor negative impact of Low significance.	Inter-cumulative effects may occur in the absence of mitigation / compensation. The loss of an additional two Lapwing territories may be significant when combined with the loss of habitat for



Table 12.6: Cumulative Assessment						
Address	Planning Application Ref. No.	Description of Development	Current Known Status	Location in relation to Site	Residual effects with mitigation / compensation	Cumulative effects
						farmland birds from the AESC Plant 3 phase of works. However, losses of territories shall be mitigated for within the ELMA and by the farmland bird Mitigation strategy prepared for AESC Phase 3 (WA, 2023) ensuring no overall cumulative effects.
Land north of International Drive	23/01097/FU4	Erection of switching station with security fencing and landscaping, with associated earth works and engineering operations.	Approved July 2023 (construction in progress).	Located within IAMP ONE.	Bird boxes and artificial habitat to be included in landscape design. Plus the inclusion of scrub/tree habitat to compensate for general loss of habitats for nesting birds. Where possible vegetation clearance is to be undertaken over winter to avoid the nesting bird season or removed following a nesting bird check by a suitably experienced ecologist.	No inter-cumulative effects.
	18/00459/FUL	Detailed application for the erection of two extensions to the existing press and assembly shop buildings to house additional production capacity and creation of external hardstanding area with associated landscaping and fencing	Approved April 2019 (Completed)		Compensatory planting, covered excavations, sensitive lighting scheme, ECoW. Recommendations as per PEA report (not available). No residual impacts.	No inter-cumulative effects.
Land at Albany Park, Spout Lane, Washington	19/01252/FUL	Construction of 76 dwellings, provision of open space and associated infrastructure. (Amended description, updated plans & reports)	Approved November 2020 (Near Completion) Karbon Homes	To the south west of the Site boundary	Pollution prevention measures, retention of boundary habitat, incorporation of bat boxes, removal of Sch 9 invasive plant species. Offsite compensatory planting. Sensitive working scheme, replacement trees,	No inter-cumulative effects.

Table12.6: Cumulative Assessment

Address	Planning Application Ref. No.	Description of Development	Current Known Status	Location in relation to Site	Residual effects with mitigation / compensation	Cumulative effects
					nesting bird check. Displacement of nesting birds including Blackcap, Great Spotted Woodpecker, Treecreeper and Whitethroat. Residual minor impacts to breeding birds at the local value.	
Land west of Infiniti Drive, Washington	21/00401/HE4	Erection of industrial units for light industrial, general industrial and storage distribution uses with ancillary office floorspace, associated access, landscaping, parking and service yards	Approved September 2021 (Construction In Progress)	Located circa 1.2km south west of the Site boundary	Pre-works inspections, toolbox talk, ecological constraints register (incl. buffer zones), watching brief, speed limits, covering of excavations, no-disturbance zones. Nesting bird checks, pollution prevention, no night works, covering excavations, hedgehog houses, bird boxes. No residual impacts.	No inter-cumulative effects.
	21/00605/OU4	Erection of industrial units for light industrial, general industrial and storage and distribution uses (Use Classes B2, B8 and E(g)(iii)), with ancillary office floorspace and 123 car parking spaces. All matters are reserved for determination at a later date	Approved May 2022 (See RM Below)			
	22/01944/REM	Submission of Reserved Matters pertaining to details of access, appearance, landscaping, layout and scale of industrial development with ancillary office space and associated infrastructure, in accordance with the approved outline planning application (Ref. 21/00605/OU4)	Submitted August 2022 (Pending Consideration)			
Elm Tree Nursery, Washington Road	18/01964/FUL	This application proposed generally low-level extensions of the existing parking area, agricultural building and canopy structure, in addition to an additional polytunnel, new outdoor eating area and new children's play area. Solar panels are proposed for the south-facing elevation of the existing building. The new / extended structures proposed within the site would be no taller than the existing buildings (approximately 6.0 m to ridge height)	Approved December 2019 (Completed)	Located circa 766m south west of the Site boundary	PWMS for GCN. No residual impacts.	No inter-cumulative effects.
Amazon UK - Follingsby International Enterprise Park	17/01117/OUT	Outline application for Class B8 and B2 and associated offices and works	Approved June 2018	Located circa 2.49km north west of the Site boundary	Over 2km distant, no impacts to European Conservation Sites.	No inter-cumulative effects.
	18/00111/REM	Reserved matters submission for appearance, layout, scale and landscaping for phase one pursuant to outline permission DC/17/01117/OUT (ID GC-09)	Approved April 2018 (Completed)			
	18/00237/OUT	Outline application for use class B8 and B2 with associated offices and works	Approved May 2018			

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Address	Planning Application Ref. No.	Description of Development	Current Known Status	Location in relation to Site	Residual effects with mitigation / compensation	Cumulative effects
	18/00574/FUL	Variation of Condition 1 of planning permission DC/18/00237/OUT to incorporate the adjacent South Follingsby Farm site into the wider Follingsby International Enterprise Park development area by extending the green infrastructure and built development zones further west and removing access one and repositioning accesses two-five, and the associated bus stops and crossing along Follingsby Lane	Approved April 2019			
	18/00573/COU	Demolition of farmhouse and change of use to provide extended green infrastructure and built development zones for adjacent Follingsby International Enterprise Park including closure of existing vehicle access and formation of new vehicle access off Follingsby Lane to replace one of the six accesses approved under DC/18/00237/OUT	Approved September 2018 (Completed)			
	20/00021/REM	Reserved matters application pursuant to outline application DC/18/00574/FUL for a storage and distribution unit (use class B8) with ancillary offices on PLOT A	Approved March 2020 (Completed)			
	20/00208/REM	Reserved matters application pursuant to outline permission DC/18/00574/FUL for warehouse building on PLOT B	Approved May 2020 (Completed)			
Land west of Follingsby Way, Follingsby International Enterprise Park	18/00860/OUT	Erection of business/industrial development (Classes B1(c) and/or B2 and/or B8) with associated works.	Approved September 2019	Located circa 2.97km north west of the Site boundary	Over 2km distant, no impacts to European Conservation Sites.	No inter-cumulative effects.
Land north of Follingsby Lane, Follingsby International Enterprise Park	19/01252/OUT	Erection of business/industrial development (use classes B1(c)/B2/B8)	Approved September 2022 (Not yet Implemented)	Located circa 2.82km north west of the Site boundary	Over 2km distant, no impacts to European Conservation Sites.	No inter-cumulative effects.
	16/00698/OUT	Outline application for the erection of up to 144 residential dwellings, with associated works	Approved June 2019	Located circa 4.08km North		No inter-cumulative effects.

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Address	Planning Application Ref. No.	Description of Development	Current Known Status	Location in relation to Site	Residual effects with mitigation / compensation	Cumulative effects
Former Wardley Colliery, Gateshead	19/00813/REM	Reserved matters application pursuant to outline permission (DC/16/00698/OUT) for the erection of up to 144 residential dwellings	Approved November 2020	West of the Site boundary	Over 2km distant, no impacts to European Conservation Sites.	
Unit 1 Spire Road, Glover, Washington	18/02226/FUL	Extension to existing building to provide additional education accommodation (class D1), including external works to reconfigure vehicular parking.	Approved October 2019 (completed).	Located circa 1.22km South West of site boundary.	No ecological information available	No planning conditions relating to ecology were within the decision notice. No cumulative effects are considered likely.
Northern Area Playing Fields Stephenson Road Stephenson Washington	17/02425/LP3	Demolition of existing changing pavilion. Engineering works to re-grade site and install drainage to facilitate the provision of 4no artificial pitches (3no football and 1no dual football/rugby) with associated fencing, floodlighting and improvements to remaining existing natural grass pitches; erection of new pavilion building to include changing facilities, club room and bar, kitchenette and education space; alterations to existing access and associated works and provision of associated car and cycle parking, signage, landscaping and boundary fence. Provision of bridleway and barrier treatment and provision of 2no passing places.	Approved April 2018 (completed).	Located circa 1.47km North West of site boundary.	The site has peripheral habitats suitable for water vole. and foraging bats. Appropriate mitigation was recommended to use a sensitive lighting scheme for bats and to retain a buffer along the drain avoid impacts to water vole. Biodiversity enhancement scheme was set by a planning condition 14. Neutral residual effects. Mitigation / enhancements recommended includes retention of hedgerow and woodland habitats, removal of Sch 9 species, sensitive lighting for bats, avoidance of nesting bird season/nesting bird checks, pre-works check for badger, native planting and woodland thinning. These will be brought forward under Planning condition 15.	No inter-cumulative effects.
Nissan Motor Manufacturing (UK) Ltd	15/00942/FUL	Construction, Operation and Decommissioning of a 4.774MWp Solar Photovoltaic (PV) Array comprising 19,096, 250W, 60 Cell 1650 x 990 x 35mm Photovoltaic Panels, Mounting System, Holtab 400kVA stations, DNO	Approved July 2015 (completed).	1.15 km to the south east of site boundary.	Provision of compensation in the form of 5% grassland shaded by solar panels, and loss of 20m of hedgerow.	No inter-cumulative effects.

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Address	Planning Application Ref. No.	Description of Development	Current Known Status	Location in relation to Site	Residual effects with mitigation / compensation	Cumulative effects
		Connection, Cabling and Cable Trenches, CCTV, Weather Station and Temporary Storage Area.				
	21/01565/FUL	Erection of Wireless network 7 x 10m masts to provide a test bed for advanced technology.	Approved July 2021 (completed).	1.13 km to the south east of site boundary.	A range of ecological enhancements are provided for bats, birds, amphibians and mammals. Positive residual effects	No inter-cumulative effects.
Vacant Units, Turbine Way, Turbine Business Park	19/01062/FUL	Construction of 4 two-storey buildings (Use Class B2/B8) including access onto Turbine Way, parking and turning space and landscaping.	Approved June 2021 (completed and currently vacant).	1 km to the south of site boundary.	No protected species to be negatively impacted. Mitigation comprises planting schemes and construction methods. Further offsite mitigation to be secured by Section 106 agreement.	No inter-cumulative effects.
Land at 4 Turbine Way, Turbine Business Park	20/01309/FUL	Erection of 2 commercial units including new vehicular access and associated parking /service areas.	Approved February 2022 (See Below)	1.37 km to the south of site boundary.	Precautionary working measures for Badgers and general nesting birds and sensitive lighting scheme for bats. Biodiversity offsetting onsite with appropriate management secured through a HMMP.	No inter-cumulative effects
	22/02601/SUB	Erection of 2 commercial units including new vehicular access and associated parking/service areas (Resubmission) (Part retrospective).	Approved March 2023 (not yet implemented).			
Land at Turbine Way, Turbine Business Park	22/00966/FUL	Erection of 2 industrial units with associated access, landscaping and parking.	Approved March 2023 (not yet implemented).	1.26km to the south of site boundary.	Precautionary Working Measures for GCN to be adopted. Habitats proposed incorporated into A HMMP with bat and bird box enhancements. neutral residual effects.	No inter-cumulative effects
Décor Cladding & Bathrooms, Turbine Way, Turbine Business Park	19/01062/FUL	Construction of 4 two-storey buildings (Use Class B2/B8) including access onto Turbine Way, parking and turning space and landscaping.	Approved June 2021 (completed and occupied by Décor).	1.3km to the south of site boundary.	Compensation for biodiversity offsetting via a fixed financial payment secured by Section 106 agreement.	No inter-cumulative effects.
Land east of Turbine Way,	22/00136/FUL	Construction of four detached buildings to provide 9no. units with ancillary offices for general industrial (Use Class B2), storage or distribution (Use Class	Approved June 2023.	0.8km to the south of site boundary.	Precautionary working methods for GCN and nesting birds to be adopted. Positive biodiversity net gain achieved.	No inter-cumulative effects

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Address	Planning Application Ref. No.	Description of Development	Current Known Status	Location in relation to Site	Residual effects with mitigation / compensation	Cumulative effects
Turbine Business Park		B8) and light industrial (Use Class E(g)(ii)); including parking and turning space, landscaping and accesses onto Turbine Way.				
Griffiths Textiles Machines, Alston Road, North Washington	22/01039/PCZ	Installation of 707kwp PV solar panels to roof.	Decision Issued September 2022.	1.55km to the south west of site boundary.	No ecological mitigation / compensation required	N/A
Former Usworth Sixth Form Centre, Stephenson Road, Washington	22/00294/FU4	Erection of 190 dwellings with associated access, landscaping and boundary treatment.	Submitted March 2022 (pending consideration).	1.6km to the west of site boundary.	Little suitable open breeding habitats for ground nesting birds. Mitigation in the form of retention of boundary features for commuting and foraging bats/nesting birds. Sensitive lighting scheme to be incorporated into site design. Enhancements to be provided in the form of bat and bird nest boxes, hedgehog highways, refugia for herptiles/hedgehog and bee brick and bug hotels. A contingency is to be provided for Biodiversity Net Gain, to ensure that a positive net gain shall be achieved. A Biodiversity CEMP is to be provided prior to commencement of works.	No inter-cumulative effects.
Vantec, Turbine Way	23/00805/PCZ	Installation of roof mounted solar PV system (320.76 kwp), consisting of 703 solar modules alongside 2x 110KW inverters.	Prior approval not required 15 June 2023.	1.5km to the southeast of site boundary.	No ecological mitigation or compensations required	N/A
Kasai UK Ltd, Factory 1, Stephenson	22/02538/FUL	Installation of 1,450KWp solar system on main factory roof. 3540 panels in total.	Planning permission	Located 1.39km to the north- west of	No ecological mitigation / compensation required.	N/A



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Address	Planning Application Ref. No.	Description of Development	Current Known Status	Location in relation to Site	Residual effects with mitigation / compensation	Cumulative effects
Road, Stephenson, Washington			granted on 4 July 2023.	the site boundary.		
Vantec Infiniti Drive Washington NE37 3HG	23/00806/PCZ	Installation of a roof mounted solar PV system (302.25 kwp, consisting of 806 solar modules alongside 2x 80kW inverters and 100kW inverter.	Prior Approval not required 15 June 2023.	Located 1.35km to the south of site boundary.	No ecological mitigation or compensation required.	N/A
Envision GIGA Plant, 1 International Drive, Sunderland, SR5 3FH	23/01542/VA4	Variation of conditions attached to planning approval 21/01764/HE4 for the erection of industrial unit to be used for the manufacture of batteries for vehicles with ancillary office / welfare floorspace and associated infrastructure provision, accesses, parking, drainage and landscaping. Conditions to be varied Condition 2 (Approved plans), Condition 3 (Floor space), Condition 4 (Design and Access Statement) and Condition 32 (Materials).	Submitted July 2023.	Located within IAMP ONE.	The original proposals resulted in a residual loss of open farmland habitats and their associated bat and bird populations. Habitat creation within the ELMA is provided for the purpose of farmland birds and is intended to promote enhancement for the local bird population.	No cumulative effects.
	23/01540/FU4	Erection of canopy above bulk stores on western side of the Giga 1 factory.	Submitted July 2023.		No ecological considerations	N/A
	23/01541/FU4	Erection of gas governor house for Giga 1.	Submitted July 2023.		Small development area within the footprint of the previous redline boundary. No further ecological considerations necessary above and beyond the original application as given above.	No cumulative effects.
	23/01555/FU4	Erection of high voltage sub-station with compound, transformers and securing fencing.	Submitted July 2023.			

12.12 Conclusion

- 12.12.1 The assessment, which jointly considers impacts to ecology receptors arising from the proposed AESC Plant 3 development and the AESC Plant 2 development, concludes that (subject to suitable mitigation and compensation provisions) there will be **no significant adverse effects to the ecological features considered.**
- 12.12.2 The assessment is based on fieldwork undertaken mainly during 2022 and 2023 or prior to this. In addition, the influence of the construction of the AESC Plant 2 site on faunal populations (especially breeding and wintering birds and bats) is not fully understood and, as such, compensatory measures have been recommended (in term of area quantum) on a precautionary basis.
- 12.12.3 The extent of compensation/offset land required, the enhancement provisions and the resulting positive impact on faunal populations is heavily influenced by the proximity of such areas to the donor site and by the type / quality and extent of habitats present prior to enhancement measures (i.e. the baseline populations) and cannot be fully assessed until the sites have been identified and surveyed. It will, therefore, be necessary to consider the selection of such areas carefully such that all necessary species and habitats can be addressed. **On the assumption that such measures can be secured, enhanced and monitored, there will be no significant residual effects, and the scheme can be delivered in conformity with legislative and policy considerations.**