



Keuper Gas Storage Project

Preliminary Environmental
Information Report – Ecology and
Nature Conservation

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
CEMP	Construction Environmental Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
EIA	Environmental Impact Assessment
ERM	Environmental Resources Management
ES	Environmental Statement
GCN	Great crested newt
KGSL	Keuper Gas Storage Limited
KGSP	Keuper Gas Storage Project
LBAP	Local Biodiversity Action Plan
LSWB	Lesser silver water beetle
LWS	Local wildlife site
MC	Material Change
PEIR	Preliminary Environmental Information Report
RCA	River Condition Assessment
SPA	Special Protection Area
SAC	Special Area of Conservation
WFD	Water Framework Directive

10. ECOLOGY AND NATURE CONSERVATION

10.1 INTRODUCTION

- 10.1.1.1 This chapter of the Preliminary Environmental Information Report (PEIR) assesses the effects of the Proposed Development with respect to ecology and nature conservation. The chapter provides: the policy context for ecology and nature conservation; consultation feedback on the Proposed Development; the assessment methodology and criteria; the baseline conditions currently existing within the Site and in the surrounding area; the mitigation measures the Proposed Development is committed to implementing; and an assessment of likely significant effects with these measures adopted.
- 10.1.1.2 This chapter is supported by **Chapter 2, Proposed Development Description, Appendix 10A, Desk-Study, Appendix 10B, Great Crested Newts Survey Report, Appendix 10C, Bat Survey Report and Appendix 10E, River Condition Assessment.**
- 10.1.1.3 The results of the survey work and survey methodologies are presented in each of the individual appendices noted above (**Appendix 10A – 10E**).

10.2 LEGISLATION, POLICY AND GUIDANCE

10.2.1 LEGISLATION

- 10.2.1.1 Key items of legislation relevant to ecology and nature conservation for the Proposed Development are summarised below.

EU Directives

- 10.2.1.2 The EU Directive 92/42/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora, also known as the Habitats Directive, provides a framework for the conservation and management of natural habitats, wild fauna (except birds) and flora in Europe. Its aim is to maintain or restore natural habitats and wild species at a favourable conservation status.
- 10.2.1.3 The EU Directive 2009/147/EC on the Conservation of Wild Birds, also known as the Birds Directive, provides for the protection of European wild birds and habitats of certain such species, through the designation of Special Protection Areas (SPA's).
- 10.2.1.4 The relevant provisions of the Directives are the identification and classification of Special Areas of Conservation (SAC) and procedures for the protection of SACs and SPAs. The Directive requires national governments to establish SACs and to have mechanisms in place to protect and manage them.
- 10.2.1.5 Presently, under the terms of domestic legislation relating to the UK's departure from the European Union, the Habitats Directive and Birds Directive continue to have a direct effect in the UK. SACs and SPAs

are known collectively as “European Sites” and, as a matter of Government policy, the same level of protection is afforded to listed or proposed Ramsar sites, as well as potential SPAs, possible SACs and sites identified, or required, as compensatory measures for adverse effects on any European Sites.

Conservation of Habitats and Species Regulations 2017

10.2.1.6 The Conservation of Habitats and Species Regulations 2017 transposes the Birds Directive and the Habitats Directive into national law, providing for the designation and protection of European Sites and protection of European Protected Species. This operates in conjunction with the Wildlife and Countryside Act 1981 (as amended), which consolidates and amends existing national legislation to implement the Bern Convention and Birds Directive in Great Britain.

10.2.1.7 Additional relevant legislation includes:

- The Countryside and Rights of Way Act 2000;
- The Natural Environment and Rural Communities (NERC) Act 2006;
- The Protection of Badgers Act 1992; and
- The Hedgerow Regulations 1997
- Environment Act 2021; and
- Environment Regulations 2017.

10.2.2 NATIONAL POLICY

10.2.2.1 The national policy relevant to ecology and nature conservation for the Proposed Development is summarised below.

10.2.2.2 Whilst the National Planning Policy Framework (Ministry of Housing, Communities and Local Government, 2024) does not contain specific policies relevant to NSIPs, Policies 187 and 192 are relevant to the consideration and protection of the natural environment and biodiversity. Details should be provided for how proposals will minimise impacts on and provide measurable net gains for biodiversity; including establishing and safeguarding wildlife-rich habitats and networks, protection of priority species, and the conservation, restoration and enhancement of priority habitats.

10.2.2.3 These policies are reinforced under the Overarching National Policy Statement for Energy (EN-1) (Department for Energy Security and Net Zero, November 2023), which states under Section 4.6.6 that “proposals [...] should seek opportunities to contribute to and enhance the natural environment by providing net gains for biodiversity, and the wider environment where possible.”

10.2.3 LOCAL POLICY

10.2.3.1 Additional relevant local policy for ecology and nature conservation which has been considered for the Proposed Development includes:

- Local priority species (also known as Local Biodiversity Action Plan LBAP species). Cheshire Wildlife Trust.
- Interim Biodiversity Net Gain and Ecological Networks guidance Note - March 2024. Cheshire West and Chester Council.
- Cheshire West and Chester Local Plan (Part One) Strategic Policies. Adopted 2015.
- Cheshire West and Chester Local Plan (Part Two) Land Allocations and Detailed Policies. Adopted 2019.

10.2.4 GUIDANCE

10.2.4.1 Key items of guidance relevant to ecology for the Proposed Development are as follows:

- British Standards Institution (2013) BS42020:2013 Biodiversity – code of practice for planning and development. BSI Standards Ltd, London
- Butcher, B. et al., 2020. The UK Habitat Classification - Habitat Definitions Version 1.1, s.l.: <https://www.ukhab.org/>
- Butcher, B. et al., 2020. The UK Habitat Classification User Manual Version 1.1, s.l.: <https://www.ukhab.org/>
- Chartered Institute of Ecology and Environmental Management (2013) Competencies for Species Surveys in Britain and Ireland; Overview. CIEEM, Winchester. Online [Available at] <http://www.cieem.net/competencies-for-species-survey-css->
- Chartered Institute of Ecology and Environmental Management (2017) Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2021) Competency Framework. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2024) Guidelines for Ecological Impact Assessment in the UK and Ireland, Terrestrial, Freshwater, Coastal and Marine. Version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester.

10.2.4.2 Specific guidance covering ecological surveys has been included within each survey report; survey reports are included as appendices to this chapter.

10.3 CONSULTATION

10.3.1 EIA SCOPING

10.3.1.1 A Scoping Opinion from the Planning Inspectorate was received in June 2025. The key comments and responses relevant to ecology and nature conservation have been summarised in **Table 10.1** below.

TABLE 10.1 – SCOPING OPINION

Consultee and Issue	Comments	Response / Action	Reference within this document
Planning Inspectorate - Designated sites	<i>"The Inspectorate does not, however, agree that operational phase impacts on designated sites can be scoped out of assessment at this stage. This is due to the current uncertainty regarding the chosen operational phase technology, including the potential use of flaring and potential air quality emissions that could arise. The ES should include an assessment of operational phase air quality effects on statutory designated sites within 10km of the proposed development, where likely significant effects could occur."</i>	It is our understanding that there will be no routine emissions to air during operation, and the system has been designed to ensure the infrequent disposal of excess hydrogen does not exceed ambient concentrations; therefore, no further assessment of effects on ecological receptors is considered necessary.	Scoped Out – not assessed further in the PEIR.
Planning Inspectorate - Bats	<i>"The ES should provide an updated baseline with regards to bats and assess any significant effects from the proposed development, where likely to occur, or provide evidence demonstrating agreement with relevant consultation bodies that likely significant effects on bats can be scoped out of the assessment."</i>	Three bat transect routes have been designed to each be surveyed during Spring, Summer and Autumn. At the time of writing, two out of the planned three visits have been completed; data has been processed for the first visit only. In addition, six static bat detectors have been deployed across the Site to	Noted. Results presented and assessed within Appendix C, Bat Survey Report of the PEIR.

Consultee and Issue	Comments	Response / Action	Reference within this document
		generate five nights of data (in suitable conditions) for each month; beginning in May 2025.	
Planning Inspectorate - Badgers	<i>"The ES should provide an updated baseline with regards to badgers and assess any significant effects from the proposed development, where likely to occur, or provide evidence demonstrating agreement with relevant consultation bodies that likely significant effects on badgers can be scoped out of the assessment."</i>	A badger survey across the whole site has been completed. One active sett has been identified.	Noted. Results of badger surveys to be assessed for the ES.
Planning Inspectorate - Riparian Mammals	<i>"Should riparian mammals be confirmed as present and affected by the proposed development, the ES should provide an updated baseline and assess any significant effects from the proposed development, where likely to occur, or provide evidence demonstrating agreement with relevant consultation bodies that likely significant effects on riparian mammals can be scoped out of the assessment"</i>	Scoping surveys identified no change to the suitability of the Site for riparian mammals; no effects are anticipated and this may be scoped out of the assessment.	Scoped Out – not assessed further in the PEIR.
Planning Inspectorate	<i>"The ES should provide an updated baseline with regards to lesser silver water beetle and assess any significant</i>	All ponds have been visited and assessed. Initial findings are that few ponds are suitable for LSWB;	Section 10.6.2

Consultee and Issue	Comments	Response / Action	Reference within this document
- Lesser silver water beetle	<i>effects from the proposed development, where likely to occur, or provide evidence demonstrating agreement with relevant consultation bodies that likely significant effects on lesser silver water beetle can be scoped out of the assessment."</i>	the assessment has not yet been reported.	
Planning Inspectorate - Mud snail	<i>"The ES should provide baseline information with regards to mud snail and assess any significant effects from the proposed development, where likely to occur. Alternatively, the applicant should provide evidence demonstrating agreement with relevant consultation bodies that likely significant effects on mud snail can be scoped out of further assessment."</i>	The majority of ponds will not be impacted by the proposed development. Ponds which could be impacted will be surveyed.	Section 10.6.2
Planning Inspectorate - Reptile	<i>"Should reptiles be confirmed as present and affected by the proposed development, the ES should provide an updated baseline and assess any significant effects from the material change works which are likely to occur during construction, operation and decommissioning phases, or provide evidence demonstrating agreement</i>	Scoping surveys identified no change to the suitability of the site for reptiles; no effects are anticipated and may be scoped out of the assessment.	Scoped Out – not assessed further in the PEIR.

Consultee and Issue	Comments	Response / Action	Reference within this document
	<i>with relevant consultation bodies that likely significant effects on reptiles can be scoped out of further assessment."</i>		
Planning Inspectorate – Great Crested Newts	<i>"The Inspectorate notes the approach to great crested newt survey effort and mitigation is not yet determined and the Scoping Report states this may follow a district level licensing (DLL) approach or a standard mitigation approach."</i>	GCN surveys have been undertaken in order to inform a standard mitigation licence application.	Noted. Results presented and assessed within Appendix B, Great Crested Newts Survey Report of the PEIR.
Planning Inspectorate - Aquatic habitats	<i>"The ES should include a description of the baseline information in respect of the aquatic habitats potentially affected by the proposed development and include an assessment of effects on aquatic habitats including relevant WFD waterbodies such as Puddinglake Brook, where likely significant effects could occur. Appropriate cross-referencing to the Hydrology and Flood Risk aspect chapter of the ES and to any WFD assessment should be included."</i>	A baseline assessment of all accessible aquatic habitats within 250m of the Site has been completed; including a River Condition Assessment (RCA) of Puddinglake Brook. A Water Framework Directive (WFD) assessment will also be undertaken for Puddinglake Brook.	Noted. Results presented and assessed within Appendix 10E, River Condition Assessment of the PEIR.
Planning Inspectorate – Confidential	<i>Public bodies have a responsibility to avoid releasing environmental information that could bring about</i>	Survey data for all habitats, GCN, Bats, Badgers and Aquatic	Included in Appendix 10A, Desk-Study,

Consultee and Issue	Comments	Response / Action	Reference within this document
Appendices / Annexs	<i>harm to sensitive or vulnerable ecological features. Specific survey and assessment data relating to the presence and locations of species such as badgers and rare birds and plants that could be subject to disturbance, damage, persecution, or commercial exploitation resulting from publication of the information, should be provided with the updated ES as a confidential annex. All other assessment information should be included in the ES chapter, as normal, with a placeholder explaining that a confidential annex has been submitted to the Inspectorate and may be made available subject to request.</i>	Habitats provided and assessed in Appendix 10A – 10E of the PEIR.	Appendix 10B, Great Crested Newt Survey Report, Appendix 10C, Bat Survey Report and Appendix 10E, River Condition Assessment.
Environment Agency - Aquatic habitats	<i>The proposed scoping surveys do not appear to include any assessment of aquatic habitats. It is understood the development would result in the removal of an additional two ponds and the applicant is advised to consider further assessment of these such as the Predictive System for Multimetrics.</i>	Aquatic habitat assessment provided in Appendix 10E, River Condition Assessment of the PEIR.	Noted. Results presented and assessed within Appendix 10E, River Condition Assessment of the PEIR.

Consultee and Issue	Comments	Response / Action	Reference within this document
Environment Agency - Legislation	<i>Legislation section of the Scoping Report is missing mention of Environment Act 2021 and Water Environment Regulations 2017. This needs to be added into the ES.</i>	Environment Act 2021 and Water Environment Regulations 2017 both added into Section 10.2.1 of this PEIR chapter.	Section 10.2.1
Environment Agency – Habitat Loss	<i>Scoping Report states that 'material changes to the development...are unlikely to result in the direct disturbance of, and harm to, animals incl. the displacement of species from proximity of the Proposed Development'. This has not been clearly demonstrated, particularly given additional loss of pond habitat. The amount of habitat affected by the material change is not clearly quantified which needs to be addressed in the ES.</i>	Noted. Habitat loss is assessed in Section 10.7 of this chapter and displacement of species (i.e., GCN which is assessed in Appendix 10B) are considered in Appendices 10A – 10E.	Section 10.7 of this chapter and displacement of species (i.e., GCN which is assessed in Appendix 10B) are considered in Appendices 10A – 10E.

10.3.2 OTHER CONSULTATION *

- 10.3.2.1 Since the submission of the Scoping Report, Peak Ecology have contacted the Cheshire and Warrington Ornithological Society to request a copy of the most recent bird report for the area. At the time of writing this PEIR chapter, Peak Ecology are still awaiting a response on this request. This will be actioned in advance of the ES.
- 10.3.2.2 Peak Ecology have also been in direct conversations with Natural England on GCN Licensing options for the Proposed Development and also intend to present some of the final survey results to the Environment Agency in advance of the ES.

10.4 BASIS OF THE ASSESSMENT

- 10.4.1.1 This assessment considers any potential impacts that may arise as a result of changes included as part of the Proposed Development. A full description of these changes is provided in **Chapter 2, Proposed Development Description**.
- 10.4.1.2 All potential receptors have been considered and identified following the completion of the scoping surveys. Where the scoping surveys have identified that there are no suitable habitats on Site for certain species, these species and receptors have been scoped out of the assessment in the PEIR (i.e., Reptiles and Riparian Mammals).
- 10.4.1.3 Where suitable habitat has been identified, additional species-specific surveys are being carried out to assess whether the presence of such species has changed over time in order to assess the impact of the MC.

10.5 ASSESSMENT METHODOLOGY

10.5.1 DESK STUDY

- 10.5.1.1 The desk study included a review of protected sites and species data received from RECORD, the Local Environmental Records Centre for Cheshire. This data is considered up to date as of February 2025. Survey data gathered in 2014 for the ecological component of an EIA was also reviewed, to inform the surveys completed within this assessment.
- 10.5.1.2 Additional detail on the methodology for the desk study is provided in **Appendix 10A, Desk-Study**.

10.5.2 SCOPE OF ASSESSMENT

- 10.5.2.1 This Chapter considers the following ecological receptors:
- Onsite habitats - update baseline habitat data to allow impacts to be quantified and identify areas for enhancement opportunity, including effects on aquatic habitats (Puddinglake Brook) under a RCA and WFD Assessment;

- Bats - updated baseline surveys to assess potential impacts on roosting bats as a result of trees removed for the Proposed Development, and impacts on foraging bats as a result of tree/hedgerow removal and operational noise and lighting effects;
- Badgers (*Meles meles*) - updated baseline surveys to reassess previously recorded setts and any associated impacts;
- Great Crested Newt (*Triturus cristatus*) - updated baseline surveys to assess the impacts to terrestrial and aquatic habitats;
- Birds - updated baseline surveys to assess effects on wintering bird and breeding bird assemblages; and
- Lesser silver water beetle (LSWB) (*Hydrochara caraboides*) and mud snail (*Omphiscola Glabra*) - updated baseline to assess impacts as a result of ponds to be removed.

10.5.3 ELEMENTS SCOPED OUT OF ASSESSMENT

- 10.5.3.1 No direct impacts on designated sites are expected during the construction phase of the development. Potential operation phase impacts, namely air quality emissions, have been considered within **Chapter 8, Air Quality**, and subsequently scoped out of this assessment.
- 10.5.3.2 No additional effects on Drakelow Gorse LWS, or its qualifying features, are anticipated as a result of the material change.
- 10.5.3.3 The assessment of the Site for riparian mammals found there to be no change in suitability of habitats, and no evidence of such species. No additional effects are anticipated so the level of significance remains consistent with the Consented Development ES.
- 10.5.3.4 Scoping surveys identified no change to the suitability of the site for reptiles. No additional effects are anticipated so the level of significance remains consistent with the Consented Development ES.

10.5.4 BASELINE SURVEY METHODOLOGY

- 10.5.4.1 Surveys that have been completed, part-completed or planned are as follows:
- Habitat Survey (UK Habitat Classification, Hedgerow Regulations assessments; and identification of invasive, non-native species)
 - Wintering Bird Survey
 - Breeding Bird Survey
 - Great Crested Newt Survey
 - Ground Level Tree Assessment for roosting bats and Bat Transect Surveys
 - Riparian Mammal Survey
 - River Condition Assessment
 - Badger Survey
 - Lesser Silver Water Beetle and Mud Snail Survey.

10.5.4.2 Standard survey methodologies have been followed and will be adhered to for all future surveys. These are provided in detail in each of the survey summary reports in **Appendix 10A – 10E** of the PEIR.

10.5.4.3 Both District Level Licensing and a standard licensing approach were considered to address impacts to GCN; standard licensing was the preferred route. This determined the survey approach for GCN and the methodology comprised full presence / absence surveys for all ponds within the relevant Study Area. Full details are provided within **Appendix B, Great Crested Newts Survey Report**.

10.5.5 METHODOLOGY FOR THE ASSESSMENT OF EFFECTS

10.5.5.1 In accordance with the CIEEM Guidelines, the assessment will adhere to the following process:

- Establish the baseline through consultation, desk study and survey work in order to describe the ecological status of the site in the absence of the Proposed Development;
- Identify important ecological features considering both habitats and species, taking into account ecosystem function and assigning the geographical context for each feature;
- Assess whether the important ecological features will be subject to impacts and characterise these impacts;
- Identify appropriate avoidance, mitigation and compensation measures, in accordance with the mitigation hierarchy;
- Assess the significance of any residual ecological effects, including cumulative effects; and
- Identify opportunities for enhancement and the need for monitoring.

10.5.5.2 The important ecological features, including species, habitats and ecosystems, will be identified based on characteristics such as:

- Rarity of species or distinctiveness of habitats at a local, national or international level;
- Naturalness of habitats;
- Irreplaceability of habitats;
- Size of habitat or species population including trends, and features in decline;
- Connectivity of habitats or associations between species populations; and
- Habitats or species on the edge of their range.

10.5.5.3 The importance of each feature will be provided with consideration of its geographical context at a local, regional, county-level, national, European or international level, where information is available regarding the distribution of such feature at each level.

10.5.5.4 The potential positive and negative impacts which these features will be subject to will be assessed based on their magnitude, spatial or

geographical extent, duration, frequency and timing, and reversibility.

- 10.5.5.5 The degree of significance of potential effects both prior to and following mitigation will be assessed, where sufficient baseline information is available at this stage to determine the impacts on the structure and function of the habitats, or conservation status of habitats and species, and to identify suitable mitigation measures. For the purposes of ecology and nature conservation, a significant effect is an effect which *"either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general"* (CIEEM, 2024).

10.5.6 ADDRESSING UNCERTAINTY

- 10.5.6.1 There is a general preference to include embedded mitigation through design which is considered to have greater certainty that it will be delivered.
- 10.5.6.2 If other mitigation is to be secured it must be realistic and achievable and where appropriate a mode for its implementation identified. This will provide as much certainty as possible over the likely effectiveness and deliverability of the proposed mitigation measures.

10.5.7 SURVEY VALIDITY

- 10.5.7.1 The validity of ecological survey data varies according to the species in question. The standard lifespan for baseline ecological survey data is two years. However, where a mitigation licence is required, updated species data is often required to be gathered within the year of an application.

10.6 BASELINE

10.6.1 DESK STUDY FINDINGS

- 10.6.1.1 Desk study species data was acquired from RECORD, the local environmental record centre, for the site and a 2 km surrounding buffer. Statutory designated site data was obtained from the Multi-Agency Government Information for the Countryside (MAGIC) website; a 10 km search buffer was applied to the Site boundary.
- 10.6.1.2 Four internationally important sites were identified, including one SAC and two Ramsar sites.
- 10.6.1.3 A summary of key RECORD data is tabulated below in **Table 10.2**, the data will be reported in a standalone report (**Appendix 10A, Desk-Study**). Relevant extracts of the data will be included within the various protected species reports.

TABLE 10.2 – SUMMARY OF DATA FROM RECORD

Group	Number of Species	Number of Records	Number of Locations
Amphibians (including GCN)	4	172	26
Reptiles	1	2	1
Invertebrates	258	2265	129
Mammals (exc. Bats)	14	148	60
Bats	6	84	34
Flowering Plants	356	1378	66
Birds	69	282	17

10.6.1.4 It should be noted on the table above the data is:

- not verified by Peak Ecology and may include errors due to the nature of its origins; and
- inclusive of both native and non-native species.

10.6.2 BASELINE SURVEY FINDINGS

10.6.2.1 A habitat survey is partly complete and will be completed and digitised for the ES. Habitat data collected to date suggests the Site largely comprises agriculturally improved grassland habitats of low botanical value.

10.6.2.2 Priority Habitats present include ponds and hedgerows; some of the latter are considered Important under the Hedgerow Regulations.

10.6.2.3 A River Conditions Assessment (RCA) has been undertaken on Puddinglake Brook; which is the only watercourse on site that qualified for further assessment. The results of this survey indicate that the baseline condition class assigned to the majority of the watercourse is "Poor".

10.6.2.4 The Ground Level Tree Assessment included all trees that were accessible on Site at the time of the survey. 309 trees were found to have potential roost features, of which 250 (80.9%) were oak and 31 (10.0%) were ash. A total of 86 trees were assessed as PRF-M (see **Appendix 10C, Bat Survey Report** for details of potential roost classification), whilst 98 trees were PRF-I.

10.6.2.5 Trees both with potential for roosting bats and known to be impacted by the Proposed Development were subject to aerial assessment, to further assess the suitability for roosting bats. The results of this

assessment are yet to be analysed and reported. These results will be confirmed and included as part of the ES.

- 10.6.2.6 Six static bat detectors were placed across the Site, and left *in situ*, with data reviewed periodically. Data from five suitable nights in May and June has been analysed through the Kaleidoscope software. The records have been summarised by the software but still require verification.
- 10.6.2.7 The number of bat calls increased significantly between May and June for most detectors deployed. The majority of calls were attributed to soprano pipistrelle *Pipistrellus pygmaeus* (52.8%), a local priority species in Cheshire, and common pipistrelle *Pipistrellus pipistrellus* (32.5%).
- 10.6.2.8 Notable noctule *Nyctalus noctula* activity, also a local priority species, was detected by the static placed along the southern edge of Drakelow Gorse, with peaks of activity around dusk and dawn suggesting a nearby roost.
- 10.6.2.9 Bat transect data has been analysed and included for Visit 1 (Appendix 10C, Bat Survey Report). The data for Visit 2 and 3 will be provided within the ES.
- 10.6.2.10 Transect 1, covering the western-most third of the Site, had the highest level of bat activity compared to the other two transect routes, with peaks of activity along the tree-lined footpath to the North-West. The southern section of Transect 2, the eastern third of the Site, had higher levels of activity along hedgerows dominated by common and soprano pipistrelle. A section of woodland on Transect 3, the central third, showed higher numbers of common pipistrelle, with common and soprano pipistrelle activity noted along the hedgerows west of this woodland.
- 10.6.2.11 A badger survey has been completed and one badger sett was identified. The sett comprised 11 entrances, of which three were considered active. No latrines or other evidence of badger activity was found on Site.
- 10.6.2.12 Six winter bird survey visits were undertaken following two transects between January and March 2025. In total, 61 bird species were recorded including six Schedule 1 species; peregrine falcon *Falco peregrinus*, barn owl *Tyto alba*, fieldfare *Turdus pilaris*, green sandpiper *Tringa ochropus*, red kite *Milvus milvus* and redwing *Turdus iliacus*. Under the Birds of Conservation Concern 5th Review, 13 of the species recorded are included under the Red List, 20 under the Amber List, the remainder being Green Listed, or not assessed.
- 10.6.2.13 A four-visit breeding bird survey has been completed for two transects. A summary of survey results is provided alongside the winter bird survey data; however, these results have not yet been verified. These results will be verified and confirmed for the ES.

10.6.2.14 GCN were identified within 35 ponds, from a total of 105 surveyed, including the two ponds to be removed for the Proposed Development.

10.6.2.15 GCN presence was concentrated around the western-central region of the Site, with sporadic presence to the south and east. The peak count of adult GCN in any one pond was less than ten individuals; under a population size class assessment this is considered to be a small population.

10.6.2.16 However, due to the close proximity and connectivity of ponds on Site; it is likely that the GCN exist in meta-populations. These are groups of associated sub-populations that over time may occupy several ponds across the landscape, based on their varying suitability.

A habitat suitability assessment for LSWB has been completed; the ponds to be removed for the Proposed Development are considered sub-optimal habitat for LSWB. Sampling surveys for mud snails are yet to be completed; these are scheduled to be carried out during Autumn and will comprise a single visit of each pond.

TABLE 10.3 – SUMMARY OF BASELINE IMPORTANCE

Status of feature	Summary of importance
<p>Designated sites</p> <p>Local wildlife sites are non-statutory designated sites, locally important for the conservation of wildlife. LWS are selected for the habitats and species they contain and often support rare, declining or protected species.</p>	<p>Drakelow Gorse LWS forms the most notable wooded feature on the Site.</p> <p>The reason for designation of the LWS lists the presence of woodland, pond and ditch habitats, with no further details given. Less than 10% of Cheshire has woodland cover; with less than 5% comprising broadleaved woodland.</p> <p>The designation of the woodland is of regional-level importance.</p>
<p>Habitats</p> <p>Priority Habitats are habitats of principal importance in England, originally included under the UK Biodiversity Action Plan (UK BAP), identified as under threat and requiring specific conservation action. The UK Post-2010 Biodiversity Framework succeeded the UK BAP; however, the Priority Habitats remain as a published</p>	<p>Many of the ponds on Site qualify as Priority Habitats through presence of protected species.</p> <p>All hedgerows recorded on Site qualify as Priority Habitats, comprising at least 80% native species. Some hedgerows are also considered "Important" under the Hedgerow Regulations.</p> <p>The remaining habitats on site are of low botanical value, typically common</p>

Status of feature	Summary of importance
<p>list for reference, as required under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006.</p> <p>The Hedgerow Regulations 1997, administered by district councils in England, protect important countryside hedges from removal without permission</p>	<p>and widespread nationally. No irreplaceable habitats are present.</p> <p>Whilst not considered important ecological features within the context of local or national protections, habitats are valued at site-level and will be considered for retention or enhancement, where possible, in the context of no net loss of biodiversity.</p>
<p>Bats</p> <p>All British bat species are European Protected Species (EPS), as applied in the UK under the Conservation of Habitats and Species Regulations 2017 (as amended). They are also listed on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); protected by Parts 4(b), 4(c) and 5 of Section 9 of the Act.</p> <p>Seven bat species are also Priority Species under Section 41 of the NERC Act; barbastelle, Bechstein's, noctule, soprano pipistrelle, brown long-eared, greater horseshoe and lesser horseshoe.</p>	<p>The data collated to date indicates the assemblage of bats utilising the Site for foraging primarily comprises common and soprano pipistrelle, and noctule bats. None of these species are considered rare within Cheshire; however, all bats are protected from disturbance, injuring or killing, and their roosts from destruction. Soprano pipistrelle and noctule are also Local Priority Species.</p> <p>Auto-identification by computer software of data gathered by static bat detectors indicates presence of barbastelle on Site; a species rarely recorded in Cheshire. The importance of this record and subsequent effects will be assessed following manual verification of the data.</p> <p>The most valuable habitats for bats appear to be the tree-lined pathway to the North-West of the Site, and Drakelow Gorse, with notable noctule activity at dusk and dawn around the woodland indicating a nearby roost.</p> <p>The importance for roosting bats of trees proposed for removal around the GPP area is yet to be determined; however, this area is not considered of notable value for foraging bats.</p> <p>The value of the bat assemblage, based on data currently held, is considered to be of site-level importance.</p>

Status of feature	Summary of importance
<p>GCN</p> <p>A EPS as applied in the UK under the Conservation of Habitats and Species Regulations 2017 (as amended).</p> <p>They are also a Priority Species under Section 41 of the NERC Act.</p>	<p>The presence of GCN has been confirmed within 35 ponds in the survey area, from a total of 105 ponds surveyed. Each pond where GCN were present supported a small population, of less than ten individuals.</p> <p>GCN are protected from killing, injuring and destruction of habitat.</p> <p>The GCN population on Site is considered of regional importance. Whilst peak counts of GCN per pond are low, historic survey data gathered over the last nine years for the Site indicate these population counts have remained relatively stable, and the Site continues to offer suitable habitat to support several meta-populations. The Site is also located within a District Level Licencing Amber Zone; these are areas which <i>"contain main population centres for GCN and comprise important connecting habitat that aids natural dispersal."</i> (Natural England, 2019).</p>
<p>Badger</p> <p>Protected in the UK under the Protection of Badgers Act 1992.</p>	<p>The badger sett identified on Site, partially active, but having been in existence for at least nine years based on survey data gathered in 2014, indicates regular use of the Site by badgers. No other evidence of activity across the Site has been noted; however, and their presence is considered important at a site-level only.</p>
<p>Birds</p> <p>All wild birds in the UK are protected from damage and destruction of their nests, under the Wildlife and Countryside Act 1981 (as amended). It is also an offence to kill, injure or take any wild bird (with exceptions as listed on Schedule 2).</p>	<p>Amber and red listed species, and Schedule 1 species have been recorded utilising the Site throughout the winter and breeding seasons. Species recorded are typical of the location and habitats present, and the bird assemblage is considered to be of site-level importance.</p>

Status of feature	Summary of importance
Additional protections are provided to certain birds under Schedule 1, to protect from disturbance whilst nesting.	

10.6.3 FUTURE BASELINE

- 10.6.3.1 Where appropriate it can be necessary to predict a future baseline, typically this is in dynamic situations where conditions are changeable, perhaps as a result of ecological succession, land use change or climate change.
- 10.6.3.2 It is considered that the nature of the Proposed Development and the largely pastoral land use, which is not expected to change significantly, are such that the current baseline is a fair reflection of any future baseline.

10.7 MITIGATION

10.7.1 OVERVIEW

- 10.7.1.1 When avoidance of impacts is not an option, mitigation measures through design and construction to avoid or reduce impacts will be required.
- 10.7.1.2 Mitigation will be achievable and in line with good practice; mitigation will also be measurable to ensure that monitoring can effectively record success.
- 10.7.1.3 Mitigation will be carefully considered to ensure that it does address the impacts, rather than simply benefit a habitat or species which could in itself be an enhancement.
- 10.7.1.4 These measures will be reviewed as ecological surveys progress and amended, where necessary, for the ES.

10.7.2 CONSTRUCTION

- 10.7.2.1 When considering new effects as a result of the Proposed Development, the mitigation required during the construction phase will be similar in nature to that which was required for the Consented Development.
- 10.7.2.2 Standard avoidance measures will be followed such as timing of works, which is understood to be scheduled during daylight hours; this will limit disturbance to retained foraging corridors for bats. Further measures regarding bats will be provided upon completion of surveys, and will consider noise disturbance and any mitigation required regarding roosting habitat.

- 10.7.2.3 Similarly, standard procedures will be followed to avoid impacts to nesting birds, through timing of site preparation works and ecological supervision. Any additional mitigation relating to provision of breeding and wintering bird habitat will be provided following completion of surveys. Preliminary results of surveys indicate that no additional, species-specific mitigation measures will be required.
- 10.7.2.4 The majority of the site infrastructure has been designed to avoid habitats of greater ecological value. For example, the pipework and site roads which have been designed to avoid trees and limit interactions with hedgerow and watercourse crossings. Standard measures will be followed to avoid impacts on retained habitats, including consideration of root protection zones, and the riparian zone of the watercourse with regards to construction traffic and pollution. This will be considered within the Updated Detailed Construction Environmental Management Plan (CEMP) for the Proposed Development and will comprise measures similar to those for the Consented Development. The most significant change in the construction phase regarding ecological effects is the increase in size of the GPP and changes in the locations of associated laydown area and maintenance compounds.
- 10.7.2.5 The potential effects on habitats as a result of changes to the layout of the GPP, associated infrastructure and site roads will be considered upon completion of the habitat survey. This will be confirmed for the ES. However, no irreplaceable habitats are present, therefore no bespoke mitigation measures will be required regarding the loss of these habitats.
- 10.7.2.6 Whilst the increase in extent of the built development is unlikely to result in significant effects to grassland habitats relative to the Consented Development, there is an increase in the loss of trees, ponds and hedgerows in this area. This loss will be quantified using a Statutory Biodiversity Metric calculation.
- 10.7.2.7 In terms of the volume of traffic movements; this is not anticipated to result in different effects on ecological receptors onsite, such as through noise disturbance and pollution, based on the results of surveys carried out to date. Off-site construction-phase impacts, such as pollution of designated sites, has already been scoped out of this assessment.
- 10.7.2.8 Any changes to mitigation required relating to construction equipment will be determined upon confirmation of required plant and equipment. This will be fed into the Updated Detailed CEMP for the Proposed Development where required.
- 10.7.2.9 The configuration of hydrogen flowlines will not result in any additional adverse effects requiring mitigation over and above what is agreed under the Consented Development. However, a licence will likely be required for the disturbance of the badger sett during the installation of the flowline network. Mitigation measures will be

provided within an updated Method Statement. The details of which will be similar to those provided under the Consented Development, due to the flowlines following the same corridor.

- 10.7.2.10 Two ponds, which support populations of great crested newts, will be lost during the construction phase. A protected species licence will be secured to ensure legal compliance and mitigation will be secured through the licensing process. Mitigation in this instance is expected to comprise the creation of new pond habitat, exclusion of GCN from the two ponds by trapping and relocation, installation of temporary amphibian fencing, and ecological supervision of works associated with suitable GCN habitat to reduce to risk of harming individual newts.

10.7.3 OPERATION AND MAINTENANCE

- 10.7.3.1 The nature of the Proposed Development is such that any known or unforeseen impacts during the operational phase on ecology and nature conservation are anticipated to be relatively minor. Additional traffic movements and maintenance works will be infrequent and are not considered to result in any further effects relating to ecology, beyond what is presented in the Consented Development.
- 10.7.3.2 Permanent site lighting is not considered to have any materially different adverse effect than the lighting under the Consented Development.

10.7.4 DECOMMISSIONING

- 10.7.4.1 Impacts at the decommissioning stage are likely to be similar to those at the construction phase, although most likely to be limited to additional vehicle movements, the use of plant and machinery and the storage of waste.
- 10.7.4.2 Due to the length of time until the decommissioning stage, the ecological value of the Site is likely to change; therefore, any additional mitigation measures required will rely on updated assessments. These measures; however, are not likely to be materially different to those required for the Consented Development.

10.8 ASSESSMENT OF EFFECTS

10.8.1 CONSTRUCTION

Designated Sites

- 10.8.1.2 Effects of the Proposed Development on the Drakelow Gorse LWS are considered to be **Not Significant**. Any works under the Proposed Development will not compromise the conservation value of the habitats or species present within the LWS.

Habitats

- 10.8.1.3 The requirements for habitat creation and opportunities will be confirmed for the ES, post the completion of ecology surveys.
- 10.8.1.4 The design of the Proposed Development ensures that the majority of the trees in close proximity to areas of construction may be retained; with the exception of the GPP area where trees, and Priority Habitat ponds and a hedgerow will be lost. No additional impacts will occur to Important hedgerows as a result of the Proposed Development.
- 10.8.1.5 Ongoing management of habitats will be designed to ensure an improvement in biodiversity value of the Site for the lifespan of the development. Standard protection measures, including avoidance of root protection zones and riparian zones will be incorporated.

Bats

- 10.8.1.6 The effects relating to foraging and commuting bats as a result of the Proposed Development are anticipated to be **Not Significant**, based on the survey data gathered to date.
- 10.8.1.7 Mitigation agreed under the Consented Development will minimise any adverse effects to the foraging and commuting behaviour of bats on Site, including the phasing of hedgerow removal.
- 10.8.1.8 Effects are **Not Significant**, due to the extent of retention of the network of hedgerows across the Site. Habitat creation and improvements will be designed, which will provide further opportunities for bats.
- 10.8.1.9 Following completion of aerial assessments of trees, a full assessment will be made of the significance of effects relating to trees proposed for removal, and potential noise disturbance of roosting bats as part of the ES.

GCN

- 10.8.1.10 The impacts to GCN during the construction of the Proposed Development will result in an **Adverse, Significant effect, in the absence of mitigation**. A mitigation licence will be acquired for all works likely to impact GCN. This will secure creation of replacement habitat to offset the loss of two ponds, which will be designed with consideration of site meta-populations. This will also ensure exclusion and translocation of GCN, sensitive timing of works, ecological supervision, appropriate design of mitigation and enhancement habitats, and post-development monitoring.
- 10.8.1.11 The net loss of terrestrial habitat as a result of the Proposed Development is considered to be **Not Significant**. However, this will be considered within the licence method statement.
- 10.8.1.12 Due to the changeable nature of the waterbodies on Site, the frequency of ponds within the landscape, and the connectivity

provided by the terrestrial habitats on Site, the overall effect on the local GCN population is likely to be **Not Significant, following successful implementation of mitigation.**

Badger

- 10.8.1.13 Mitigation measures will be followed under a method statement to ensure any minor impacts that may occur to the existing badger sett during construction may be minimised or avoided. These impacts are of no greater magnitude than those considered under the Consented Development, no additional impacts are envisaged such as loss of habitat or connectivity, and the residual effects are considered to be **Not Significant.**

Birds

- 10.8.1.14 Following implementation of standard procedures regarding timing of works that may impact nesting birds, the effects on the breeding and wintering bird assemblages will be limited to minor habitat loss, and noise disturbance, which will largely be temporary impacts and are of no greater significance to those already considered under the Consented Development. The assessment on the significance of effects will be carried out as part of the ES following completion of remaining surveys. However, they are anticipated to be **Not Significant** for the Proposed Development as per the Consented Development ES.

10.9 SUMMARY OF CUMULATIVE EFFECTS

- 10.9.1.1 The cumulative effects of impacts from the Proposed Development together with impacts from other planned projects or developments on the same resources and/or receptors are assessed in **Chapter 18, Cumulative Effects Assessment.**
- 10.9.1.2 The ES will summarise the conclusions of the Cumulative Effects Assessment (CEA) that are relevant to ecology and nature conservation.



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