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Ecological Desk Study Addendum

Hanmer Arms, Hanmer

Carlton Holdings

MAN.244.002.EC.R.001

'Experience and expertise working in union'

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Project:	Hanmer Arms, Hanmer
For:	Carlton Holdings
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i. In July 2019 Enzygo Ltd was commissioned by the Carlton Holdings (the client) to provide an Ecological Desk Study Addendum in relation to their site at Hanmer Arms, Hanmer, Whitchurch SY13 3DE (central grid reference: SJ 45425 39971) located within the Wrexham County Borough Council planning authority (Overton ward). The study will inform proposals for siting holiday lodges at the site.

ii. This desk study has identified the following key ecological features and associated recommendations:

- **Midland Meres & Mosses Phase 2 Ramsar & Hanmer Mere SSSI**– (represented by Hanmer Mere 250m to the south-east and an outfall which extends northwards and runs beneath the south-east boundary of the proposed development site ending at a ditch and pond to the immediate east of the site) – understood no works to the watercourse or pond are proposed and no excavation of the culverted section beneath the south-east boundary. A Stage 1 Habitat Regulations Assessment Screening is required, to be informed by a Drainage Assessment, to determine potential drainage impacts on the statutory designated site.

- **Green Infrastructure** – (native boundary hedgerows provide connectivity, wildlife corridor function and likely represent Priority Habitat) – retain and protect hedgerows throughout the construction period in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction,* and implement sensitive lighting scheme;

- **Blue Infrastructure** – (watercourse adjacent to north-east boundary provides blue infrastructure resource) – protect watercourse through protective fencing and implementing best practice pollutions prevention guidelines, namely *Works and maintenance in or near water: GPP 5* and *Working at construction and demolition sites: PPG6*.

- **Bats** – (boundary hedgerows and watercourse provide suitable foraging and commuting habitat) – retain and protect hedgerows and adjacent watercourse, implement sensitive lighting scheme and best practice pollution prevention measures;

- **Nesting Birds** – (habitat for range of common nesting birds, including ground-nesting species) – clearance outside of the bird breeding season, or if necessary during this period, a nesting bird survey will need to be conducted by an ECoW to identify active nests and establish appropriate protective buffers around the nests until it can be confirmed nesting has ceased; and,

- **Great Crested Newt** – (2018 survey indicates absence but ponds and records of presence in wider are) – to minimise the already low risk of killing/injury of GCN, to protect other amphibian species, implement best practice Reasonable Avoidance Measures during construction phase.

iii. This report has demonstrated that further assessment is required in order to determine the potential impacts of the proposals on the Midland Meres & Mosses Phase 2 Ramsar. Otherwise, this report, in conjunction with the additional supporting ecological assessments, has confirmed that if the outlined mitigation measures are implemented in full then no significant residual impact could be expected, and the proposed application will result in 'no net loss in biodiversity,' whilst also providing opportunities for 'biodiversity net gain' in accordance with PPW and Local Planning Policy.

1.0 Introduction

1.1 Commission

1.1.1 In July 2019 Enzygo Ltd was commissioned by the Carlton Holdings (the client) to provide an Ecological Desk Study Addendum in relation to their site at Hanmer Arms, Hanmer, Whitchurch SY13 3DE (central grid reference: SJ 45425 39971) located within the Wrexham County Borough Council planning authority (Overton ward). The study will inform proposals for siting holiday lodges at the site.

1.1.2 This report has been produced following the refusal of the 2018 application (Wrexham County Borough Council reference P/2018/0965), with one reason for refusal that "*insufficient information has been submitted to enable an assessment of the impact of the development on the Hanmer Mere*." The assessment is an addendum to, and should be read in conjunction with, *the Phase 1 Habitat Survey and Protected Species Assessment* (EVR ecology, 2018) and *GCN Ecological Impact Assessment* (Life & Wild, 2018).

1.2 Proposed Development/Identification of Impacts

1.2.1 The study will inform a planning application for siting 19 holiday lodges, with associated reception building and ancillary works.

1.2.2 The purpose of this report is to provide additional biodiversity information to supplement existing reports, identifying ecological features, identifying potential impacts/effects, and to recommend proportionate avoidance/ mitigation/ compensation strategies, followed by identifying opportunities for enhancement. This information will advise the client on any additional ecological features and potential constraints to proposals and inform the final site design. A corresponding zone of influence has been considered (this includes any transboundary effects regardless of administrative areas).

1.3 Aims and Objectives

1.3.1 The purpose of this report is to review desk study information in order to identify any additional ecological feature on site and within the corresponding zone of influence which have not be addressed by the existing ecological reports. It is to identify impacts resulting from the proposed application, associated effect to identified ecological features, recommend proportionate avoidance/mitigation/compensation strategies, and identify opportunities for enhancements in accordance with the British Standard for Biodiversity BS42020:2013 (BSI, 2013) to demonstrate 'no net loss in biodiversity' and a 'biodiversity net gain' in accordance with Planning Policy Wales (PPW) and Local Planning Policy.

1.3.2 This report has been produced with reference to current *Guidelines for Preliminary Ecological Appraisal* (CIEEM, 2017a), *Guidelines for Ecological Impact Assessment in the UK and Ireland, Terrestrial, Freshwater, Coastal and Marine* (CIEEM, 2018) and *Guidelines for Ecological Report Writing* (CIEEM, 2017b).

1.4 Background/Acknowledgments

1.4.1 An "*application for outline planning permission for 19 No. holiday lodges, reception building and ancillary works*" (Wrexham County Borough Council reference P/2018/0965) was refused in January 2019. One reason for the refusal was that "*insufficient information has been submitted to enable an assessment of the impact of the development on the Hanmer Mere*."

1.4.2 This application was supported by ecological survey and assessment information comprising a *Phase 1 Habitat Survey and Protected Species Assessment* (EVR ecology, 2018) and a *GCN Ecological Impact Assessment* (Life & Wild, 2018). These reports do not present any desk-study information concerning records of protected, Priority Species or notable species within the wider area, nor any information regarding statutory or non-statutory designated nature conservation sites. As a consequence of this lacking information, a Natural Resources Wales consultation response [dated 12th December 2018] highlighted concerns that based on the information provided "*significant effect from the proposed development on the Midland Meres and Mosses Phase 2 Ramsar cannot be ruled out*." This assessment has therefore been produced to supplement the existing reports to ensure complete and robust ecological supporting information is provided.

1.4.3 The search of the Wrexham County Borough Council website has not indicated any further applications for the site or in the surrounding area with any ecological survey information pertinent to this assessment.

1.4.4 Other than the consultations detailed above, it is our understanding that to date there has been no correspondence with the County Ecologist or any statutory consultees i.e. Natural Resources Wales, regarding this application. Additionally, we have not been informed of any Local Validation requirements i.e. biodiversity checklist for completion or specific standards for surveys.

1.5 Local Planning Policy

1.5.1 The following policies of the Wrexham Unitary Development Plan 1996-2011 (Wrexham County Borough Council, 2005) are applicable to nature conservation and this assessment. *Note: these details are provided in summary only and the original document should be viewed for details.*

- Policy PS11 – Biodiversity - e*ncouragement will be given to proposals which improve the biodiversity value of sites and to the establishment of local nature reserves where the nature conservation and landscape interest of the land will be protected and enhanced*;
- Policy EC4 – Hedgerows, Trees & Woodland – *development which results in the loss or significant damage to valuable trees, important hedgerows or ancient woodland sites will not be permitted. Proposals should conserve and manage woodland, trees, hedgerows, wildlife and other natural features, and provide new planting*;
- Policy EC6 – Biodiversity Conservation – *development within or close to sites of biodiversity interest will only be permitted when it can be clearly demonstrated the need for development outweighs the need to safeguard the intrinsic nature conservation value of the site. Where such developments are permitted, they must mitigate impact, provide compensation where required, and developments providing enhancements to the sites will be supported; and,*
- Policy EC13 – Surface Water Run-off – *development which would result in unacceptable adverse impact on water environments due to additional surface water run-off will not be permitted.*

1.5.2 The *Biodiversity & Development Local Planning Guidance Note No.32* (Wrexham County Borough Council, 2011) is also relevant to nature conservation and this assessment.

1.5.3 Refer to Appendix A for relevant details of European and National Legislation, and National Planning Policy.

1.6 Site Context

1.6.1 The approximately 1.5Ha site lies to the north of the village of Hanmer approximately 8km west of the town of Whitchurch. As report by the previous Phase I Survey (EVR ecology, 2018), the site comprises a field of poor semi-improved pasture, with species-poor boundary hedgerows and occasional trees demarcating the north-eastern, north-western and south-western boundaries, and fencing defining the south-eastern boundary. The A539 lies to the immediate north, the Hanmer Village Road to the east, Hanmer Arms Hotel grounds to the south, and arable land to the west. The wider landscape is dominated by pasture, arable farmland and open countryside, and the large Hanmer Mere which lies 250m to the south.

Figure 1 – Survey Area

Image courtesy of Google Image Pro 7.3.2.5491, [Grid Ref: SJ 45425 39971 and 82m Elevation]. Imagery date 27th June 2018. Image accessed 8th August 2019.

2.0 Methodology

2.1 Desk Study

2.1.1 Desk study details were obtained from the following sources on the associated dates to provide background on ecological features in the vicinity of the site. In each case the search included the site and the specified area beyond the site boundary based on the expected zone of influence. Candidate and potential designations are considered too as these are also legally protected. Records search included:

- Statutory sites designated or classified under international conventions or European legislation within a 5km radius, statutory sites designated under national legislation (including Marine), and Priority Habitat & Ancient Woodland Inventory within a 0.5km radius [Magic Map, 8th August 2019] (DEFRA, 2019) and Lle Map Browser, 8th August 2019 (Welsh Government and NRW, 2019);
- Tree Preservation Orders (TPOs) and Biodiversity Conservation Areas within the immediate zone of influence [Wrexham County Borough Council website, 8th August 2019];
- Waterbodies within a 0.5km radius (Online mapping sources including: Google Maps; Magic Map; and Ordnance Survey Street View, 8th August 2019); and
- Locally designated wildlife sites & any notified Local Biodiversity Action Plan (BAP) Habitats, Legally protected species, any Priority species (which includes: National Biodiversity Species, Local BAP Species, Species of conservation concern and Red Data Book (RDB) species, Birds of Conservation Concern (BOCC), nationally rare and nationally scarce species, and OSPAR Commission list of threatened/declining species) and Invasive species (listed under section 14 of Schedule 9 only) within a 2km radius, and any important hedgerows/veteran trees within the immediate zone of influence [Cofnod (the North Wales Environmental Information Service), 5th August 2019].

2.1.2 Data received has been extracted and summarised using QGIS 2.18, with original sources not extracted directly. Data has also been edited where relevant to prevent sensitive or confidential records being made public in accordance with Guidelines for Accessing and Using Biodiversity Data (CIEEM, 2016).

2.2 Assessment

2.2.1 A level of importance has been assigned to each ecological feature, where sufficient baseline data is available to do so, in accordance with current guidance (CIEEM, 2018). This is defined within a geographical context as follows: International and European; National; Regional; Metropolitan, County, vice-county or other local authority-wide area; River Basin District; Estuarine system/Coastal cell; and Local (plus Negligible where no associated value has been identified). For example, importance of designated sites reflects the geographical context of the designation (where designated sites no longer meet designation criteria and those formally 'de-notified' or where an undesignated site meets published selection criteria must also be considered). When considering habitats and species contextual information about distribution and abundance of that habitat/species in the area must be considered (if the habitat/species status is currently in a degraded or unfavourable condition its potential value should be considered).

2.2.2 The assessment then considers potential impacts (both positive and negative) generated during the construction and operational phase of the proposed application. Impacts that are either unlikely to occur, or if they did occur are unlikely to be significant, are not considered.

2.2.3 Cumulative impacts are then considered where the application meets criteria in accordance with national EIA screening guidance (GOV.UK, 2019). This takes into consideration existing background levels of threat or pressure, looks at critical thresholds, and assess both additive/incremental and associated/connected effects.

2.2.4 Relevant aspects of ecological structure and function are then considered when determining if identified impacts will have a significant effect upon ecological features. Where necessary, this assessment utilises information from other specialists (i.e. hydrology), to determine the level of impact. In accordance with current guidance (CIEEM, 2018) these are described using the following characteristics, where relevant: positive or negative; extent; magnitude; duration; frequency and timing; and reversibility.

2.2.5 The mitigation hierarchy is then explored in accordance with BS42020:2013 (BSI, 2013). This seeks as a preference to avoid impacts, then to mitigate unavoidable impacts, and as a last resort, to compensate for unavoidable residual impacts that remain after avoidance and mitigation measures. Justification has been provided by the client/their planner where the mitigation hierarchy cannot be followed, or for example where compensation is a preferred approach where the competent authority has adopted a County wide strategy i.e. District Level Licensing Schemes (GOV.UK, 2019). In this instance current national Biodiversity Offsetting guidance has also been consulted (GOV.UK, 2019). Additional information has also been provided by the client/their planner where the applicant wishes to demonstrate exceptional circumstances or where they wish to pursue alternative strategies. Any residual impacts following mitigation measures etc are then identified.

2.2.6 All mitigation measures follow species specific current best practice guidance and the source has been identified accordingly. Deviation from guidance has been explained by the ecologist and is proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed works.

2.2.7 It is important that planning decisions are based on up-to-date ecological data, and the specific timeframe over which survey data is considered valid follows general advice (CIEEM, 2019). Additionally, it should be noted that the presence/absence and status of protected species can change seasonally/annually. The age of data should also be assessed separately when considering the submission of an EPS Licence (i.e. Natural Resources Wales may require data to be from the current season).

2.2.8 Local Environmental Records Centres (LERC) issue a licence for use of provided biodiversity data for 1 year only, after which time this should be renewed to validate an application (and reports updated accordingly to incorporate any new records). Following completion of surveys all relevant biodiversity data will be submitted to the relevant LERC and other groups as appropriate.

2.3 Limitations

2.3.1 Data held by consultees may not be exhaustive; the absence of evidence does not indicate evidence of absence. Enzygo cannot take responsibility for the accuracy of external data sources and as such discrepancies and inaccuracies may occur.

2.3.2 Records over 10 years old for transient species (as these are unlikely to remain valid) and species protected from sale only under the W&C Act 1981 and amendments (as these are not relevant

to a planning application), are excluded. Additionally, given the large number of priority species, these have only been included if identified from the desk study and/or habitats recorded on site have been assessed as providing suitable conditions.

2.3.3 Geological sites have not been included within this report.

2.3.4 Natural Resources Wales does not provide a publicly accessible map of previously granted European Protected Species Mitigation (EPSM) licences.

3.0 Baseline Ecological Conditions

3.1.1 Ecological features identified by the desk study are presented below, along with their details and associated ecological importance. Refer to Drawing MAN.244.002.EC.D.001 for the location/extent of ecological features where relevant.

Table 1 – Ecological Features

Ecological Feature	Details	Ecological Importance
Statutory sites designated or classified under international conventions or European legislation		
Midland Meres & Mosses Phase 2 Ramsar Mere 220m south with northern extension crossing the south-west corner and along the south-eastern boundary of the site Further areas 1.7km and 3.4km south-east	Part of a geographically diverse series of lowland open water and peatland sites in the north-west midlands of England and north-east Wales. Site qualifies in respect of the following Ramsar Criterion: - Criterion 1 – the site comprises a diverse range of habitats from open water to raised bog; - Criterion 2 – supports a number of rare species of plants associated with wetlands, including the nationally scarce Cowbane (*Cicuta virosa*) and, Elongated Sedge (*Carex elongate*). Also present are the nationally scarce bryophytes *Dicranum affine* and *Sphagnum pulchrum*. Also supports an assemblage of invertebrates including several rare species. There are 16 species of British Red Data Book insect listed for this site including the following endangered species: the moth *Glyphipteryx lathamella*, the caddisfly *Hagenella clathrata* and the sawfly *Trichiosoma vitellinae*.	International
Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses Special Area of Conservation (SAC) 3.4km south-east	Annex I habitats that are a primary reason for selection of this site: - Active Raise Bogs – a large lowland raised bog on the English/Welsh border, amongst the largest and most southerly raised bogs in the UK. Although much of the site has been subject to peat extraction, areas of partially-cut and uncut mire still remain. In areas formerly subject to commercial peat-cutting, recent conservation management has led to the regeneration of bog-forming vegetation. Mire vegetation includes *Sphagnum papillosum*, *Sphagnum magellanicum*, *Sphagnum pulchrum*, all three British species of sundew *Drosera* spp., Cranberry (*Vaccinium oxycoccos*), Bog Asphodel (*Narthecium ossifragum*), Royal Fern (*Osmunda regalis*), White Beak-sedge (*Rhynchospora alba*) and Bog-rosemary (*Andromeda polifolia*), together with the nationally scarce moss *Dicranum affine*. Over 1,700 invertebrate species have been recorded here, including 29 nationally rare Red Data Book species. Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site - Degraded raised bogs still capable of natural regeneration.	International

Ecological Feature	Details	Ecological Importance
Statutory sites designated under national legislation (& Impact Risk Zones)		
Hanmer Mere Site of Special Scientific Interest (SSSI) Northern extension lies across the south-western corner and along south-eastern boundary of the site	Part of a series of open water and peatland sites. Hanmer Mere is the largest of the meres in Clwyd and probably the deepest. It is mesotrophic (i.e. moderately nutrient poor), with no surface water inflows, but overflows underground at its northern end. The site is noted for its submerged aquatic, emergent fringe and marginal fen vegetation which includes the nationally scarce Cowbane (*Cicuta virosa*). The mere is surrounded by areas of wet woodland which is noted for its varied ground flora and particularly its rich tussocky sedge community, including Tufted Sedge (*Carex elata*) which is uncommon in Clwyd, and the nationally scarce and declining Elongated Sedge (*Carex elonrara*). The mere is also noted for its good number of wildfowl, particularly overwintering, including the nationally important. The Countryside Council for Wales (now National Resources Wales) document of *Operations requiring consultation with the Countryside Council for Wales* (CCW, 1994), details operations for which CCW must be consulted and which may require consent within the SSSI which are pertinent to these proposals including: - Introduction of mowing or other methods of cutting vegetation; - Destruction, displacement, removal or cutting of any plant or plant remains, including tree, shrub, herb, hedge, dead or decaying wood, moss, lichen, fungus, leaf-mould or turf; - Tree planting including afforestation; - Modification to the structure of water courses and drainage; and, - Construction of roads, tracks, walls, fences, hardstands, banks, ditches or other earthworks. *Note: this requirement is applicable to works within the SSSI only.*	National *Confirmed proposals meet criteria for which consultation with NRW is required*
Llyn Bedydd SSSI 1.6km South-east	Part of a series of open water and peatland sites. Llyn Bedydd is a small comparatively shallow eutrophic (i.e. nutrient rich) mere. It is fed by a small stream from the south which flows through fen pasture and swampy alder-carr woodland, and overflows underground from the north-east corner. The site is noted for its narrow fen fringe, including the nationally scarce Cowbane, and a tussocky species-rich floating mat at its southern end. The mere is surrounded by alder-willow carr woodland, which is uncommon in Clwyd, and is notable for its Purple Small-reed (*Calamacrostis canescens*) and Alder Buckthorn (*Francula alnus*). The mere supports a rich invertebrate population including the nationally scarce Variable Damselfly (*Coenagrion pulchellum*).	National
Locally designated wildlife sites		

Ecological Feature	Details	Ecological Importance
Hanmer Hall Woods Local Wildlife Site (LWS) 450m South-east and 700m East	Site supports semi-natural broad-leaved woodland and continuous Bracken.	County
Cumber's Bank Woods LWS 1.2km West	Site supports semi-improved neutral grassland, semi-natural broad-leaved woodland and semi-natural mixed woodland.	County
Arowry Moss LWS 1.2km South-east	Site supports semi-natural broad-leaved woodland.	County
Lower House Marsh LWS 1.2km West	Site supports marsh/marshy grassland, running water, semi-improved neutral grassland and semi-natural broad-leaved woodland.	County
Cumber's Brook Mire LWS 1.4km South-west	Site supports flood-plain mire, marsh/marshy grassland, semi-improved neutral grassland, semi-natural broad-leaved woodland and continuous Bracken.	County
The Drive LWS 1.4km South	Site supports broad-leaved plantation, semi-natural broad-leaved woodland and continuous Bracken.	County
Fir Orchard LWS 1.5km South-west	Site supports semi-natural broad-leaved woodland.	County
Scrape Wood and Glade Wood LWS 1.7km South-west	Site supports broad-leaved plantation, coniferous plantation, semi-natural broad-leaved woodland and semi-natural mixed woodland.	County
Long Wood, Gredington LWS 1.7km South-west	Site supports broad-leaved plantation, coniferous plantation, semi-natural broad-leaved woodland and semi-natural mixed woodland.	County
Park Pool LWS 1.9km South	Site supports open water and swamp vegetation.	County
Cranberry Moss LWS 1.9km North-east	Site supports broad-leaved recently felled woodland, marsh/marshy grassland, standing water, semi-improved neutral grassland and semi-natural broad-leaved woodland.	County
Wales Priority Habitats, Local BAP Habitats, Ancient Woodland, Important Hedgerows, Veteran Trees, TPOs and Conservation Areas		
Lowland Fens and Reedbeds Priority Habitat 260m South	A 0.15ha area of habitat along the northern shore of Hanmer Mere 260m to the south	Local
Wet Woodland Priority Habitat 450m South-east	A small 0.3ha area at Hanmer Hall Wood 450m south-east	Local
Ancient Woodland 310m South-east	Total of 1ha of Ancient Woodland within a 500m radius, comprising a 0.4ha area of restored woodland 310m south-east, a 0.4ha area of restored woodland 350m south-west, and a 0.2ha of semi-natural woodland 450m south-east.	Local

Ecological Feature	Details	Ecological Importance
Green/Blue & Aquatic Infrastructure, Dark Zones, and Local Policy		
Green Infrastructure	Aerial imagery indicates that the native boundary hedgerows, as reported by the Phase I Habitat Survey (EVR ecology, 2018), provide significant green infrastructure resource, contributing to habitat connectivity and wildlife corridor function in a landscape dominated by arable fields and pasture. The northern boundary is particularly notable contributing to the green corridor which run from south-west to north-east along the A539 to the north.	Local
Blue Infrastructure	A stream runs from south to north along the north-eastern boundary of the site before culverting under the A539 to the north. Although this watercourse is described as being significantly overgrown in the Phase I Habitat Survey (EVR ecology, 2018), it does provide significant blue infrastructure function from south to north, and is also assumed to be hydrologically connected to Hanmer Mere to the south and the wider ditch network to the north of the A539.	Local
Dark Zones	There are no known dark zones across the site. In accordance with the standard guidance specified in the *Guidance Notes for Reduction of Obtrusive Lighting* (Institution of Lighting Professionals, 2011), the application site likely falls under Environmental Zone E2 Rural (Low district brightness).	N/A
Legally Protected & Priority Species (& Consultation Zones where applicable)		
Bats	The data records search has revealed records of Common Pipistrelle (*Pipistrellus pipistrellus*), Soprano Pipistrelle (*Pipistrellus pygmaeus*), Noctule (*Nyctalus noctula*) and *Myotis* species, within a 2km radius, all reported in 2016 from 620m south-west of the site. The Phase I Habitat Survey (EVR ecology, 2018) identifies the "*trees and hedges have potential for use by bats as foraging and commuting habitat*." There are numerous locations in the wider area which may support roosting bats, including buildings within Hanmer village to the south, and farm buildings and mature trees associated with the wider farmland landscape. No evidence to alter the assessments made in 2018 report.	Local
Badger	The data search has not revealed any records of Badger within the site or within a 2km radius of the site boundary. The Phase I Habitat Survey (EVR ecology, 2018) did not find any evidence of Badger and concludes there is "*no expected impact on the local badger population through the proposed development*." The desk study has not identified any evidence to change this assessment.	Negligible

Ecological Feature	Details	Ecological Importance
Dormouse	No records within the a 2km radius of the site. Previous survey did not identify any impacts of the proposals on Dormouse (EVR ecology, 2018) and the site is located within an area of north Wales where this species is significantly rare.	Negligible
Otter	Six records within the search radius, with the closest a roadkill record located 1.8km north-east from 2015. The remaining five records all reported at Cumber's Brook 1.9km to the north-west in 2011 and include records of a holt, a couch and spraints. The watercourse along the north-east boundary of the site is reported as significantly overgrown with Bramble (EVR ecology, 2018), and represents a short, approximately 90m, section between the culverts to the north and south-west therefore does not provide a notable commuting corridor. It is considered this does not represent suitable habitat for Otter and impacts can be reasonably discounted.	Negligible
Water Vole	No records within a 2km radius of the site. The field survey (EVR ecology, 2018) did not detect any evidence of Water Vole, and does not recommend any further survey or mitigation measures in respect of the species. No evidence identified to alter this assessment.	Negligible
Other Protected Mammals	A single record of Polecat (*Mustela putorius*) roadkill 1.8km north-east of the site. Previous survey found "*no evidence indicating that other protected species present or potential for them to be present.*" No evidence identified to alter this assessment.	Negligible
Specially Protected Birds	Data search has revealed records of several species listed on Schedule 1 of the *Wildlife and Countryside Act 1981* (as amended), comprising Barn Owl (*Tyto alba*), Kingfisher (*Alcedo atthis*), Redwing (*Turdus iliacus*), Fieldfare (*Turdus pilaris*), Brambling (*Fringilla montifringilla*), Pintail (Anas acuta), Goldeneye (*Bucephala clangula*), Peregrine (*Falco peregrinus*), Hobby (*Falco subbuteo*) and Merlin (*Falco columbarius*). The closest record is of Goldeneye at Hanmer Mere 430m to the south recorded in 2016. No specific opportunities for any specially protected bird species noted, or potential for impacts on any specially protected bird species, in the previous survey (EVR ecology, 2018). No evidence identified to alter this assessment.	Negligible
Breeding, Wintering and Migratory Birds	Data search has identified records of 15 Priority Species of bird within a 2km radius of the site, comprising Bullfinch (*Pyrrhula pyrrhula*), Cuckoo (*Cuculus canorus*), Curlew (*Numenius arquata*), Dunnock (*Prunella modularis*), House Sparrow (*Passer domesticus*), Lapwing (*Vanellus vanellus*), Lesser Redpoll (*Acanthis cabaret*), Marsh Tit (*Poecile palustris*), Reed Bunting (*Emberiza schoeniclus*), Skylark	Local importance to a restricted range of common bird species.

Ecological Feature	Details	Ecological Importance
	(*Alauda arvensis*), Song Thrush (*Turdus philomelos*), Starling (*Sturnus vulgaris*), Tree Sparrow (*Passer montanus*), Yellow Wagtail (*Motacilla flava*) and Yellowhammer (*Emberiza citrinella*). The previous survey identified "*there is potential for use of the hedges and trees to nest*" (EVR ecology, 2018) and potential for works to impact upon nesting birds. In addition to this assessment, it is also considered there is potential for ground-nesting species such as Lapwing and Skylark.	
Common Reptiles	Data search has revealed no records of any reptile species within a 2km radius of the site. The previous survey did not identify any impacts on reptiles (EVR ecology, 2018). No evidence identified to alter this assessment.	Negligible
Great Crested Newt	Data search has revealed records from 2016 of GCN at ponds 780m south-west of the site. Surveys in 2018 did not detect any GCN at ponds or at terrestrial habitats within the site (Life & Wild, 2018). Notwithstanding these results, given the presence of the ponds at the site and nearby, best practice Reasonable Avoidance Measures were recommended (Life & Wild, 2018), No evidence identified to alter this assessment.	Local
Other Protected Herpetofauna	Data search has revealed no records of any other protected herpetofauna within a 2km radius of the site. The previous survey did not identify any impacts on other protected herpetofauna (EVR ecology, 2018). No evidence identified to alter this assessment.	Negligible
Protected Fish/Marine	Data search has revealed no records of any protected fish or marine species within a 2km radius of the site. The previous survey did not identify any impacts on protected fish or marine species (EVR ecology, 2018). No evidence identified to alter this assessment.	Negligible
White-clawed Crayfish	Data search has revealed no records of White-clawed Crayfish (*Austropotamobius pallipes*) within a 2km radius of the site. The previous survey did not identify any impacts on White-clawed Crayfish (EVR ecology, 2018). No evidence identified to alter this assessment.	Negligible
Protected Invertebrates	Data search has revealed no records of any protected invertebrate species within a 2km radius of the site. The previous survey did not identify any impacts on protected invertebrate species (EVR ecology, 2018). No evidence identified to alter this assessment.	Negligible

Ecological Feature	Details	Ecological Importance
Protected Flora	Data search has identified a single historic record of Floating Water-plantain (*Luronium natans*) 1.9km north-west of the site from 1975. This species not reported, and no potential impacts identified, in the previous survey (EVR ecology, 2018). No evidence identified to alter this assessment.	Negligible
Invasive Flora	Data search identifies records of Schedule 9 flora in the wider area comprising Wall Cotoneaster (*Cotoneaster horizontalis*), Rhododendron (*Rhododendron ponticum*) and Variegated Yellow Archangel (*Lamiastrum galeobdolon* subsp. *argentatum*). No invasive species, and no potential impacts identified, in the previous survey (EVR ecology, 2018). No evidence identified to alter this assessment.	Negligible
Invasive Fauna	Data search identifies single record of American Mink (*Neovison vison*) 440m west from 2010, and several records of Canada Goose (*Branta canadensis*) in the wider area. No potential impacts of invasive species identified in the 2018 assessment (EVR ecology, 2018). No evidence identified to alter this assessment.	Negligible
Priority Species	Data search has identified four records of Brown Hare (*Lepus europaeus*) in the wider area of the site, with the closest located 300m west of the site in 2011. No other records of Priority Species identified (other than those listed earlier in this table). Previous assessment did not identify any specific impacts on other Priority Species (EVR ecology, 2018). No evidence identified to alter this assessment.	Negligible

4.0 Assessment and Mitigation

4.1.1 Assessment of impacts and the associated ecological effect to identified ecological features are presented below. Ecological features have been screened out where no likely significant impacts have been identified or where impact is unlikely to occur. Cumulative effects are also considered where applicable.

4.1.2 To clarify, other than the ecological features listed below, there are no perceived potential impacts on any other sites, habitats or species in the wider area. The proposals are of a type, scale and distance that any direct or indirect construction or operational impacts on the other identified ecological features, including Fenn's, Whixall, Bettisfield, Wem and Cadney Mosses SAC, Llyn Bedydd SSSI and locally designated wildlife sites, are reasonably discounted.

Table 2 – Assessment of effect and mitigation measures

Ecological Feature	Impact	Avoidance/Mitigation	Compensation	Significance of Residual Effect
Midland Meres & Mosses Phase 2 Ramsar	Potential for direct damage, and potential for damage/degradation of watercourse to the east of the site. Significant adverse, permanent, reversible impact	To avoid potential pollution and run-off impacts on the statutory designated site, site works will be undertaken in accordance with best practice and the through adoption best practice pollutions prevention guidelines, namely *Works and maintenance in or near water: GPP 5* and *Working at construction and demolition sites: PPG6.* Further assessment is required to determine the potential for impacts on below-ground pipework along the south-eastern boundary and degradation impacts on the watercourse to the east. This further assessment is presented within a Stage 1 Habitat Regulations Assessment Screening Report.	None required.	To be confirmed following further assessment
Hanmer Mere SSSI	Potential for direct damage to underground pipework along the south-eastern boundary, and potential for damage/degradation of watercourse to the east of the site. Significant adverse, permanent, reversible impact	To avoid potential pollution and run-off impacts on the statutory designated site, site works will be undertaken in accordance with best practice and the through adoption best practice pollutions prevention guidelines, namely *Works and maintenance in or near water: GPP 5* and *Working at construction and demolition sites: PPG6.*	None required.	To be confirmed following further assessment

Ecological Feature	Impact	Avoidance/Mitigation	Compensation	Significance of Residual Effect
		Further assessment is required to determine the potential for impacts on below-ground pipework along the south-eastern boundary and degradation impacts on the watercourse to the east. Although the SSSI is not a European designated site, as the SSSI covers the same area and as the designation features are comparable to those within the Ramsar citation, the proposed Stage 1 HRA Screening Report will encompass assessment of impacts on the SSSI.		
Green Infrastructure	Risk of damage, fragmentation and/or degradation of boundary hedgerows providing green infrastructure resource. Minor adverse, temporary, reversible impact.	Boundary hedgerows will be retained and protected in accordance with *BS 5837:2012 Trees in relation to design, demolition and construction.* To avoid potential degradation of the wildlife corridor the construction and operational phase should incorporate a sensitive lighting scheme, making use of suitable products such low-level, capped and/or screened lighting, to reduce lighting overspill onto the habitats.	None required.	No significant effect anticipated
Blue Infrastructure	Risk of degradation of adjacent watercourse through increase in artificial lighting and/or pollution and potential for direct damage. Minor adverse, temporary, reversible impact.	To avoid potential pollution and run-off impacts site the watercourse will be protected through protective fencing and through implementing best practice pollutions prevention guidelines, namely *Works and maintenance in or near water: GPP 5* and *Working at construction and demolition sites: PPG6.* In addition, as above, the construction and operational phase should incorporate a sensitive lighting scheme, making use of suitable products such low-level, capped and/or screened lighting, to reduce lighting overspill onto the adjacent watercourse	None required.	No significant effect anticipated
Bats	Risk of damage/degradation of suitable foraging and commuting habitat Minor adverse, temporary, reversible impact. (no significant loss of habitat anticipated)	As detailed above, boundary hedgerows will be retained and protected in accordance with BS 5837:2012 Trees in relation to design, demolition and construction.	None required.	No significant effect anticipated

Ecological Feature	Impact	Avoidance/Mitigation	Compensation	Significance of Residual Effect
		The protection measures highlighted above in relation to lighting and pollution prevention will further minimise the risk of degradation of the hedgerow and stream habitats suitable for foraging and commuting bats. The lighting scheme should be designed in accordance with the recent guidance *Bats and artificial lighting in the UK* (Institute of Lighting Professionals, 2018).		
Nesting Birds	Risk of killing/injury and/or disturbance of active nesting birds during works. Minor adverse, temporary, irreversible impact. (no significant loss of habitat)	To avoid an offence being committed in respect of nesting birds, clearance of any suitable bird nesting habitats, including grassland, trees and shrubs, will be conducted outside of the bird nesting season (March to August inclusive). If it is necessary to remove suitable nesting habitat during the bird nesting season, a nesting bird survey will be conducted by a suitably trained Ecological Clerk of Works (ECoW) to determine the presence or absence of nesting birds in the areas to be affected. If any active nests are detected, an appropriate protection area around the nest(s) will be established until it can be determined that the nest is longer active.	None required.	No significant effect anticipated
Great Crested Newt	Low risk of killing/injury during site clearance and construction activities Low risk of significant adverse, permanent, irreversible impact	Although the 2018 surveys (Life & Wild, 2018) have confirmed a likely absence of GCN in applicable ponds, due to the presence of the ponds and records of GCN in the wider area, there does remain a significantly low risk of killing/injury during the works. To minimise this risk even further it is considered works should progress under the Reasonable Avoidance Measures detailed within the GCN EcIA report (Life & Wild, 2018).	None required.	No significant effect anticipated

5.0 Enhancement and Monitoring

5.1.1 Opportunities for biodiversity enhancement (above and beyond those required to mitigate for any identified impacts) have been determined through consideration of: Ecological Features identified on site and within the zone of influence; Historical records of protected species/habitats present within the locality; National and Local planning policy including National and Local Biodiversity habitats/species; Local Development Plans including consideration of Green/Blue Infrastructure Resource; Consultation with third parties/stakeholders where applicable; and Other influencing factors such as underlying Geology/Hydrology, intended operational activities, and existing disturbance activities within the locality. This makes specific reference to Biodiversity Net Gain, Good practice principles for development (CIEEM, IEMA, CIRA, 2019).

5.1.2 The below enhancements repeat and expand those detailed within the Phase I Habitat Survey report (EVR ecology, 2018). It is confirmed that the enhancements, in combination with the above described mitigation measures, will demonstrate an overall net gain for biodiversity.

Table 3 – Enhancement & Monitoring

Ecological Feature	Enhancement & Monitoring	Significance of Residual Effect
Nesting Birds	Three bird nest boxes to suit a variety of species likely to be present in the local area, such as the Schwegler 1B, Schwegler 3S and Schwegler 2H nest boxes (or similar products if not available), shall be provided at suitable locations at retain trees. Boxes should be placed at least 3m high on the main stem of the tree and face on to suitable habitats such as hedgerows and greenspace. No monitoring required.	Minor positive, permanent effect
Roosting Bats	Two bat roost boxes, such as the Schwegler 2F bat box (or a similar product if not available) should also be provided at the retained trees. The boxes should be positioned at least 4m high on the main stem of the tree, and again should face on to suitable habitats such as hedgerows, landscape planting or the adjacent watercourse. No monitoring required.	Minor positive, permanent effect
Planting	The proposed planting scheme should incorporate native species and species which are known to be of value to wildlife. Planting should be focussed on providing connectivity across and around the site. No monitoring required.	Minor positive, permanent effect
Habitat Management	Existing hedgerows and areas of grassland should be managed in a manner to provide favourable habitat for wildlife including small mammals, foraging bats, invertebrates and birds. Tall, dense hedgerows should be sought, alongside unmanaged tussocky grassland areas, to provide a combination of refuge and foraging opportunities for a range of wildlife. No monitoring required.	Minor positive, permanent effect

Ecological Feature	Enhancement & Monitoring	Significance of Residual Effect
Shelter and refuge for wildlife	Informal deadwood hibernacula can be created and located at the site boundaries, providing enhanced opportunities for sheltering, refuge and hibernating wildlife, including Hedgehog and common amphibians. The arisings from the proposed shrub clearance will provide a suitable material for these informal hibernacula. No monitoring required.	Minor positive, permanent effect

5.1.3 To comply with guidance set out in BS42020:2013, a Construction Environment Management Plan (CEMP) which includes consideration of biodiversity would normally be produced prior to the commencement of construction activities, including site clearance works. However, due to the limited number of ecological features identified, this report (specifically the mitigation details outlined within section 4.0) will sufficiently serve to advise site contractors of any measures necessary to avoid/mitigate impacts to any protected habitat/species. A Landscape and Ecological Management Plan (LEMP) may also be required.

6.0 Conclusion

6.1.1 Further assessment is required to determine the scope of potential impacts on Midland Meres & Mosses Phase 2 Ramsar & Hanmer Mere SSSI. Otherwise, this assessment, in combination with the supporting Phase I Habitat Survey (EVR ecology, 2018) and GCN EcIA (Life & Wild, 2018) have demonstrated that suitable mitigation measures can be incorporated into the proposed application to avoid/ mitigate/ compensate any potential impacts to other ecological features and to demonstrate 'no biodiversity net loss' in accordance with PPW and local planning policy.

6.1.2 Additionally, the development presents opportunity to provide wide-ranging enhancements to demonstrate a 'biodiversity net gain'.

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Drawing MAN.244.002.EC.D.001 – Desk Study Map

Appendix A - Legislation and National Planning Policy

Legislation

Wildlife legislation and policy relevant (or potentially relevant pending further survey) to the proposed works, based on the findings of the desk study and field survey are set out below. This legal information is a summary only, and the original legal documents should be consulted for definitive information.

Legislation Protection Afforded to Sites/Habitats that could Potentially be Affected by the Proposed Works

Designated Site/Habitat	Legal Status
Ramsar	Ramsar Sites are wetlands of international importance designated under The Ramsar Convention. They are afforded the same level of protection as SSSIs under the Wildlife and Countryside Act 1981 (as amended). UK policy, however, affords the same level of protection to Ramsar Sites as SPAs/SACs in terms of the consideration of impacts on their integrity subject to Habitats Regulations Assessment.
Sites of Special Scientific Interest (SSSIs)	SSSIs are the national suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs have been re-notified under the Wildlife and Countryside Act 1981 (as amended). Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000.

Legislation Protection Afforded to Species that could Potentially be Affected by the Proposed Works

Species	Legal Status
European Protected	
Bats and GCN	These animal species and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species (Amendment) Regulations 2012, which makes it illegal to: • Deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs; • Deliberately disturb such an animal; • Damage or destroy a breeding site or resting place of such an animal. European Protected Species (EPS) licences can be granted by Natural Resources Wales in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed: • 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. Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a legal duty to 'have regard to the requirements of the EC Habitats Directive in the exercise of their functions'. This means that they must consider the above 3 tests when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations. As a consequence, Planning Applications for such developments must demonstrate that the 3 tests will be passed.
Nationally Protected	
Bats and GCN	These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to:

Species	Legal Status
	• Intentionally kill, injure or take any such animal; • Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
Nesting Birds (general)	All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any wild bird; • Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.
Invasive Species	
None	-

Section 40 of the Natural Environment and Rural Communities Act 2006 (the NERC Act) places a legal duty on public bodies, including planning authorities, to 'have regard' to the conservation of biodiversity when carrying out their normal functions, which includes consideration of planning applications.

In compliance with Section 41 of the NERC Act, the Secretary of State has published a list of species and habitats considered to be of principal importance for conserving biodiversity in Wales under the UK Post-2010 Biodiversity Framework. This is known as the list of Habitats and Species of Principal Importance (HPI/SPI), of which there are 56 habitats and 943 species. The HPI/SPI list is used to guide planning authorities in implementing their duty under the NERC Act.

Planning Policy Wales

Planning Policy Wales (PPW) was originally published by the Welsh Government in 2002 and sets the context for planning in Wales, under which Local Planning Authorities prepare their statutory Development Plans. It is the principal and authoritative source of national planning policy.

The latest edition of the PPW was Edition 9 published in 2016. This is supplemented by 21 topic based Technical Advice Notes (TANs). Procedural guidance is given in Welsh Office/National Assembly for Wales/Welsh Government circulars. PPWs, the TANs and the circulars may be material to decisions on individual planning applications. They will be considered by the Welsh Ministers and Planning Inspectors in the determination of called-in planning applications and appeals.

Chapter 5 of the PPW (Conserving and Improving Natural Heritage and the Coast) states that the Welsh Government's objectives in relation to the environment are to:

- promote the conservation of landscape and biodiversity, in particular the conservation of native wildlife and habitats;
- ensure that action in Wales contributes to meeting international responsibilities and obligations for the natural environment;
- ensure that statutorily designated sites are properly protected and managed;
- safeguard protected species, and to
- promote the functions and benefits of soils, and in particular their function as a carbon store.

The PPW states that "*the planning system has an important part to play in meeting biodiversity objectives by promoting approaches to development which create new opportunities to enhance biodiversity, prevent*

biodiversity losses, or compensate for losses where damage is unavoidable. Local planning authorities must address biodiversity issues, insofar as they relate to land use planning, in both development plans and development management decisions. Local planning authorities should consider how they might accommodate a response to climate change as part of their overall approach towards meeting biodiversity objectives. Ways in which the adaptation needs of biodiversity could be considered include identifying the scope for minimising or reversing the fragmentation of habitats and improving habitat connectivity through the promotion of wildlife corridors. Local planning authorities should ensure that development minimises impact within areas identified as important for the ability of species to adapt and/or to move to more suitable habitats."

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