

PRELIMINARY ECOLOGICAL APPRAISAL

Sakura

Ash Road South
Wrexham
LL13 9UG

ON BEHALF OF:

Thermotraffic



Site Address	Sakura, Ash Road South, Wrexham LL13 9UG	
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1 Executive Summary

- 1.1 It is proposed to extend the building at the current Norish chilled food distribution centre (project name: Sakura) along with the creation of new site access. The site is located in Wrexham Industrial Estate, to the east of Wrexham in North Wales. To support the proposals, a Preliminary Ecological Appraisal and Preliminary Roost Assessment were conducted in February 2024 by two experienced ecologists.
- 1.2 Survey identified the presence of semi-improved neutral grassland, marshy grassland, standing water, dense scrub (including willow carr), mixed woodland, hard standing and buildings on site.
- 1.3 Protected species and their potential presence on site were considered as part of the assessment. The two buildings on site do not have any potential to support roosting bats and no further survey effort is recommended in this regard.
- 1.4 With respect to the vegetative habitats, the site was deemed to have potential to support reptiles, great crested newt, badgers, otter and nesting birds. Bee orchids were also identified during the habitat survey.
- 1.5 Further survey is recommended for reptiles and great crested newt. These must be undertaken at the appropriate time of year for these species. Final recommendations for mitigation, if required, must be made in the survey reports following conclusion of these targeted surveys.
- 1.6 Enhancement measures are recommended in this report to fulfil the requirements of Planning Policy Wales Edition 12: Net Benefits for Biodiversity. It is considered that the approach taken as part of the survey effort detailed in this report, including the recommendations for further survey and enhancement features contributes to the step-wise approach for Net Benefits for Biodiversity, as described in Planning Policy Wales Edition 12, Chapter 6.

2 Introduction

- 2.1 A chilled food distribution building in Wrexham Industrial Estate is to be extended, along with associated landscaping works to improve site access. To support the proposals, Just Mammals Limited was commissioned to conduct a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) in February 2024.
- 2.2 Current habitats comprise semi-improved neutral grassland, marshy grassland, standing water, dense scrub (including willow carr), mixed woodland, hard standing and buildings on site. The site is located around National Grid Reference SJ 38036 50371, at an altitude of approximately 33m Above Ordnance Datum.
- 2.3 This report makes recommendations concerning the ecological value of the site, as well as the need for further survey work as appropriate. The different types of habitat were assessed, and the potential presence of protected species, such as badger (*Meles meles*), otter (*Lutra lutra*), dormouse (*Muscardinus avellanarius*), reptiles and amphibians, as well as bats and nesting birds were considered.

3 Survey Team Experience

- 3.1 Leading the habitat survey and report author is Grace Dooley. Leading the bat survey was Robert Morgan. Table 3 details ecological survey experience of the surveyors.

4 Survey Methodology

- 4.1 A Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) was conducted on Monday 5th February 2024. Details of the survey activities and weather conditions are provided in Table 1.
- 4.2 Prior to the site visit, a desktop study was undertaken, which involved a standard search area of a 2km radius from the site (using a central grid reference), using the publicly-available data provided by DataMapper Wales (Welsh Government). Details of statutory sites designated for nature conservation were obtained. A record search was also commissioned from the Local Biological Records Centre, Cofnod.
- 4.3 The assessment comprised a survey employing the Phase 1 habitat survey methodology. This is a standardised technique for classifying and mapping British habitats. All areas within the site were inspected and assessed for indicators of ecological value, including the presence and/or field signs

of any protected or rare habitats and species. The site was walked over, recording all plant species and features onto a custom-made recording sheet. Habitats and notes were drawn onto a map of the survey site and photographs were taken. A coloured Phase 1 habitat map was produced (see Figure 2).

- 4.4 Assessment for the presence or potential absence of other protected species, including hazel dormouse, badger, reptiles and amphibians, was undertaken by considering the features of the site. Such features include grassland and dense vegetation.
- 4.5 With respect to bats, all outer surfaces of the building were examined from the ground seeking signs of use, including bat faeces (droppings) on walls, ledges, doors and sills. Urine staining on paintwork and window glass, or staining on the surfaces of exposed timbers caused by oil from bat fur were also searched for. A high-powered lamp and binoculars were used to examine Potential Roost Features (PRFs), and any gaps or crevices in the structure were inspected as closely as possible. The context of the building within the surrounding landscape was also assessed at this time.
- 4.6 Internal survey sought the presence of bats or the remains of dead bats (including dead juvenile bats and babies), which might indicate the presence of a maternity roost, and other roosting signs (e.g. droppings), on floors, ledges, walls, stored items, and other surfaces. The roof structure and loft void were inspected for live bats or evidence for their presence, including discarded fragments of insects such as moth wings.
- 4.7 Low-level gaps, cracks and crevices, particularly on north-facing elevations were also sought and inspected, to consider the potential for presence of hibernating bats.
- 4.8 The presence of nesting birds was also considered at the time of assessment. Surveyors recorded any signs of historic and current bird activity including nest-building, feeding at nest sites and any indirect evidence such as nest remains, bird droppings, and feathers

5 Site Description

- 5.1 The site is positioned toward the northern end of Wrexham Industrial Estate. A large square building, housing a chilled food distribution business is situated in the middle of the site, with a small brick-built office block to the south. A staff car park projects out toward the north-west. The buildings are surrounded by an area of mown grassland, which is bordered by a diamond-link fence and a wide area of scrub, woodland and standing water.
- 5.2 The large square building, Building 1, is constructed from corrugated sheet metal on a metal frame. A large pitched roof covers the majority of the structure and is laid with the same corrugated metal as the walls. A single-storey flat roof section projects on the south elevation, housing the area where lorries are loaded.
- 5.3 The small brick built office block, Building 2 is rectangular and covered with a hipped roof laid with concrete interlocking tiles. Windows and doors are glazed and set in uPVC frames. Soffits are timber.
- 5.4 Land use in the immediate surroundings to the north, south and west consists of additional industrial units, standing waterbodies and artificially dug ditches that run parallel to the roads, one of which is <10m from the site's western boundary. To the east, an area of scrub leads to an open green space that appears to be managed for the purposes of biodiversity. Further afield, industrial units occupy the space up to 1km from the site, with landscape beyond this distance being pastoral and arable fields with bordering hedgerows, along with a golf course and areas of woodland.

6 Survey Constraints

- 6.1 The area of woodland and scrub to the north of Building 1 is very dense. The majority of it was able to be accessed for investigation, however, the very centre was too dense for the surveyor to access. It was not considered that this caused a significant constraint to survey, as it was possible to access the surroundings of this dense area. No other constraints were experienced and all other areas were able to be accessed by the surveyors for the purposes of the survey.

7 Desktop Study

- 7.1 No part of the site is within a statutory designated site of conservation value (e.g. a Site of Special Scientific Interest (SSSI); Special Area of Conservation (SAC); Special Protection Area (SPA); or National Nature Reserve (NNR)). No sites holding statutory designations are present within a 2km radius of the site.

- 7.2 A record search was commissioned from Cofnod to ascertain whether protected species have been recorded at or close to the site. The search revealed no records of protected or priority species at the site.
- 7.3 The data set revealed protected and priority species records within 2km of the site. Those of interest are briefly summarised below:
- Birds: Schedule 1 species such as barn owl (*Tyto alba*) with a record 460m from the site, crossbill (*Loxia curvirostra*) 1.4km from the site, curlew (*Numenius arquata*) 1.2km from the site, fieldfare (*Turdus pilaris*) 460m from the site, goshawk (*Accipiter gentilis*) 600m from the site, peregrine falcon (*Falco peregrinus*) 400m from the site, and redwing (*Turdus iliacus*) 460m from the site,. Red-listed species such as swift (*Apus apus*) recorded 460m from the site, cuckoo (*Cuculus canorus*) 570m from the site, ringed plover (*Charadrius dubius*) 500m from the site, lapwing (*Vanellus vanellus*) 570m from the site, woodcock (*Scolopax rusticola*) 320m from the site, herring gull (*Larus argentatus*) 460m from the site, marsh tit (*Poecile palustris*) 2.6km from the site, skylark (*Alauda arvensis*) 460m from the site, grasshopper warbler (*Locustella naevia*) 730m from the site, starling (*Sturnus vulgaris*) 480m from the site, mistle thrush (*Turdus viscivorus*) 460m from the site, house sparrow (*Passer domesticus*) 460m from the site, tree sparrow (*Passer montanus*) 1.1km from the site, greenfinch (*Chloris chloris*) 460m from the site, yellow wagtail (*Motacilla flava*) 1.2km from the site, linnet (*Linaria cannabina*) 1km from the site, lesser redpoll (*Acanthis cabaret*) 460m from the site and yellowhammer (*Emberiza citrinella*) 1.2km from the site;
 - Terrestrial mammals (excluding bats): species of principal importance as per the Environment (Wales) Act 2016 including: hedgehog (*Erinaceus europaeus*) 420m from the site, badger at 450m from the site, otter at 740m from the site, brown hare (*Lepus europaeus*) at 1km from the site, and polecat (*Mustela putorius*) at 450m from the site;
 - Bats: species including Brandt's bat (*Myotis brandtii*), noctule (*Nyctalus noctula*) and common pipistrelle (*Pipistrellus pipistrellus*) 450m from the site, brown long-eared bat (*Plecotus auritus*) 600m from the site, a myotis bat species (*Myotis sp.*) 570m from the site, whiskered bat (*Myotis mystacinus*) and Daubenton's bat (*Myotis daubentonii*) 700m from the site, and lesser horseshoe bat (*Rhinolophus hipposideros*) 1km from the site;
 - Amphibians: species such as common frog (*Rana temporaria*) 530m from the site, palmate newt (*Lissotriton helveticus*) and smooth newt (*Triturus vulgaris*) 540m from the site, and common toad (*Bufo bufo*) 720m from the site.
 - **A record of a breeding population of great crested newt (*Triturus cristatus*) was also returned 350m from the site. A further three records of a breeding population was returned between 700 – 740m from the site, with a total of 163 records of great crested newt presence within 2km returned;**
 - Reptiles: species such as common lizard (*Zootoca vivipara*) 200m from the site, grass snake (*Natrix helvetica*) 740m from the site, slow worm (*Anguis fragilis*) and adder (*Vipera berus*) 1km from the site.

8 Survey Results

- 8.1 Details of the conditions under which survey was conducted is given in Table 1. Wind speeds given employ the Beaufort scale.

Table 1: Summary of Survey Activity and Weather Conditions

Survey Type and Location	Dates	Timing	Weather Conditions
Day time visual inspection, botanical survey and habitat assessment, including protected species assessment. Preliminary Roost Assessment of the two buildings	05/02/2024	11:00 – 13:15 hours Greenwich Mean Time	Air temperature: 11°C Cloud cover: 7/8 oktas Wind speed: F4 gentle breeze Conditions: Dry
Surveyors	Grace Dooley, Robert Morgan		

- 8.2 The site was divided into seven different types of habitat for recording purposes. Table 2 below provides details of the various habitats and the observed species for each of them.

Table 2: Phase 1 Habitat Notes

Habitat	Phase 1 Classification	Description of Area and Typical Species
1	B2.2 Semi-improved neutral grassland	This habitat is present surrounding the majority of the two buildings on site. It appears to be regularly managed as it is of a uniform height. Species present include Yorkshire fog (<i>Holcus lanatus</i>), cocksfoot (<i>Dactylis glomerata</i>), ribwort plantain (<i>Plantago lanceolata</i>), common knapweed (<i>Centaurea nigra</i>), dandelion (<i>Taraxacum sp.</i>), dove's foot cranesbill (<i>Geranium molle</i>), common ragwort (<i>Jacobaea vulgaris</i>), daisy (<i>Bellis perennis</i>), creeping buttercup (<i>Ranunculus repens</i>), perennial ryegrass (<i>Lolium perenne</i>), a fescue (<i>Festuca sp.</i>), yarrow (<i>Achillea millefolium</i>), chickweed (<i>Stellaria media</i>), bristly ox-tongue (<i>Helminthotheca echioides</i>) and springy turf-moss (<i>Rhytidiadelphus squarrosus</i>). TN1: a collection of circa 20 bee orchid (<i>Ophrys apifera</i>) rosettes was identified at the southern edge of the site.
2	B5 Marshy grassland	This habitat is present toward the east of Building 1. Its character is a combination of marshy grassland and semi-improved neutral grassland based on species present, however, several discrete waterlogged areas were noted along with a general wetness to the substrate, and therefore B5 Marshy grassland was reached as an identification. Species present include hard rush (<i>Juncus inflexus</i>), creeping bent (<i>Agrostis stolonifera</i>), common knapweed, red clover (<i>Trifolium pratense</i>), creeping buttercup, meadow vetchling (<i>Lathyrus pratensis</i>), creeping cinquefoil (<i>Potentilla reptans</i>), soft rush (<i>Juncus effusus</i>), a sedge (<i>Carex sp.</i>), ox-eye daisy (<i>Leucanthemum vulgare</i>), floating sweet grass (<i>Glyceria fluitans</i>) and red-stemmed feather moss (<i>Pleurozium schreberi</i>).
3	G1.2 Standing water	Two distinct areas of standing water or ponds were noted in the south-east corner of the site. Water levels appear to be relatively low, although it is apparent that water is present year-round, due to the presence of certain floral species. Species present include common bulrush (<i>Typha latifolia</i>), tufted hairgrass (<i>Deschampsia cespitosa</i>), broadleaved willowherb (<i>Epilobium montanum</i>), marsh thistle (<i>Cirsium pratense</i>), hard rush, willow (<i>Salix sp.</i>), marsh bedstraw (<i>Galium palustre</i>), teasel (<i>Dipsacus fullonum</i>), a sedge, yellow flag iris (<i>Iris pseudoacorus</i>), gorse (<i>Ulex sp.</i>), common sorrel (<i>Rumex acetosa</i>), blackthorn (<i>Prunus spinosa</i>) and red-stemmed feather moss.
4	A2.1 Dense scrub	This habitat is located around the periphery of the site. It varies in density, ranging between relatively open at the base to complete and impenetrable thicket. The area of willow carr (TN2) in the south-east corner is included in this classification. Species present include bramble (<i>Rubus fruticosus</i>), blackthorn, hawthorn, Forsythia (<i>Forsythia sp.</i>), a cotoneaster (<i>Cotoneaster sp.</i>), field rose (<i>Rosa arvensis</i>), dogwood (<i>Cornus sanguinea</i>), ash (<i>Fraxinus excelsior</i>), field maple (<i>Acer campestre</i>), lords and ladies, tufted hairgrass, cherry (<i>Prunus sp.</i>), and a horsetail (<i>Equisetum sp.</i>).
5	A1.3.1 Mixed woodland (semi-natural)	This habitat is confined to a small area on a north-east facing slope in the northern area of the site. Species present include Scot's pine (<i>Pinus sylvestris</i>), hazel (<i>Corylus avellana</i>), blackthorn, hawthorn (<i>Crataegus monogyna</i>), pedunculate oak (<i>Quercus robur</i>), birch, ivy (<i>Hedera helix</i>), lords and ladies (<i>Arum maculatum</i>) and bramble. TN3: two single-entrance badger setts were identified in this habitat, at NGR SJ 38108 50497 and SJ 38097 50514.
6	J3.6 Buildings	As manmade structures, these two buildings did not support many floral species although some pioneering species were observed. Interestingly where water has pooled on the flat roof of Building 1, silt and other substrates have also collected which support floral species more commonly observed in waterlogged conditions. Species present include annual meadow grass (<i>Poa annua</i>), creeping buttercup, creeping thistle (<i>Cirsium vulgare</i>), dandelion, common nettle (<i>Urtica dioica</i>), yellow flag iris and broadleaved willowherb.
7	J5 Other	This habitat comprises the hard standing where vehicles are parked and the road for driving. No floral species are associated with this habitat.

8.3 A coloured Phase 1 habitat map was produced (see Appendix III).

Preliminary Roost Assessment

- 8.4 Survey commenced with an internal inspection of the buildings, followed by a methodical assessment of the exterior features.
- 8.5 Building 1 has a loft void above the main interior area which is one large open space, divided by large rolled steel joists. No evidence of roosting bats was observed in this space, and no potential access points were identified. Large vents are present on the south elevation of the building, all of which have a fine mesh on the inside to prevent ingress of birds.
- 8.6 The main roof was accessible via a ladder, as was the roof of the flat-roofed section on the south elevation. No evidence of roosting bats was identified on either roof, nor was any potential access point observed.
- 8.7 On the exterior of the building, no evidence of roosting bats and no potential roost features or access points were identified.
- 8.8 Building 2 has a loft void above a suspended ceiling, which spans the entirety of the building. The roof is lined with bitumastic felt and is supported by a pre-formed trussed rafter arrangement. No evidence of bats was identified on the interior.
- 8.9 Externally, all places commonly found to support roosting bats were closely inspected, such as soffits, fascia boards and barge boards. No gaps were found to be present, and the building was judged to be extremely well-sealed. Roof vents are present at either end of the roof, however, these appear to have been installed with mesh on the interior to prevent ingress of birds. No evidence of roosting bats was observed on the exterior, nor were any potential roost feature or access points identified.
- 8.10 Usage of the buildings by birds for nesting purposes was also considered. No active nests were identified during the survey, however the survey was undertaken outside of the breeding bird season. Potential for them to be present was identified, where a roosting herring gull was noted to be loafing on the roof of Building 1. Numerous other herring gulls were observed swooping over the roof and soaring above the site. Nesting within the natural habitats on site is considered separately in the below section.

Preliminary Ecological Appraisal

- 8.11 Ecological assessment included identification of the potential for protected species to be present in the site's vegetative habitats.
- 8.12 Reptiles make use of open, rank habitats which provide a mixture of open areas and cover. No reptiles were noted during the survey, although the time of year was not fortuitous for the identification of reptile presence. The majority of the site lacks the diverse habitat composition that reptiles require both for shelter and basking, however, the area of willow carr in the south-east corner and the ecotone between the scrub and marshy grassland was assessed to be of value to reptiles. Connectivity of this habitat and suitable habitat elsewhere in the landscape is noted to the south and east.
- 8.13 During the terrestrial part of their lifecycle, amphibians have similar habitat requirements to reptiles, with both species' groups favouring unmanaged, rank grassland, scrubby vegetation and variation in vegetative architecture. No amphibians were noted during the survey although similarly to reptiles, the general mosaic of habitats to the east and south-east of the site is considered to be suitable to support these creatures when in the terrestrial part of their life cycle, which facilitates their dispersal through the landscape, as well as foraging, shelter and hibernation.
- 8.14 The presence of two water bodies and the willow carr to the south-east of the site indicates the site's suitability to support breeding amphibians, including common toad and great crested newt. A total of 163 records of great crested newt were returned from within 2km from Cofnod. A record of a breeding pond was returned from 350m distant, with a further three records of breeding ponds within 750m. The general landscape of the Wrexham Industrial Estate is interlaced with ponds, other waterbodies and wet ditches, one of which is present <10m from the site's western boundary.
- 8.15 Bats will use trees, as well as buildings for roosting, where they will exploit gaps, cracks and crevices in the bark. No trees were identified on site to have features that could support roosting bats, with all trees noted to be young or in good health/condition.

- 8.16 The vegetated boundaries of the site are likely to attract a variety of invertebrate fauna, suggesting that these features are likely to be used by foraging bats. Treelines and hedgerows are used for commuting purposes, and open areas are used for feeding by some species.
- 8.17 Hazel dormice are associated with well-defined, connected hedgerows that link to further suitable habitats elsewhere in the landscape, as well as the presence of hazel. No evidence of dormice was recorded during the survey. Hazel is present in the area of mixed semi-natural woodland, although no hazelnuts considered to have been opened by hazel dormice were identified. Habitats on site do connect with those in the local landscape, although the general character of the local landscape (Wrexham Industrial Estate) is isolated patches of habitat between lots of hard-standing and built structures. It is not considered likely that dormice are using the site at this time.
- 8.18 Two individual setts with a single entrance were identified within the semi-natural mixed woodland on a north-east facing slope. No fresh digging was identified from these entrance holes, although the holes appear open and free from debris. No well-worn paths or footprints were identified leading away from the setts, and no pathways leading under the site's fenced boundary were identified.
- 8.19 Habitats on site, such as the scrub, trees and woodland are considered to be suitable for supporting birds of various sizes and their breeding activities. No nesting or breeding activity was noted during the survey, as it was carried out outside of the breeding bird season. Several bird species were heard and seen whilst on site: song thrush (*Turdus philomelos*), blackbird (*Turdus merula*), jackdaw (*Corvus corone*) and robin (*Erithacus rubecula*). Historical nests were observed within the mixed semi-natural woodland, along with at least six individual piles of droppings and whittings, demarcating regular locations for perching or roosting.
- 8.20 Species such as otter are highly reliant on water bodies. These animals are highly mobile and will use watercourses, including wet ditches to travel and commute throughout the landscape. Foraging otters will travel easily across terrestrial habitats and will vary their diet throughout the year to exploit changing food resources, such as frogs and toads in the early spring and fish in the summer and autumn. No evidence of a holt or couch, where otters rest during the day was observed on site, although their presence on site for foraging is considered to be possible.

9 Discussion and Conclusions

Preliminary Roost Assessment

- 9.1 No evidence of roosting bats was identified on either building during the survey, nor was any potential roosting feature or potential access point. Both buildings are assessed to have negligible potential to support roosting bats. No further survey is required on these buildings in order to facilitate the proposed development.
- 9.2 Nesting bird activity on the building, particularly from herring gull is deemed to be a possibility. These birds are named on the red-list of the Birds of Conservation Concern 5 (BTO, 2021) due to the sharp decline in their population. All nesting birds, their eggs, chicks and nests whilst in use or are being built are protected by the Wildlife and Countryside Act 1981 (as amended). Recommendations are made below to avoid contravening this legislation.

Preliminary Ecological Appraisal

- 9.3 The site was assessed to have moderate ecological value based on species identified during the survey, as well as its potential to support various protected and priority species.
- 9.4 A number of bee orchid rosettes were identified at the southern extent of the site (TN1, see Figure 2). Populations of bee orchids in the UK appear to be increasing (Bailey-Wood, undated) and they are absent from local biodiversity action plans. Therefore no specific action is recommended, although encouragement of habitat post-development that is favourable to such species is recommended.
- 9.5 Habitat toward the east of the site, such as the willow carr/scrub and the marshy grassland adjacent is considered to be suitable to support reptiles. The semi-improved grassland toward the south and west of the site supports a much more even sward height and is considered to be less suitable for reptiles, however due to the presence of adjacent scrubby habitat it cannot be ruled out that they are present and using the grassland. Loss of habitat to make way for the extension of Building 1 is considered to potentially adversely impact any reptiles present. All British reptiles are protected by the Wildlife and Countryside Act 1981 (as amended) from killing and injury. Further survey effort is recommended to ascertain presence / likely absence of reptiles.

- 9.6 The presence of waterbodies on site, along with willow carr and the wet ditch to the west of the site is considered to indicate the potential presence of great crested newt on site, in both the water bodies and the grasslands on site. Records of breeding great crested newts within the local area were returned, indicating the general area of the site being suitable to support these animals. The loss of terrestrial habitat is deemed to be a potential adverse impact to these species, which are European Protected Species (EPS) as per the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) 2019. Further survey is recommended to ascertain presence / likely absence, as well as a population size class assessment (if found to be present) in order to be able to more accurately assess potential impacts of the development.
- 9.7 Evidence of badger was identified on site. No evidence of a main sett was identified, with the evidence indicating occasional presence on site for resting, feeding or commuting. The area of woodland is to be retained in-situ as part of the development, and impacts are assessed to be restricted to harm to inquisitive animals only, as no development is proposed within 30m of the sett entrances (please refer to Figure 2). Therefore, no additional survey effort is deemed to be necessary, although precautionary measures are recommended to minimise this risk.
- 9.8 No evidence of otter was identified on site, and no holts or couches (where otters rest during the day) were observed. The presence of water bodies and wet ditches both on site and adjacent to the site indicate the possible presence of otters on site for feeding and commuting purposes. As otter is not considered to be resident on site, impacts are assessed to be restricted to harm to inquisitive animals only. No further survey is deemed to be necessary, although precautionary measures are recommended to minimise this risk.
- 9.9 Historical evidence of nesting birds in the natural habitats on site was identified in the woodland and scrub on site. Birds encountered during the survey (song thrush, robin, blackbird, jackdaw) are likely to nest in the habitats present, due to their alignment with the species' ecology and nesting preferences. All nesting birds, their eggs, chicks and nests whilst in use or are being built are protected by the Wildlife and Countryside Act 1981 (as amended). Recommendations are made below to avoid contravening this legislation.

10 Recommendations

- 10.1 Orchids: measures are recommended to be taken as part of the development along the northern edge of the scrub habitat to encourage bee orchids to colonise. Scarifying an area of soil to mimic the level of soil disturbance favoured by bee orchids, as well as enriching the existing soil with lime to create a more calcareous character will improve the chances of colonisation. Hand-broadcasting seeds of a 'cover crop' species that prefer a calcareous substrate is also recommended. An example seed mix is Emorsgate EM6. It is recommended that a Landscape and Ecological Management Plan is prepared as part of the development which will include a section on encouraging bee orchid colonisation on site post-development.
- 10.2 Reptiles: targeted survey is recommended to ascertain the presence / likely absence of reptiles on site in accordance with recognised guidelines. Survey will utilise at least 30 refugia set in areas of the site that are considered to be suitable for reptiles. These must be 'bedded in' for a minimum of 14 days before commencement of the survey. Survey will comprise a total of seven visits made during appropriate weather conditions on non-consecutive days, between the period mid-March – mid-June and September of any given year.
- 10.3 Great crested newt: targeted survey is recommended to ascertain the presence / likely absence of this species on site. In the event that presence is confirmed in the water bodies, their presence is then assumed in the grassland habitats on site. Survey will consist of a minimum of four survey occasions, each consisting of an evening visit followed by a visit the following morning, utilising at least three survey methods (bottle trapping, torching, netting, egg searching, refugia searching). If presence is confirmed during any of these four occasions, a total of six will be required in order to conduct a population size class assessment. Survey must be carried out between mid-March – mid-June.
- 10.4 Otter and badger: precautionary measures with regard to otter and badger relate to the groundworks during the construction phase. All trenches and pits dug as part of the construction of the extensions that are left unfilled overnight must be left with a plank of wood or an earth bank at 45° to allow any animals that fall in to escape. Similarly, any pipes left unconnected overnight must be capped or blocked to prevent animals from getting stuck.

- 10.5 Nesting birds: any demolition of buildings or removal of nesting habitat on site is recommended to be completed outside of the bird nesting season, i.e. between September – February. If such works must be completed during the active season, or between March – August, it is recommended that an ecologist undertake a brief nesting bird check prior to works commencing to ensure no nests will be impacted.
- 10.6 Nesting birds: to mitigate for the loss of roosting opportunities in line with the removal of vegetation on site, it is recommended to install three bird boxes on site on mature trees along the eastern boundary. Types of bird boxes include a large-holed entrance, small-holed entrance and open-entrance.
- 10.7 Enhancement: to comply with Welsh Planning Policy Edition 12 (PPW12), a development must include features of enhancement to ensure a Net Benefit for Biodiversity. It is recommended to install two crevice bat rocket boxes, each on a 5m pole that is concreted into the ground. Placement of these boxes is to be at the border of the scrub and marshy grassland on the eastern boundary, with a clear flight path to the box entrances is essential – i.e. they must not be too close to trees, to prevent any twigs/branches/boughs from blocking the entrance to the boxes.
- 10.8 Enhancement: creation of an additional pond is recommended, with placement in the north-east corner of the marshy grassland considered to be suitable. However, placement and creation of the pond must wait until survey work for great crested newt has been completed, as impacts to the newts from pond creation may need to be assessed.

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Appendix I Site Maps and Plans

Figure 1: Aerial view of the site

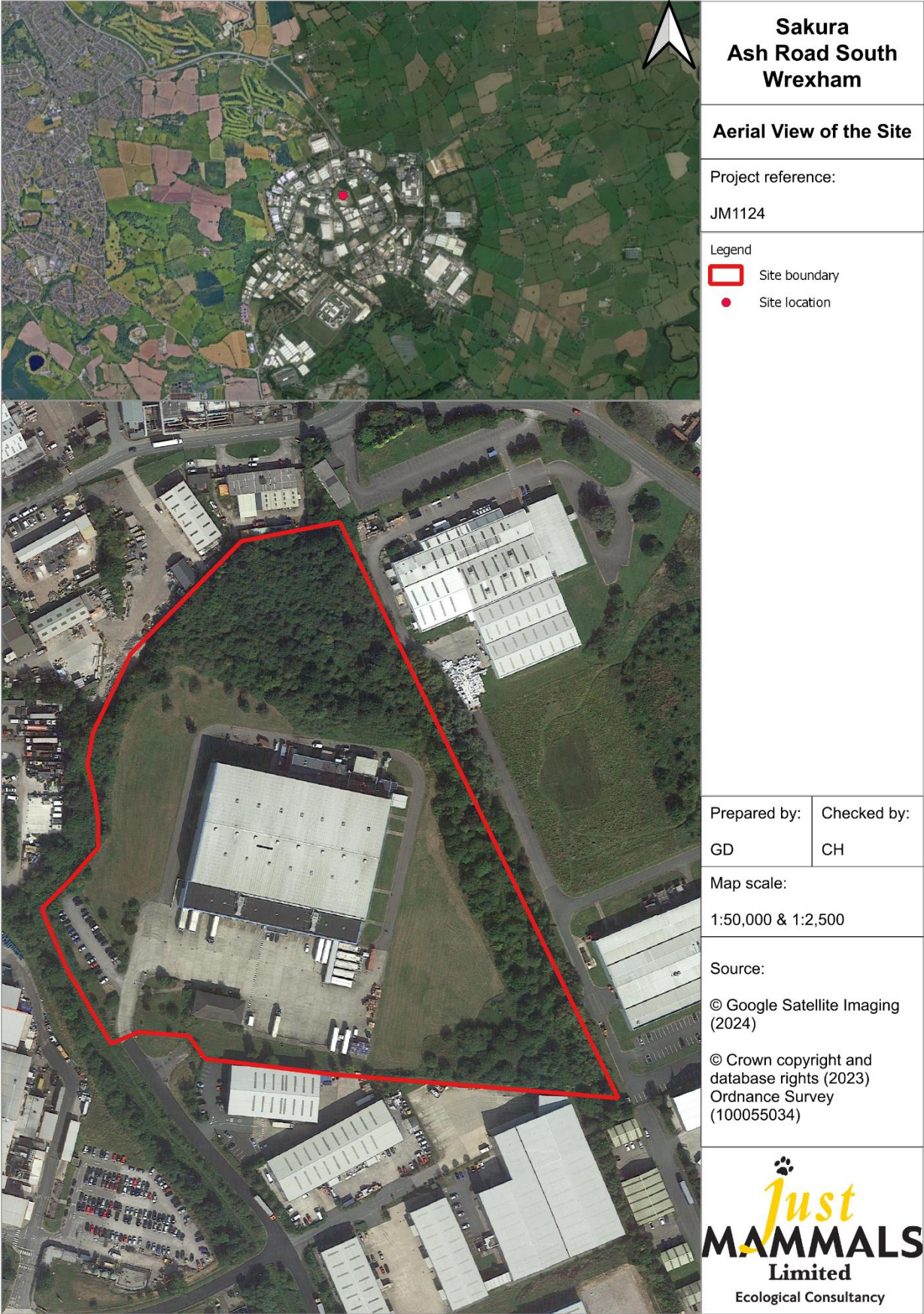


Figure 2: Phase 1 Habitat Map

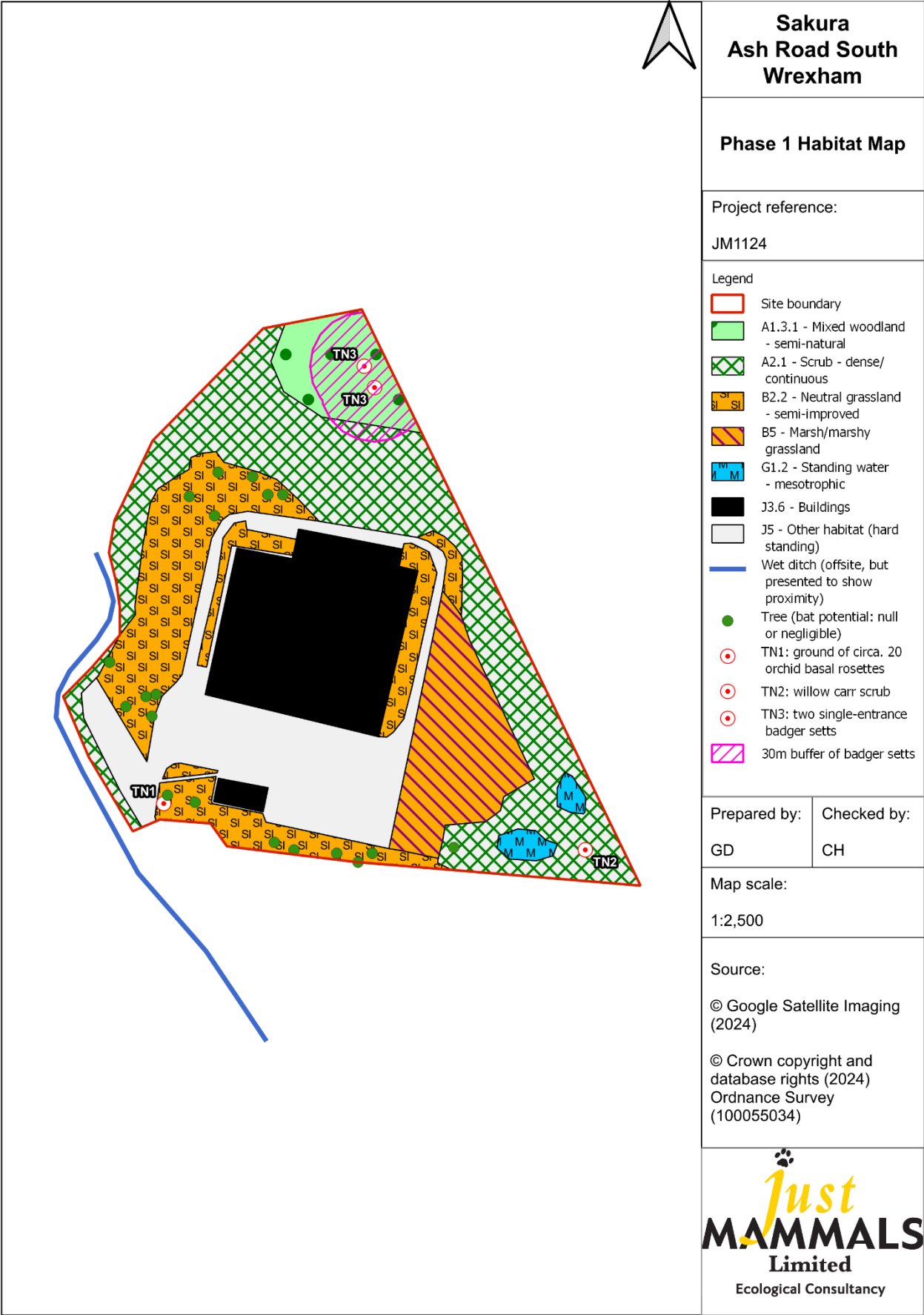
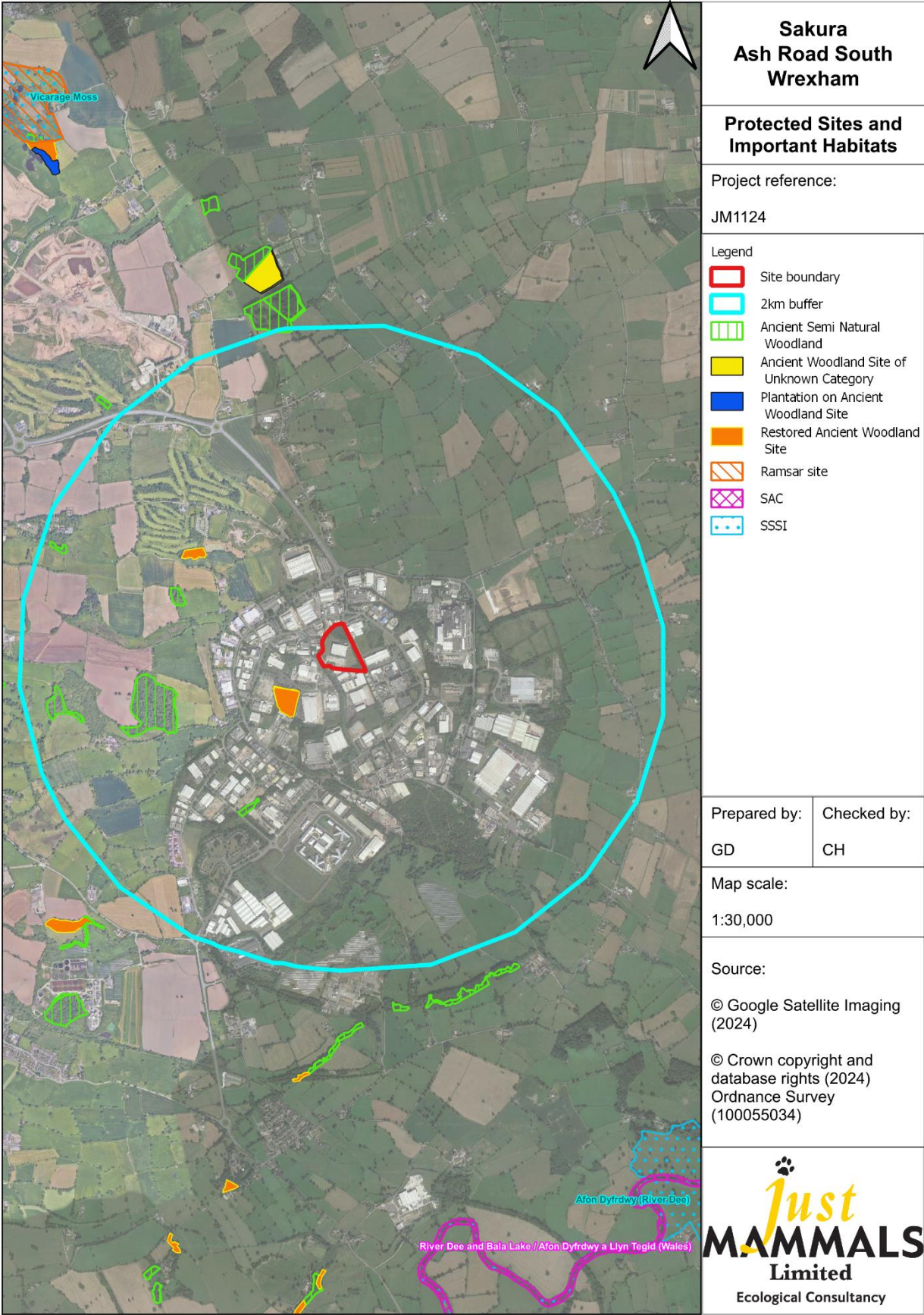


Figure 3: Protected Sites and Important Habitats



Appendix II Survey Team Experience

Table 3: Survey Team Experience

Name / Position	Licences	Experience
Robert Morgan Ecologist	Bat (NRW) S090915/1 expiry February 2024	Over nineteen years' experience with bats (NRW licence holder), carrying out roost surveys, emergence surveys, radio tracking of lesser horseshoes and monitoring of important sites. Rob has expertise in respect of dormice with over 25 years' experience monitoring dormouse boxes at a Local Nature Reserve and surveying for dormice at various other sites (NRW licence holder). Licenced to disturb barn owls listed under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) with seven years' experience surveying for this species (NRW licence holder). He has experience surveying for otters, water voles, reptiles, amphibians, birds and marsh fritillary butterflies.
Grace Dooley Senior Ecologist	Bat (NRW) S091842/2 expiry November 2024	Grace holds an MSc in Conservation and Ecology and has over ten years' practical experience with ecological surveys and impact assessments for bats, great crested newts, badgers, birds, reptiles and botanical communities for projects ranging in size from small-scale householder development projects to large, multi-faceted Developments of National Significance (DNS). Grace holds survey licences for bats and great crested newts in Wales and England. She is a Senior Ecologist with Just Mammals Limited and is an Associate Member of the Chartered Institute of Ecology and Environmental Management (ACIEEM).

Appendix III Site Photographs

Plate 1: North-east corner of Building 1



Plate 2: South-east corner of Building 1



Plate 3: Southern elevation of Building 1



Plate 4: Southern elevation of Building 2



Plate 5: Eastern elevation of Building 2



Plate 6: Loft space of Building 1

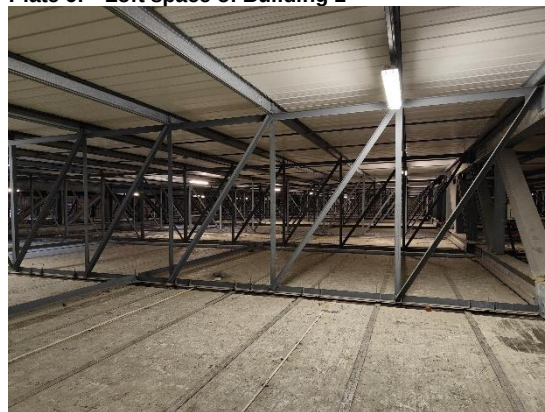


Plate 7: Loft space construction of Building 2



Plate 8: Southern extent of site where orchids were found



Plate 9: Bee orchid rosettes



Plate 10: Semi-improved grassland to be lost to development



Plate 11: North-east corner, showing semi-improved grassland to be lost to development



Plate 12: Scrub on western boundary, showing proximity of wet ditch



Plate 13: Water body at south-east corner



Plate 14: Willow carr / scrub



Plate 15: Mixed semi-natural woodland



Plate 16: Single-entrance badger sett



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