Melksham Oak School Link

Preliminary Ecological Appraisal Report

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NON-TECHNICAL SUMMARY

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Purpose of the Report	The purpose of this report is to identify ecological constraints and opportunities with regard to the proposals for the Site, in line with International, European and UK legislation, and National and Local planning policy. Recommendations for appropriate avoidance, mitigation and compensation measures are proposed, in line with current best practice guidance. The Site is located adjacent to Melksham Oak School, Wiltshire (located at approximate central grid reference ST 91722 62753
Surveys Undertaken	An Extended Phase 1 Habitat Survey, UKHab Survey and great crested newt Habitat Suitability Assessment were undertaken, in addition to a full desk study.
Summary of Results	The Site supports habitats of grassland (approximately 0.793 hectares) and artificial unvegetated unsealed surface (approximately 0.168 hectares). Adjacent habitats include hedgerows (priority habitat), wet ditches, woodland (mixed, mainly broad-leaved), open mosaic habitats on previously developed land, derelict agricultural buildings, and modified grassland. It forms a linear strip of land following an existing track. The Site offers suitability to protected species; namely, foraging bats, badger, otter and water vole, reptiles, amphibians (including great crested newt) and invertebrates. Adjacent hedgerows may be classified as 'Ecologically Important' and these habitats may be directly affected by the works. The Site offers suitability as a wildlife corridor between urban and rural habitats.
Conclusions	The Site comprises habitats of generally low ecological value; however, its location adjacent to a matrix of habitats including plantation woodland, hedgerows, wet ditches, mixed mosaic habitats and derelict buildings increases its ecological value. The Site's linear form and urban fringe location offers suitability as a wildlife corridor.
Further Surveys Required	Further (Phase 2) surveys are recommended: Hedgerow survey, bats (activity surveys), great crested newt presence/ absence (environmental eDNA survey) of three ponds and two wet ditches, badger survey, reptile presence/ absence survey, and otter/water vole survey.
Avoidance	Works to vegetation should avoid the nesting bird season (March-August, inclusive), otherwise pre-works checks should be undertaken. Hedgerow removal should be avoided if possible. The inclusion of lighting should be avoided. Any new lighting required should be minimal, low-lux, directional and should avoid illumination of sensitive habitats (such as hedgerows and woodland).
Mitigation	Mitigation measures may be required following the results of recommend Phase 2 surveys.
Compensation	Compensation is likely to be required for the loss of habitat units resulting from the proposals.
Enhancement	There is scope to enhance the grassland on Site and a number of adjacent hedgerows. The Site and adjacent habitats could be enhanced for roosting bats and nesting birds through the inclusion of roost/ nest boxes. The extent of habitats on Site which are available to enhance is limited, thus limiting the opportunities for enhancement.
Data Valid Until	April 2023

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1 INTRODUCTION

1.1 BACKGROUND

Johns Associates Ltd were commissioned by Sustrans, on behalf of their client Wiltshire Council, to undertake a Preliminary Ecological Appraisal (PEA) of a linear strip of land adjacent to Melksham Oak School (located at approximate central grid reference ST 91722 62753); hereafter referred to as 'the Site'.

The PEA was undertaken by Charlotte Mason BSc (Hons), Senior Ecologist at Johns Associates Ltd.

A plan showing the Site extent and location is provided at Figure 1.

1.2 SUMMARY OF PROPOSALS

The proposals are for a cycle-route linking Melksham School to a new (currently under construction) housing development located to the north-west. The proposals are for an all-weather surface 3m in width with a 2m buffer and 5m head clearance. Lighting may be required. There are no detailed proposals available at this stage.

1.3 PURPOSE OF THIS REPORT

The proposals require a PEA to assess the suitability of the Site to protected habitats and species and to inform a Biodiversity Net Gain (BNG) assessment of the Site to ensure no net-loss in biodiversity occurs as a result of the proposals.

The purpose of this report is to identify key ecological constraints with regard to the proposals for the Site; whilst providing recommendations for the avoidance, mitigation, and compensation of any important ecological features present, including identifying the requirement for further surveys, in line with best practice guidance. The measures included in this report will ensure the conservation of habitats and species, in line with current International, European and UK legislation, as appropriate; and National and Local Planning Policy.

Details of relevant legislation and planning policy is provided at Appendix A.

1.4 PERSONNEL

The survey was undertaken on 17 February 2022 by Charlotte Mason BSc (Hons), Senior Ecologist at Johns Associates, who subsequently wrote this report. Charlotte holds Level 1 survey licences for bats and dormice and is experienced in undertaking PEAs.

1.5 SITE DESCRIPTION AND LOCATION

The Site comprised a linear track which runs from Bath Road (A365) (adjacent to Melksham Oak Community School) in the south, to a new housing development in the north. The Site is located in an urban fringe location on the south-eastern outskirts of Melksham, Wiltshire.

The immediate and wider landscape to the east is predominately rural, featuring farmland field-units with bounding hedgerows and scattered dwellings and farmsteads. The wider landscape to the north, south and west is urban, comprising medium-high density housing, retail and industrial buildings. There is limited woodland nearby, the closest being a small pocket of Priority broad-leaved woodland of around 0.9 hectare in size, located around 200m west of the Site (besides a small area of mixed plantation woodland adjacent to the Site).

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Clackers Brook is located approximately 510m north-east of the Site at its closest point and is connected the Site by hedgerow-lined farmland field units. This flows from east to north and may connect with wet-ditches located adjacent to the Site. The Kennet and Avon Canal is located approximately 1.1km south-east of the Site at its closest point, beyond moderate-density residential housing.

There are seven ponds evident on aerial maps within 500m of the Site which are not isolated from the Site by significant barriers (namely Bath Road A365). The closest of these is located approximately 10m west of the Site. A further three ponds are located 500m-1km from the Site. Further ponds may be present but not visible on available maps.

1.6 LEGISLATION AND POLICY

The relevant legislation and national and local planning policies which are relevant to this assessment are provided in Appendix A to this report.

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Figure 1: Site Location



JOHNS ASSOCIATES

Site Boundary

CLIENT Sustrans

PROJECT Melksham School Link PEA

TITLE Site Location Plan

SCALE @ A3	CREATED BY	CHECKED BY
1:5,000	JS	CM
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2 METHODOLOGY

2.1 DESK STUDY

The desk study collates relevant existing information relating to the Site and its surrounding area. The data is used to assist with developing the scope and design of any further surveys (if required) and to enable a full assessment of the ecological constraints and opportunities at the Site. The following sources have been used:

- Multi Agency Geographic Information for the Countryside (MAGIC)[1] for details of granted European Protected Species licences and statutory designated sites within a 2km radius of the Site (5km for bats);
- Data request from Bristol Regional Environmental Records Centre (BRERC) for notable and protected species records and details of non-statutory designated sites within a 2km radius of the Site, and
- Google Maps[2] for ecological context.

2.2 FIELD SURVEY

An extended Phase 1 Habitat survey of the Site was undertaken on 17 February 2022 by Charlotte Mason BSc (Hons), from Johns Associates Ltd. The weather was sunny and dry with good visibility. This survey was completed in accordance with Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) and BS42020:2013 Biodiversity -Code of practice for planning and development (British Standards Institute, 2013).

2.2.1 Habitats

The on-Site habitats were later classified following UK Habitat Classification (UKHab) (2020) guidelines[3], which provides a more detailed interpretation of baseline habitat survey data than previous habitat classifications systems, such as Phase 1 Habitat Assessments. The professional edition of UKHab "UK Habitat Classification –Professional Edition[4]" (UKHab-P) was used which includes Priority Habitat Types, all Annex 1 Habitats and the habitats listed in EUNIS. The classification of primary habitats is hierarchical with five levels, which include terrestrial/freshwater/marine, ecosystem types, broad habitats, priority habitats and Annex 1 habitats. Habitat types were assigned a primary code to a hierarchical level of at least three, and secondary codes were used to further clarify the habitat and record additional information linked to the primary habitat such as habitat management. The full range of secondary codes following UKHab-P were used, which are grouped under the following headings of which the first three listed are considered mandatory sections:

1. Habitat Mosaics (10 - 18)
2. Habitat Complexes (19 – 32)
3. Origin (33 – 49)
4. Management (51 – 85)

[1] https://magic.defra.gov.uk/
[2] https://www.google.co.uk/maps
[3] UK Habitat Classification (UKHab) (2020) guidelines
[4] Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). The UK Habitat Classification User Manual Version 1.1 at http://www.ukhab.org/

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5. Land Use (86 – 116)

6. Environmental Qualifier (117 – 138)

7. Species Feature (139 – 166)

8. Hydrological Regime (167 – 199)

9. Green Infrastructure (200 – 1232). The Green Infrastructure section is numbered from 200 upwards. As this section is hierarchical, the first level of the GI hierarchy goes up in hundreds (200, 300 etc.), the second in tens (210, 220 etc.) and the third in ones (211, 212 etc).

Where appropriate, maps are supplemented with target notes which provide specific information on habitats present that are too limited in extent to map at the scale at which data is presented, or the presence of species and habitats of ecological interest. An annotated habitat map together with descriptions of the recorded habitat types was produced, which was subsequently digitised using a geographical information system (ArcGIS). The survey also included identification of any non-native invasive plant species. Flora taxonomy follows the nomenclature detailed in New Flora of the British Isles (4th Edition) (Stace C., 2019). Flora[5] where appropriate, are given a descriptive score of abundance using the DAFOR scale, as follows:

1. D – Dominant

2. A – Abundant

3. F – Frequent

4. O – Occasional

5. R – Rare

6. L – Locally (to be used as a prefix for any of the above)

7. V – Very (to be used as a prefix for any of the above) ArcGIS Symbology

At the time of production, a complete symbology for all habitats in the UK Habitat Classification Professional Edition (UKHab-P) was not available. The UK Habitat Classification Basic Edition (UKHab-B) symbology has therefore been used, and where necessary to add in habitats not included in UKHab-B we have designed our own hatching system within the Level 2 colours for those habitats –following the guidance provided in the UK Habitat Classification Basic Edition: Suggested Symbology for Maps document (UKHab, 2020). Minimum Mapping UnitsUKHab guidance indicated that UKHab has 3 Minimal Mapping Units (MMU's):

1. 25m^2 and 5m length for urban and small-scale development projects, fine scale mapping of designated sites

2. 400m^2 and 20m length for landscape scale surveys

3. 2500m^2 for larger unenclosed upland habitats.

Large scale, simple habitats or feasibility surveys should use a larger MMU. For this project, given the size of the site and the scale of the map the smallest recommended MMU has been applied. This will allow all habitats to be clearly visible on the map whilst enabling enough fine detail to remain to clearly show all habitats present. Where appropriate, maps

[5] New Flora of the British Isles, Edition 4, CliveA. Stace, 2019. CM's Corporation Floristics

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are supplemented with target notes which provide specific information on habitats present that are smaller than the MMU, or the presence of species and habitats of ecological interest.

2.2.2 Species

The survey was extended to record any incidental evidence of protected species. The habitats were assessed for their suitability to support foraging and roosting bats. The habitats were also assessed for their suitability to support nesting birds, dormice, badger, otter and water vole, reptiles and amphibians and invertebrates. Any features of interest, including evidence of protected species has been assigned a Target Note, the location of which is shown on the UKHab Plan at Appendix B.

2.2.3 Great Crested Newt Habitat Suitability Index (HSI) Assessment

The HSI is a method of quantifying the suitability of a water body to support great crested newt (GCN)[6]. All identified ponds which were accessible within 500m of the Site (two ponds and a further temporary pool), and surrounding terrestrial habitat were visited on 10 February 2022 and HSI assessments completed. The further seven ponds were not accessed owing to their location on private land.

The calculation of HSI requires that the following ten key variables are recorded and assigned a numerical value:

1. Location within Britain;
2. Pond area;
3. Pond drying (based on both local knowledge and field evidence);
4. Water quality;
5. Percentage perimeter shaded;
6. Presence or absence of waterfowl;
7. Presence or absence of fish;
8. Number of ponds situated within 1 km;
9. Suitability of terrestrial habitat; and
10. Percentage of macrophyte cover.

The resulting scores can then be interpreted, as indicated in Table 1.

Table 1 Habitat Suitability Index Score and Interpretation

HSI Score	Pond Suitability for GCN
<0.5	Poor
0.5	Below average
0.6	Average
0.7	Good
>0.8	Excellent

[6] Oldham et al. (2000). Evaluating the Suitability of Habitat for the Great Crested Newt (Triturus cristatus). Herpetological Journal, Vol. 10, pp. 143– 155.

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2.2.4 Limitations Constraints and Assumptions

Land to the east, within the curtilage of Melksham Oak School was not accessed.

Seven of ten ponds visible on aerial maps within 500m of the Site could not be accessed owing to their location on private land.

The survey was undertaken at a suboptimal time of year for vegetative and great crested newt HSI surveys; therefore, a precautionary approach has been applied. Whilst the Site visit was outside the normal flowering period, the location of the Site and habitats present mean that it is unlikely to support rare or notable plant species.

At the time of writing no topographical plans, finalised proposals plans, or lighting plans were available; therefore, a precautionary approach has been applied.

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3 RESULTS

3.1 DESK STUDY

3.1.1 Statutory Designated Sites

There are no statutory designated sites of nature conservation interest within 2 km of the Site or any statutory designated site for bats located within 5km of the Site.

3.1.2 Non-Statutory Designated Sites

There are three non-statutory designated Sites within 2km of the Site, all of which are Local Wildlife Sites (LWSs).

Kennet and Avon Canal LWS is located approximately 1.5km south of the Site. This comprises a restored canal used for recreation and features bounding lowland mixed deciduous woodland.

Conigre Mead LWS, managed as a Wiltshire Wildlife Trust (WWT) reserve, is located approximately 1.7km north-west of the Site. It is a small wet fen-meadow on the outskirts of Melksham, managed as a nature reserve and extensively planted with trees and shrubs.

Bristol Avon River LWS is located approximately 1.8km north-west of the Site. It is one of the main river systems draining north-west Wiltshire.

3.1.3 Granted European Protected Species Licenses

There are nine European Protected Species (EPS) licences which have been granted within 2km of the Site. Four of these are for great crested newt *Triturus cristatus* and the remaining five are for species of bat including common pipistrelle *Pipistrellus pipistrellus*, brown long-eared *Plecotus auritus* and serotine *Eptesicus serotinus*. Details of these are provided in Table 2.

Table 2 Granted EPS Licenses Within 2 km of the Site

Species	Approximate Location and Bearing from Site	Date	Breeding Site or Resting place	Licence number(s)
Great crested newt	260m east	2014-2017 20016-2017 2016-2017	Resting place	2014-3352-EPS-MIT 2014-3352-EPS-MIT-1 2014-3352-EPS-MIT-2
Common pipistrelle	800m south-east	2015-2020	Resting place	2015-14789-EPS-MIT
Great crested newt	1.2km south-west	2013-2015	Resting place	EPSM2013-6453
Brown long-eared, common pipistrelle, serotine	1.3km west	2015-2025	Resting place	2015-14691-EPS-MIT
Brown long-eared, common pipistrelle	1.7-km west	2017-2018	Resting place	2017-31272-EPS-MIT
Brown long-eared	1.7 km north-east	2015-2025 2017-2025	Resting place	2015-13904-EPS-MIT 2015-13904-EPS-MIT-1

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A further 14 licenses have been granted for bat species within a 2-5km radius of the Site. Species included brown long-eared, common pipistrelle, soprano pipistrelle *Pipistrellus pygmaeus*, whiskered bat *Myotis mystacinus*, serotine, greater horseshoe *Rhinolophus ferrumequinum*, and lesser horseshoe *R. hipposideros*.

3.1.4 Local Record Centre Data Search

A total of 1,398 records were returned by WSRC, of which 53 were low resolution (to a 4-digit grid reference). Two records of species are held for the Site itself; these are for brown hare *Lepus europaeus* (dated 2000) and hedgehog *Erinaceus europaeus* (dated 2015).

Of the records returned, 733 were for within the last ten years. A summary of these is provided in Table 3.

Table 3 Protected an Notable Species Records Within a 2 km Radius of the Site (WSBRC, 2022)

Species/Groups	Details
Plants	There were 46 records returned for plants comprising 24 species. Records included three IUCN Vulnerable species; strawberry clover *Trifolium fragiferum*, stinking chamomile *Anthemis cotula* and slender tare *Vicia parviflora*. The closest record was for sweet-briar *Rosa rubiginosa* located approximately 250m east of the Site (dated 2021). No records of invasive plants are held.
Birds	There were189 records for birds returned, including 27 different species. This included eight UKBAP species, 11 species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and 15 Birds of Conservation Concern (BOCC5) Red List species. The closest record is for a starling *Sturnus vulgaris,* a red listed species located approximately 90m south-west of the Site (dated 2013). Other notable species included barn owl *Tyto alba* and skylark *Alauda arvensis*.
Bats	There were 149 records returned for bats with 41 of these being for roosts. Species for which roost records are held include serotine, common pipistrelle, lesser horseshoe, soprano, brown long-eared, whiskered, Daubenton's *Myotis daubentonii* and greater horseshoe. Roost records are given to a grid reference accuracy of 1 km and one record is held for within the same 1 km square as the Site. This is for a record of a roost for one male brown long-eared bat (dated 2016). The remaining 106 records relate to foraging, commuting and grounded bats. Records are held for common pipistrelle, soprano pipistrelle, Nathusius's pipistrelle *Pipistrellus nathusii*, and *Myotis* species (including Daubenton's and Natterer's *M. nattereri*). The closest record is for a common pipistrelle located approximately 470m south-west of the Site (dated 2018).
Badger	Seven records are held for badger *Meles meles*; the closest of which is located approximately 1.1km north of the Site (dated 2016).
Other mammals	Three records are held for otter *Lutra lutra*. The closest record is given to a 1km grid-reference, which is located >300m east of the Site (dated 2018). There were 16 records returned for water vole *Arvicola amphibius*. The closest record is located approximately 600m north of the Site (dated 2014). Further records are held for locations at the Kennet and Avon Canal LWS, Conigre Mead WWT Reserve LWS and Clackers Brook. No records were returned for dormouse *Muscardinus avellanarius*. Four records are held for brown hare, the closest of which is located approximately 760m south-east of the Site (dated 2015). There were 240 records held for hedgehog, the closest of which is located approximately 180m south of the

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	Site (dated 2019). Three records are held for water shrew *Neomys fodiens* the closest of which is located approximately 1.3km south of the Site (dated 2018).
Reptiles	A total of 54 records are held for reptile species. Of these records, 41 are for slow worm *Anguis fragilis*; the closest of which is located approximately 1.1km north-west of the Site (dated 2017). The remaining 13 records are for grass snake *Natrix helvetica*; the closest of which is located approximately 300m north-west of the Site (dated 2011).
Amphibians	There were 36 records returned for amphibians, 30 of which were for great crested newt. The closest record held for great crested newt is a record of one female and five males located approximately 350m south-west of the Site (dated 2014). Three records were returned for common frog *Rana temporaria*; the closest being located approximately 1.2km north-west of the Site (dated 2020). Three records are held for common toad *Bufo bufo*; the closest of which is located approximately 1.3km west of the Site (dated 2017).
Invertebrates	There were 29 records returned for invertebrates, comprising eight species. Records of four UKBAP species were recorded including small heath butterfly *Coenonympha pamphilus*, white-letter hairstreak butterfly *Satyrium w-album*, cinnabar moth *Tyria jacobaeae* and shaded broad-bar moth *Scotopteryx chenopodiata*. The closest record is for a count of five small heath butterflies located approximately 120m east of the Site (dated 2014).

3.2 FIELD SURVEY

3.2.5 Habitats

The Site comprises a linear track which is used by maintenance and agricultural vehicles fields and recreationally by walkers/ dog walkers. In the south it comprised of urban, man-made habitats; predominantly an area of concrete hard-standing adjacent to industrial/ agricultural and derelict sites. The track then opened to an area of modified, managed grassland and created a glade-type habitat of unmade surface between adjacent hedgerows and a small area of adjacent plantation woodland. The northern end of the track opened to a large modified agricultural grassland field unit. The Site is approximately 0.961 hectares in size.

With reference to the red-line boundary of the Site and the UKHab classification, the Site comprised habitats of:

- u1c-artificial unvegetated unsealed surface (approximately 0.168 hectares), and
- g4-modified grassland (approximately 0.793 hectares).

U1c- Artificial unvegetated unsealed surface (Secondary codes 17, 20)

A section of bare ground was present in the south of the Site. This serves as a footpath for pedestrians and is well-trodden with compacted ground. Ecotones are present at the edges, comprising encroaching blackthorn *Prunus spinosa*, bramble *Rubus fruticosus* aggregate and rose *Rosa* scrub at the east, adjacent to fencing; with woodland ground flora and ephemeral species encroaching at the west. Species included herb Robert *Geranium robertianum* (a), thistle *Cirsium* species (o), moss *Sphagnum* species(a), teasel *Dipsacus fullonum* (f), ribwort plantain *Plantago lanceolata* (a), oxeye daisy *Leucanthemum vulgare* (f), dove's foot cranesbill *Geranium molle* (o), wild strawberry *Fragaria vesca* (o), cleavers *Galium aparine* (o), clover *Trifolium* species (o) and common sorrel *Rumex acetosa* (o).

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The southern end of the Site comprises bare ground which is sparsely vegetated with self-established plant species. It is adjacent to derelict land and industrial/ agricultural buildings. Species present include annual meadow grass *Poa annua* (a), soft-rush *Juncus effusus* (o), willowherb *Epilobuim* species (f), Yorshire fog *Holcus lanatus*, a clover species, teasel, bramble, a mayweed *Tripleurospermum* species and a moss.

The Site comprises approximately 0.168 hectares of artificial, unvegetated unsealed surface.



Plate 1 View of the south of the Site with a view of adjacent agricultural buildings.

g4- Modified grassland (Secondary codes 10, 14, 16, 103, 199,160, 420

Then north of the Site comprises a strip of modified grassland within a wider agricultural field unit. The linear strip of on-Site grassland comprises a combination of well-trodden ground dominated by perennial rye-grass at the western edge, with a tall, tussocky grassland sward at the east, adjacent to hedgerows and scrub. Species composition was poor, comprising <9 species per m^2 and being dominated by rye-grass and Yorkshire fog. The grassland appears infrequently managed, with the further grassland to the west (off-Site) comprising a tall tussocky sward <1m in height.

A further linear strip of grassland is located in the centre of the Site. This had a short sward at the time of survey and a poor species composition <9 species per m2. The grassland comprised Yorkshire fog (a), with red fescue (f), cock's foot (o), herb Robert (o), hogweed *Heracleum sphondylium*, nettle, cleavers, clover species and stands of young hemlock water drop-wort *Oenanthe crocata*.

The ground was inundated with ground and surface water in places, with shallow pools (puddles) present; and appears regularly saturated owing to the species of flora present. An ecotone is present at the north-east comprising blackthorn suckers and self-established young hazel specimens. Patches of scrub are present with mammal paths leading into tunnels through the scrub (Target Note 1).

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Plate 2 View of modified grassland with scrub and location of mammal paths (Target Note 1).

A small area of modified grassland is located in the south of the Site. This comprised a combination of well-trodden/ disturbed areas with a short-sward <5cm, owing to its use as a farm track and footpath; with a tussocky, tall sward <30cm at the peripheries. The grassland was inundated with ground and surface water at the time of surveys with a number of shallow temporary pools (puddles) present and low numbers of soft rush *Juncus effusus* at the peripheries. The species composition was poor, comprising <9 species per m^2, predominantly perennial rye-grass *Lolium perenne* (a) and Yorkshire fog (a), with creeping buttercup *Ranunculaus repens* (a), red fescue (f), dock *Rumex* species (f), greater plantain *Plantago major* (a) and a sow thistle species *Sonchus* (f). A higher percentage of herb cover was present at the edges of the grassland including common nettle *Urtica doica* (d), white dead-nettle *Lamium album*, cleavers *Galium aparine* (f) herb Robert (f) and an umbellifer species.

The Site comprises approximately 0.793 hectares of modified grassland. With reference to the Defra 3.1 Metric Condition Assessment[7], the grassland is in overall Moderate condition. The Condition Assessment sheet is provided at Appendix C.

7 Natural England (2021) Biodiversity Metric 3.1 - Habitat Condition Assessment Sheets with Instructions. Available at http://publications.naturalengland.org.uk/publication/6049804846366720 (Accessed 28 April 2022)

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Plate 3 View of modified grassland in the south of the Site.



Plate 4 View of modified grassland in south of the Site showing taller tussocky margin and adjacent woodland.

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3.2.6 Adjacent Habitats

Habitats that are located adjacent to the Site, which are likely to be affected by the works (and included within the red-line boundary as detailed proposals plans emerge) include:

- h2a- hedgerow (priority habitat);
- u1a- standing open water and canals;
- w1h5 - other woodland, mixed, mainly broadleaved;
- u1a - open mosaic habitats on previously developed land;
- u1b5 – buildings;
- g4 - modified grassland, and
- u1e - built linear feature.

h2a- hedgerow (priority habitat)

There are 6 hedgerows located adjacent to the Site, with the majority located adjacent to the length of the Site boundary. Hedgerows have been labelled Hedgerows 1-7.

Hedgerow 1

This was located in the south of the Site, adjacent to the Sites east boundary, beyond palisade fencing (within the grounds of Melksham Oak School). This hedgerow is planted and young and likely forms part of the compensatory measures required for the construction of Melksham Oak School. It comprises blackthorn with rose and adjacent mature willow and oak specimens. It was around 3m in height, 1m in width, 0.204km in length at the time of survey and appears regularly managed. Evidence of previous use by nesting birds was recorded here. There is a gap of around 5m in the south which features a palisade security gate providing maintenance access to Melksham Oak School.

Hedgerow 2

Located adjacent to the east of the centre of the Site, within the grounds of Melksham Oak School was a further planted hedgerow comprising predominantly blackthorn, hazel and field maple *Acer campestre*. The hedgerow was around 3m in height, 0.5-2m in width, approximately 0.111km in length; and was managed. A gateway was present at the southern end which was overgrown with blackthorn scrub.

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Plate 5 View of Hedgerow 2 as seen from the Site.

Hedgerow 3

This was located in adjacent to the Site's east boundary at the north end. This comprised predominantly blackthorn with standard standing dead-wood trees (Target Note 2). The hedgerow was only viewed from its east aspect. The section of hedgerow adjoining the Site is relatively unmanaged, with areas of dense bramble scrub and encroaching blackthorn suckers. The hedgerow was around 5m in height , 2-3m in width and 0.244km in length.

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Plate 6 View of Hedgerow 3 and adjacent modified grassland.

Hedgerow 4

Located to the west of the centre of the Site, this hedgerow featured a bank and wet ditch (Wet Ditch 1) and comprises mature trees and shrubs. Blackthorn, a rose *Rosa* species and bramble are present, with lord's-and-ladies *Arum maculatum* comprising the ground flora. Mature trees were not identified. Hedgerow 4 connects with Hedgerow 5 at its north end. It was around 3m in height, 2m in width and 0.122km in length.

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Plate 7 View of Hedgerow 4 as seen from the Site.

Hedgerow 5

Hedgerow 5 was mature and featured a bank and wet ditch (Wet Ditch 1). The hedgerow was around 4m in height, 2m in width and 140m in length. Hedgerow 5 is connected with Hedgerow 4 at its east end and extends away from the Site to the west. It featured standard mature trees and a gateway was present in the west, creating a gap of around 4m. The hedgerow connects to a small area of woodland featuring a pond (Pond 1), at its west end.

Hedgerow 6

Hedgerow 6 is located to the west of the northern end of the Site. This comprised predominately blackthorn with standing deadwood trees. The hedgerow appeared infrequently managed, with encroaching blackthorn suckers at the margins of the adjacent grassland. A wet ditch runs along the north side of the hedgerow. Standard standing dead-wood specimens are present along the hedgerow length (Target Note 3). A gap of around 4m is present located at the north boundary of the Site. This is demarcated by Heras fencing installed at the boundary of the adjacent active development site. The hedgerow was is poor condition and may be defunct.

Woodland w1h5 Mixed Plantation Woodland

An area of semi-natural broad-leaved woodland around 0.3 hectare in size is located adjacent to the Site at the south-west. This is plantation woodland, indicated by the uniform age and planting of the trees (in lines) and presence of old tree guards. The woodland appears more natural in the northern section, with a higher number of woodland ground flora species present, including lord's-and-ladies. Tree species included ash, oak, oak, field maple and willow; with a scattered young shrub/ scrub layer of hazel (f) privet (f), honeysuckle (r), blackthorn, spindle (f), holly (r), rose and bramble (f). Ground flora include lord's-and-ladies, wood avens *Geum urbanum* (o), and a moss (o). The average tree age is estimated at <20 years and the woodland appears unmanaged. Small patches of scrub are present, more so in the north-east. Self-seeded saplings and seedlings are also present. The woodland is subject to public disturbance evident by

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trampled ground and dens. Some brash piles are present alongside dead scattered branches and dead and damaged young trees.



Plate 8 View of adjacent plantation woodland.



Plate 9 View inside woodland showing young trees and tree guards.

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r1-Standing Water and Canals (Wet Ditches)

There are two wet ditches located adjacent to the Site; Wet Ditch 1 and Wet Ditch 2.

Wet Ditch 1 was located adjacent to the west of Hedgerow 4 and south of Hedgerow 5 where it is partly culverted and appears to drain to Pond 1. This wet ditch leads from the grounds of Melksham Oak School and is culverted under the Site before emerging at Hedgerow 4. This held a low level of slowly running water at the time of survey which flowed north, then west along Hedgerow 5. No emergent or submerged vegetation was present. The ditch had steep earth banks around 30cm in height.

Wet Ditch 2 was present adjacent to the east of Hedgerow 3 and north of Hedgerow 6. This was culverted under the north end of the Site, adjacent to the active construction Site. The feature could not be accessed during the survey but was visible in places. It appeared to hold a low-level of slow-flowing water and had earth banks.

u1a - open mosaic habitats on previously developed land

An area of previously developed derelict ground is located to the east of the south of the Site. This comprised a mosaic of buildings, hard-standing, self-established ruderal plant species, scrub and unmanaged grassland strips around 0.3 hectare in size. A small area of trees is adjacent to this area at the east comprising around 0.1 hectare.

3.2.7 Species and Species Groups

Nesting birds

Evidence of nesting birds was recorded at Hedgerows 1 and 5.

Long-tailed tit *Aegithalos caudatus* and blue tit *Cyanistes caeruleus* were recorded on Site during the survey.

Bats

No trees with suitability to roosting bats were recorded on Site. Standing dead-wood trees at adjacent hedgerows off-site may offer suitability to roosting bats (Target Notes 2 and 3).

Adjacent derelict and agricultural/ industrial buildings offer suitability to roosting bats (Target Notes 4, 5 and 6).

Badger

Possible evidence of badger activity was recorded on Site in the form of pathways leading through scrub (Target Note 1) and under adjacent fencing. One shallow excavation was also recorded in the centre of the Site by Hedgerow 2, though this may have been attributable to dog activity.

An active sett (Sett 1, Target Note 7) is present around 140m west of the Site (at its closest point) at the banks of a nearby pond (Pond 1). This featured >7 access holes which were D-shaped and large enough to accommodate badger. Of these, five were open/ unobstructed and featured fresh spoil and claw marks at the entrances, indicating current use by badger. Well-worn paths connect entrance holes. Further entrance holes were filled with fallen leaves.

A further sett (Sett 2, Target Note 8), was located around 10m west of Sett 1. This featured >4 access holes which were D-shaped and large enough to accommodate badger. These were open/ unobstructed and had well-worn entrance holes.

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3.2.8 Great Crested Newt HSI Assessment

Three ponds within 500m of the Site were assessed for their suitability to support great crested newt. A further seven ponds are located within 500m of the Site but could not be surveyed. The HSI calculations are provided in Appendix D.

Pond 1

Pond 1 was located to the west of the Site at a distance of approximately 150m. It is a natural pond with raised bunds/ banks at the margins. It was of an irregular shape and around 300m^2 in area, though could not be fully viewed as it was partly sited on private land. The pond held water at the time of survey and had 100% duckweed cover. No evidence of water fowl was identified. The pond may support native fish species.

Pond 1 scored 0.72 (Good) using the HSI calculation.



Plate 10 View of Pond 1.

Pond 2

Pond 2 is a temporary pool located adjacent at the base of a Hedgerow 2, linked to a wet ditch. The pool held a low-level of water and no floating vegetation. Marginal vegetation was limited to the species associated with the adjacent grassland. No invertebrate species were noted. The pond likely dries-out frequently and is likely to dry during the summer months. The pond does not support fish.

Pond 2 scored 0.43 (Poor) using the HSI calculation.

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Plate 11 View of Pond 2.

Pond 3

Pond 3 is located within the ground of Melksham Oak School. The pond was viewed through the adjacent fence. It was of irregular shape and around 800m^2 in area. The pond had emergent and marginal vegetation present and likely moderate water quality. It is considered unlikely that the pond dries. The pond creation likely formed part of the enhancement/ compensation measures for the construction of Melksham Oak Community School. The pond featured gently sloping sides and was located within an area of managed grassland with nearby raised beds and hedgerow. It is considered unlikely the pond supports fish.

Pond 3 scored 0.92 Excellent using the HSI calculation.

A further pond is located to the south-east of Melksham Oak School which was not surveyed or accessed.

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4 CONSIDERATION TO PROTECTED AND NOTABLE HABITATS AND SPECIES

The Site offers suitability to protected and notable species. While the habitats on Site are generally of low ecological value, the presence of good-quality habitats adjacent to the Site and nearby protected species records increases the likelihood of the Site supporting these species.

4.1.1 Habitats

The Site comprises predominantly g4-modified grassland (approximately 0.793 hectares) and u1c-artificial unvegetated unsealed surface (approximately 0.168 hectares). With the Site being around 0.961 hectare in total size.

Priority habitats (hedgerows) are located adjacent to the Site (or may be present on-Site dependent on the exact location of the works).

Hedgerows 3, 4, 5 and 6 are likely >30 years old and may qualify as 'ecologically important' under the Hedgerow Regulations 1997.

No designated sites will be impacted by the proposals.

4.1.2 Species

Plants

No notable plant species were recorded on Site and no non-native invasive species were recorded. Whilst the Site visit was outside the normal flowering period, the location of the Site and habitats present mean that it is unlikely to support rare or notable plant species. The habitats on Site have been heavily disturbed by human activity and the grassland areas are modified and have been enriched, evidenced by the species composition; thus, limiting the Site's likelihood of supporting protected plant species.

Nesting birds

Evidence of nesting birds was recorded at hedgerow and woodland habitats adjacent to the Site. Habitats on Site also offer suitability to nesting birds at areas of scrub and at the grassland. Skylark has been recorded locally within the desk study. The grassland the Site offers is unsuitable to this species given its size and linear orientation, and it was evident form the Site visit that the grassland is used by recreational dog walkers which would result in significant disturbance for this species. Therefore, it is considered unlikely that skylark nest on-Site, but may be present in within the adjacent grassland field units. The grassland is considered sub-optimal to support hunting barn owl, with it supporting limited structure (thatching and tussocks). The site is likely to support common bird species, particularly at boundary habitats.

Bats

There are no habitats on Site suitable to support roosting bats. Adjacent hedgerows support standing dead-wood which may support Potential Roost Features (PRFs) for bats (Target Notes 2 and 3) and adjacent buildings (which were not accessed) also offer suitability to roosting bats (Target Notes 4, 5 and 6).

While the Site habitats of generally poor quality to support foraging bats, adjacent habitats (hedgerows, woodland, grassland) and nearby habitats (ponds), offer good-quality habitat for foraging and commuting bats. Linear features

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(hedgerows and ditches), which are present along the majority of the length of the Site at both sides, offers a commuting route between urban and rural habitats.

The grassland habitat, in combination with the wider grassland field unit to the west are suitable to support foraging big bat species such as serotine and greater horseshoe (both recorded locally, referring to the desk study); with adjacent hedgerows and woodland suitable to support a range of species including brown long-eared, pipistrelle species and *Myotis* species.

The habitats supported by the Site, in combination with habitats adjacent to the Site are assessed as offering Moderate suitability to foraging bats and are considered likely to support a diversity of common and rarer species in low-moderate numbers. The proximity of potential roosting sites increases the likelihood of bats using the Site.

Badger

The Site offers suitable foraging and sett building habitat for badger in terms of grassland habitat. Possible evidence of use of the Site by badger was recorded (diggings and mammal paths under fences). Two active badger setts were recorded approximately 140m west of the Site (Setts 1 and 2). Sett 1 is assessed as being a main sett, owing to the level of activity and number of entrance holes present (>7 access holes). Sett 2 is assessed as an Annex sett owing to the proximity of the entrance holes to the main sett (around 10m) and presence of a well-worn path connecting them.

Mammal paths lead into tunnels through blackthorn and bramble scrub on Site, which may conceal further setts. A number of mammal paths are present leading under adjacent fencing at the west, and further setts may also be located at adjacent habitats here.

Otter and water vole

The Site offers terrestrial habitat for otter and water vole and adjacent wet-ditches and nearby ponds offer suitable aquatic habitat. Wet ditches on Site are of generally poor quality to support water vole, offering little emergent vegetation and a shallow water level. However, the Site's proximity to Clacker's Brook (located approximately 510m north-east of the Site) which may be connected to the Site via ditches and is connected via hedgerows, increases the likelihood of these species being present on Site. Records for otter and water vole are held for locations close to the site (>300m and approximately 600m, respectively), referring to the desk study. There is suitable burrow building habitat for water vole located adjacent to the Site at ditch banks, hedgerows and tree roots.

It is therefore considered likely that water vole and otter may use the Site. If otter do use the Site, it is likely to be occasional, while travelling between suitable river habitats.

Other mammals

The Site is suitable to support other mammals including brown hare and hedgehog (UK BAP species recorded on Site, referring to the desk study). The grassland on Site offers suitable breeding and foraging habitat for brown hare, particularly at the edges where a tussocky sward has been allowed to develop adjacent to scrub and hedgerows; though the Site's disturbance by dog walkers limits its suitability to breeding hare. Hedgerow, woodland, scrub and grassland habitats on Site are suitable for foraging, breeding and hibernating hedgehog.

The Site is considered unlikely to support dormouse given the lack of nearby records for this species (no EPS licences are located within 2km and no records for this species were returned by WSBRC); and limited areas of woodland nearby. The adjacent woodland is young in age and lacks an understory shrub layer. There is considered to be a very low risk of dormice being present at adjacent hedgerows and woodland.

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Reptiles

The modified grassland and artificial unvegetated unsealed surfaces offer foraging, refuge and basking opportunities for reptiles, particularly at the edges where a tussocky sward has been allowed to develop adjacent to scrub and hedgerows. High-quality habitats for reptiles are located adjacent to the Site (hedgerows, scrub, wet ditches, open mosaic habitats on previously developed land); with woodland and hedgerows offering hibernation habitat.

The Site is considered suitable to support low-moderate numbers of common species, including grass snake and slow worm (recorded locally, referring to the desk study), in combination with adjacent habitats.

Amphibians

The Site offers around 0.9ha terrestrial habitat for amphibians, with grassland offering refuge and foraging habitat. Adjacent habitats offer high-quality refuge, foraging and hibernation habitat for amphibians (woodland, hedgerows, scrub, grassland). The Site does not support any water bodies suitable as breeding sites; however, two ponds with suitability to great crested newt (Pond 1 scoring Excellent and Pond 3 scoring Good) are located close to the Site; with Pond 1 being located around 100m west and Pond 3 located approximately 10m east of the Site. Pond 2 scored Poor and is not considered unlikely to support breeding amphibians. Wet ditches adjacent to the Site may also offer suitable habitat to breeding amphibians (Wet Ditches 1 and 2). A further seven ponds are located <500m of the Site to the east and south-east which could not be accessed. There are records of great crested newt held locally, the closest of these being an EPS licence for a resting place approximately 260m east of the Site. Hedgerows and grassland field units offer connectivity between the location of the EPS licence and the Site. Should great crested newt be present in Ponds 1 and 3, the further seven ponds identified within 500m of the Site (which could not be surveyed) may support a metapopulation of this species.

The Site is considered suitable to support common and widespread species of amphibian, such as common frog and common toad; and the fully protected great crested newt (all recorded locally, referring to the desk study).

Invertebrates

The Site offers habitats suitable to support low numbers of common and widespread species of invertebrate. The matrix of habitats offered by the Site is considered suitable to support a moderate diversity of common species. The woodland edge and grassland habitats offer glade/ ride habitat with suitability to species of butterfly and moth, such as small heath (a UK BAP species and Section 41 NERC Act Species of Principal Importance).

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5 ECOLOGICAL ASSESSMENT, CONSTRAINTS AND OPPORTUNITIES

5.1.1 Key Constraints to Design

Habitats

Ideally, an appropriate buffer should be included at sensitive habitats (woodland, hedgerows and wet ditches), where possible and works affecting these habitats should be avoided.

The proposals are likely to affect hedgerows, some of which may be 'Ecologically Important' under the Hedgerow Regulations 1997. Any impacts to these habitats should be avoided.

Protected Species

The Site supports habitats suitable to support protected species; namely nesting birds, foraging bats, badger, otter and water vole, reptiles and amphibians (including great crested newt).

The proposals risk killing/ injuring/ disturbing all identified species groups with the potential to use the Site, and the proposals will result in the loss of around 0.9 hectare of suitable habitat for these species.

Lighting

The Site is currently unlit. The inclusion of new lighting has the potential to impact light-sensitive species of foraging and commuting bats and other nocturnal/ crepuscular species such as badger, otter and water vole and amphibians (including GCN).

The inclusion of new lighting should be avoided. Where new lighting is required, this should be low-level, directional, low-lux and should avoid illumination of adjacent sensitive habitats. Any lighting scheme should be informed by the further recommended surveys for protected species (see 5.1.3).

Biodiversity Net Gain

With reference to the DEFRA 3.1 metric, the Site (habitats within the red-line boundary) total 3.17 habitat units which will be lost to the proposals.

Habitats adjacent to the Site (Hedgerow 4, Wet Ditch 1 and a linear strip of plantation woodland) are also likely to be lost to the proposals, resulting in a further loss of at least 0.9 hedgerow units and 0.34 river units.

Off-Site habitat creation will be required to off-set the loss of habitat units on Site.

Consideration should be given to an alternative route, for example at the existing footpath, which could result in less habitat loss. Or the Site boundary should be increased to enable habitat enhancement and creation to occur ''on-Site', if possible. The loss of Hedgerow 1, if required, is unlikely to be an unacceptable loss following recommended Phase 2 hedgerow surveys (see 5.1.3).

5.1.2 Other Mitigation Requirements

Nesting birds

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Habitats on Site offer suitability to nesting birds and unmitigated, the works risk destroying active bird nests and their eggs or young.

Vegetation and grassland clearance should avoid the nesting bird season, where possible. Otherwise, pre-works checks should be undertaken by an Ecological Clerk of Works. Should nesting birds be found, appropriate exclusion zones may be required and delays to the work schedule may result.

5.1.3 Further Surveys Required

Further surveys are recommended for hedgerows, bats, badger, otter and water vole, reptiles and great crested newt.

Hedgerows

Hedgerow surveys are recommended of four hedgerows adjacent to the Site (Hedgerows 3, 4, 5 and 6) to assess their importance in line with the Hedgerow Regulations 1997. This should include a condition assessment. Surveys can be undertaken from April-October, with June and July being optimal months. The methodology should follow that outlined in the Hedgerow Survey Handbook (DEFRA, 2007).

Bats

The Site offers *Moderate* bat foraging and commuting potential. One dusk transect survey should be undertaken each month between April and October (inclusive), with at least one comprising a dusk-dawn survey. Static detectors should also be deployed at two locations for at least five nights per month (April-October, inclusive). This will confirm use of the Site by bats and will inform any necessary mitigation and enhancement measures. Methodology should follow best practice guidelines (BCT, 2016).

Badger

A detailed badger survey should be undertaken to identify if any setts are located on-Site within blackthorn scrub, or adjacent within the grounds of Melksham Oak Community School. Monitoring of any mammal holes should then be undertaken to assess their use by badgers, if likely to be impacted by the works.

Otter and water vole

A water vole survey should be undertaken to identify any evidence of use of the Site by these species. Water vole surveys should be undertaken between mid-April and late-September. Two surveys are likely required; one in the early season (April-June) and one in late-season (July-September), generally undertaken two months apart. Drainage ditches and nearby ponds should be searched for signs of water vole including feeding remains, latrines, grazed 'lawns'. The survey should extend 100-200m along the ditches from the Site footprint (or <500m if the drainage ditches require culverting). The survey would also identify any field signs of Site by otter, if present.

Reptiles

A reptile presence/ absence survey should be undertaken to identify any use of the Site by reptile species and provide a population estimate, if present. Reptile surveys can be undertaken between March and October, though April, May and September are optimal months. Artificial refugia should be deployed at least a week prior to the survey commencing. Seven visits should be undertaken in suitable weather conditions with at least 48 hours between visits.

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Great crested newt

Great crested newt presence/ absence environmental (eDNA) surveys are recommended of three ponds (Ponds 1 and 2, and a further pond to the south-east of Melksham Oak School) and two wet-ditches (Wet Ditches 1 and 2). These can be undertaken between mid-April and the end of June. Pond samples should be sent to an approved laboratory for analysis. If great crested newt presence is identified, further surveys would be required to estimate the population size(s) present. If required, further population surveys would need to comprise six surveys, with three undertaken by mid-May.

5.1.4 Opportunities for Enhancement

The existing habitats on Site are of generally low ecological value and there is scope to enhance the Site; however, owing the small size of the Site and lack of areas of retained habitat there is currently limited availability for new habitat creation or enhancement. As a small area of woodland and hedgerow habitat may be lost to the proposals, additional space/ habitat units may be required to off-set any loss in biodiversity; with reference to the DEFRA Metric 3.1 calculator. The proposals should seek maximise the current ecological value the Site offers as a suitable wildlife corridor, in line with National and Local policy.

Species-rich grassland

Any retained modified grassland could be enhanced through sowing a species-rich wildflower grassland mix and appropriate management. Ecotones should be retained and promoted where possible adjacent to woodland and hedgerows to promote habitat and structural diversity.

New hedgerow

New hedgerow creation may be possible in the north of the Site at the boundary of the new cycleway. This would create an enhanced wildlife corridor in the north of the Site and could serve as a buffer between the grassland habitat to the west as well as mitigation for any hedgerow loss or new lighting.

Hedgerow Enhancement

There is scope to enhance adjacent hedgerows and woodland through altered management and planting up with a diversity of species.

Species-specific

Species-specific enhancements could include bird and bat boxes in adjacent mature trees and the construction of purpose-built hibernacula for reptiles, amphibians and invertebrates at grassland verges.

New tree planting should be of locally occurring species of benefit to wildlife, including badger. Fruit and berry producing species such as crab apple and elder should be included to provide an additional foraging resource.

Adjacent Land

There is significant scope to improve the modified grassland field unit in which the north of the Site is situated. A wood-pasture parkland habitat could be created with new standard trees, shrubs, scrub and enhanced grassland species composition; or new woodland habitat could be created. This could be set-aside for wildlife to help mitigate for increased use/ disturbance of the Site and its impact on adjacent habitats and species present.

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6 CONCLUSIONS

While the Site supports habitats of generally low ecological value, sensitive and ecologically valuable habitats are located adjacent to the Site at almost its entire length. Its location and linear shape offer suitability as a wildlife corridor. Likely evidence of badger was recorded on Site and the Site may support setts for this species. Evidence of nesting birds was recorded at adjacent hedgerow and woodland habitats and the Site has further suitability to forging and commuting bats, otter and water vole, reptiles and amphibians, including the fully-protected great crested newt.

The proposals currently result in a loss of habitat units, which will result in a net-loss in biodiversity. An appropriate scheme will need to be devised that is reduced in extent (width) to avoid likely Important hedgerows and sensitive woodland and wet-ditch habitat; or incorporates new or enhanced habitats either on-Site (if the Site is able to be expanded), or at off-site habitats. These measures will be required in order to demonstrate no net-loss and ideally >10% net-gain in biodiversity; in line with Local and emerging National policy.

A suite of Phase 2 surveys are recommended to assess any potential impacts to protected species, to ensure the proposals do not breach the EU and UK wildlife legislation protecting them. Recommendations for avoidance measures for nesting birds are also recommended and no lighting, or a sensitive lighting scheme, are also recommended.

There is scope to enhance the habitats on Site, should the proposals allow for any habitat retention.

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APPENDIX A – LEGISLATION AND PLANNING POLICY

LEGISLATION

Many species of animal and plant receive some degree of legal protection. For the purposes of this report, legal protection refers to: species included on Annex II of the Habitats Directive 1992 (Council of European Communities, 22/07/1992) , Schedules 2 and 5 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and Schedules 1, 5 and 8 of the Wildlife and Countryside Act 1981 (as amended) , excluding species that are only protected in relation to their sale (see Section 9[5] and 13[2]) reflecting the fact that the proposed development does not include any proposals relating to the sale of species.

Legal offences associated with species listed on Schedule 2 of the Conservation of Habitats and Species Regulations and Schedule 5 of the Wildlife and Countryside Act in England and Wales include inter alia:

- Deliberate capture, injury or killing of animals or taking or destroying their eggs;
- Deliberately disturb animals in a way that would significantly affect their local distribution or abundance, or affect their ability to survive, breed or rear young;
- Intentional or reckless disturbance of an animal in its place of shelter or protection;
- Damaging or destroying a resting place or breeding site;
- Intentionally or recklessly obstructing access to a place of shelter or protection; and
- Possess, control, transport, sell, exchange or offer for sale/exchange any live or dead animal or any part of an animal.

Relevant species listed on these Schedules that are potentially associated with this Site include bats and reptile species (e.g. slow worm). All species of bat receive full protection from all legal offences listed above. Common reptile species receive partial protection under the Wildlife and Countryside Act in that they are protected from killing and injury only.

All species of wild bird are protected under the Wildlife and Countryside Act (1981) (as amended) from killing or injury. In addition, it is an offence to take or damage/ destroy their eggs and to damage or destroy a nest whilst it is in use. Species listed on Schedule 1 (such as barn owl) receive additional protection in that it is illegal to disturb birds or their young whilst occupying, or near to, an active nest.

A number of wild plants, habitats and animals (including reptiles, hedgehog and most species of bat) are also included within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 which lists flora, fauna and habitats considered by the Secretary of State to be of principal importance for conserving biodiversity. The publication of the "England Biodiversity List" satisfies the requirements of Section 41 of the NERC Act 2006 for the conservation of biodiversity. Section 40 of the NERC Act 2006 requires public bodies, including local planning authorities, to have regard for the conservation of biodiversity in England, when carrying out their normal functions.

Badgers are protected under the Protection of Badgers Act 1992 (UK Government, 1992) which makes it an offence to willfully kill, injure or take (or attempt to kill, injure or take) a badger; or to disturb badgers whilst occupying their setts.

NATIONAL PLANNING POLICY

There are numerous national and local planning policies associated with flora and fauna (also referred to as biodiversity) that need to be addressed as part of the planning process. The Government has issued its National Planning Policy Framework (NPPF) 2021, which requires impacts to biodiversity to be minimised. Paragraph 181 of the NPPF applies the

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same protection to Ramsar sites as that conferred by the Habitats Regulations to SACs and SPAs. The NPPF requires development to apply the following principles (Paragraphs 179-180):

- Minimise impacts on and provide net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressure;
- Identify and pursue opportunities for securing measurable net gains for biodiversity;
- Ensure that there will be no adverse impacts to SSSIs (such development would not normally be permitted);
- Ensure that there will be no loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees), unless there are wholly exceptional reasons and a suitable compensation strategy exists; and
- Where significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts) adequate mitigation, or as a last resort compensation, must be provided.
- The NPPF and associated Planning Practice Guidance also emphasise the requirement for ecological networks and wildlife corridors to be created throughout the wider landscape (paragraph 179).

Planning authorities should follow key principles to ensure that the potential impacts of planning decisions on biodiversity conservation are considered. Circular 06/05: Biodiversity and Geological Conservation provides guidance on the application of the law relating to planning and nature conservation and complements the NPPF.

The Natural Environment Paper

"The Natural Choice: Securing the Value of Nature" outlines the Governments approach and vision for nature in the UK including protecting and improving our natural environment, growing a green economy and reconnecting people and nature.

Biodiversity 2020

A strategy for England's wildlife and ecosystem services, are the country level strategies for England and builds on the natural Environment White Paper. It sets out the strategic direction for biodiversity policy for the next decade on land (including rivers and lakes) and at sea. The proprieties for action include a more integrated large-scale approach to conservation, putting people at the heart of biodiversity policy, reducing environmental pressure and improving knowledge.

LOCAL PLANNING POLICY

Wiltshire Core Strategy (Adopted January 2015) outlines strategic planning policy for the county and covers the period until 2026.

Core Policy 50 Biodiversity and Geodiversity

Development proposals must demonstrate how they protect features of nature conservation and geological value as part of the design rationale. There is an expectation that such features shall be retained, buffered, and managed favourably in order to maintain their ecological value, connectivity and functionality in the long-term. Where it has been demonstrated that such features cannot be retained, removal or damage shall only be acceptable in circumstances where the anticipated ecological impacts have been mitigated as far as possible and appropriate compensatory measures can be secured to ensure no net loss of the local biodiversity resource and secure the integrity of local ecological networks and provision of ecosystem services.

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All development proposals shall incorporate appropriate measures to avoid and reduce disturbance of sensitive wildlife species and habitats throughout the lifetime of the development.

Any development potentially affecting a Natura 2000 site must provide avoidance measures in accordance with the strategic plans or guidance set out in paragraphs 6.75-6.77 above where possible, otherwise bespoke measures must be provided to demonstrate that the proposals would have no adverse effect upon the Natura 2000 network. Any development that would have an adverse effect on the integrity of a European nature conservation site will not be in accordance with the Core Strategy.

Biodiversity enhancement

All development should seek opportunities to enhance biodiversity. Major development in particular must include measures to deliver biodiversity gains through opportunities to restore, enhance and create valuable habitats, ecological networks and ecosystem services. Such enhancement measures will contribute to the objectives and targets of the Biodiversity Action Plan (BAP) or River Basin/ Catchment Management Plan, particularly through landscape scale projects, and be relevant to the local landscape character.

Local sites

Sustainable development will avoid direct and indirect impacts upon local sites through sensitive site location and layout, and by maintaining sufficient buffers and ecological connectivity with the wider environment. Damage or disturbance to local sites will generally be unacceptable, other than in exceptional circumstances where it has been demonstrated that such impacts:

i. cannot reasonably be avoided

ii. are reduced as far as possible

iii. are outweighed by other planning considerations in the public interest

iv. where appropriate compensation measures can be secured through planning obligations or agreements.

Development proposals affecting local sites must make a reasonable contribution to their favourable management in the long-term.

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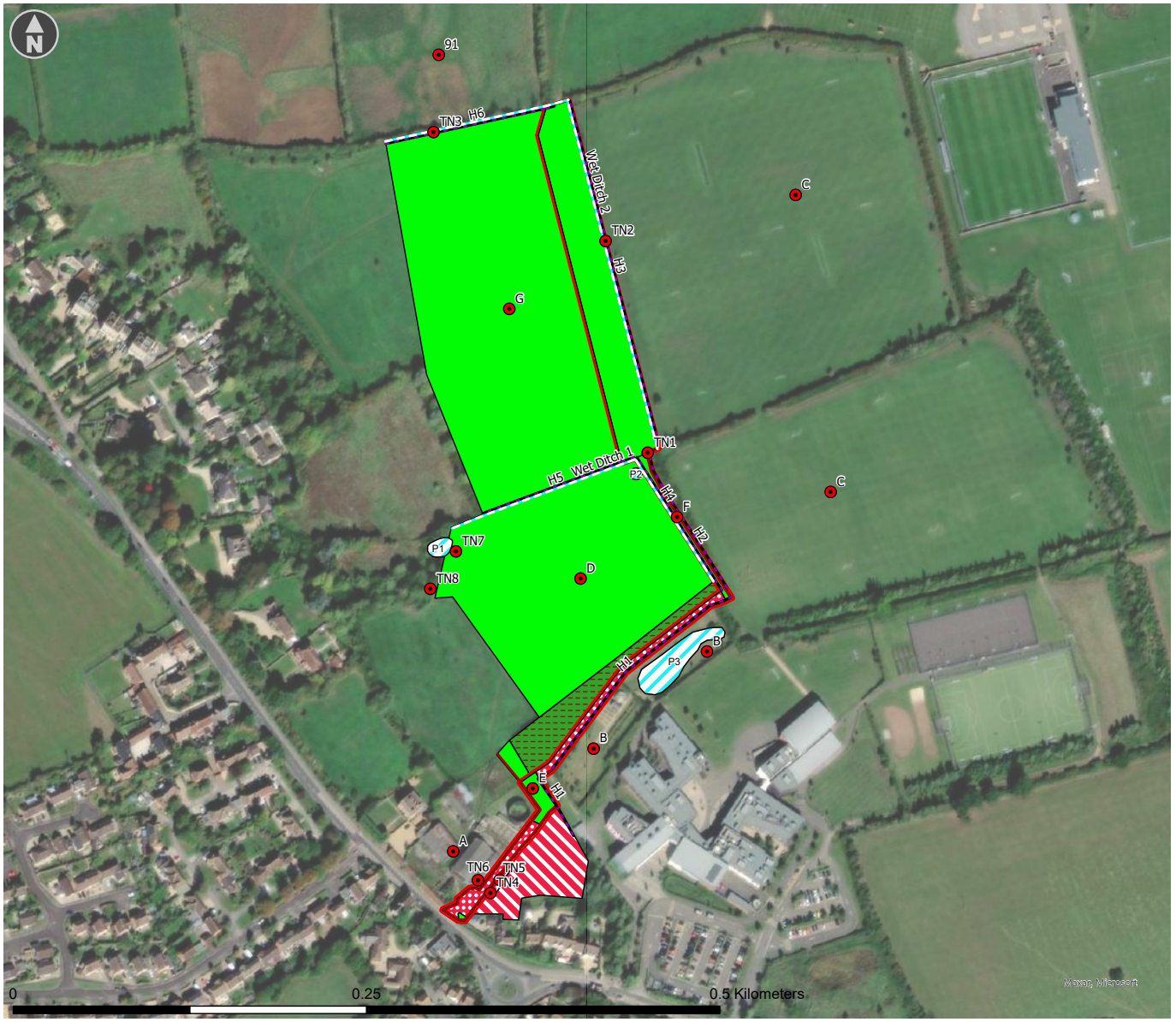
APPENDIX B –UK HAB MAP & TARGET NOTES



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- Site Boundary
- h2a - hedgerow (priority habitat)
- r1 - standing open water and canals
- u1e - built linear feature
- g4 - modified grassland
- r1 - standing open water and canals
- u1a - open mosaic habitats on previously developed land
- u1b5 - buildings
- u1c - artificial unvegetated unsealed surface
- w1h5 - other woodland, mixed, mainly broadleaved
- Secondary Codes and Target Notes

Point/Habitat Ref	Secondary Codes
A	96
B	710
C	511
D	10, 103, 119, 160
E	14, 119, 160, 4200
F	10, 119, 420
G	103, 199, 160, 420
P1	364
P2	162
P3	362
H1	35
H2	35
H3	70
H4	70
H5	70, 159, 190
H6	10
r1	199
u1c	17, 420

CLIENT Sustrans

PROJECT Melksham School Link PEA

TITLE UKHab Classification Survey

SCALE @ A3	CREATED BY	CHECKED BY
1:2,500	JS	CM
REFERENCE	**ISSUE/REVISION**	**DATE**
J00909-002		28/4/2022

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APPENDIX C – GRASSLAND CONDITION ASSESSMENT

Condition Sheet: GRASSLAND Habitat Type (low distinctiveness)			
UKHab Habitat Type(s)			
Grassland - Modified grassland			
Site name/location	Melksham Oak School Link	**Onsite/offsite**	On Site
Central grid reference of habitat		**Unique polygon reference**	
Limitations (if applicable)	The time of yar was suboptimal for grassland surveys.	**Metric 3.0 survey reference (if condition assessment of this polygon relates to a wider habitat survey)**	
Habitat Description			
Small areas of modified grassland at a track and a section of a larger grassland field unit.			
See UKHab			

Condition Assessment Criteria		Condition Achieved (Y/N)	Notes/Justification
1	There must be 6-8 species per m2. If a grassland has 9 or more species per m2 it should be classified as a medium distinctiveness grassland habitat type. **NB - this criterion is essential for achieving moderate condition.**	Y	<8 species, however, the time of year was suboptimal for grassland surveys, therefore may need updating in Spring/ Summer.
2	Sward height is varied (at least 20% of the sward is less than 7 cm and at least 20% is more than 7 cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	Y	Well-trodden path has short sward with marginal tall-tussocky grassland.

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3	Some scattered scrub (including bramble) may be present, but scrub accounts for less than 20% of total grassland area. Note - patches of shrubs with continuous (more than 90%) cover should be classified as the relevant scrub habitat type.	Y	
4	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	N	Damaged through access by vehicles and footfall from public and dogs
5	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens).	Y	Bare ground exceeds 10% in places but overall, around 10% (wet muddy unvegetated patches).
6	Cover of bracken less than 20%.	Y	No bracken
7	There is an absence of invasive non-native species (as listed on Schedule 9 of WCA, 1981).	Y	No invasive species recorded
		Essential criterion 1 achieved (Y/N)	Y
		Number of criteria passed	5

Condition Assessment Result	**Condition Assessment Score**	**Score Achieved ×/✓**
Passes 6 or 7 of 7 criteria including passing essential criterion 1	Good (3)	
Passes 4 or 5 of 7 criteria; OR Passes 4 or 5 of 7 criteria including passing essential criterion 1	Moderate (2)	Yes
Passes 0, 1, 2 or 3 of 7 criteria; OR 4, 5 or 6 of criteria but failing criterion 1	Poor (1)	

Suggested enhancement interventions to improve condition score

Increase species diversity.

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APPENDIX D- GREAT CRESTED NEWT HSI ASSESSMENT

ARGUK GCN HSI Calculator				
	Pond Name	Pond 1	Pond 2	Pond 3
	Grid Ref	ST7841863961	ST7838363938	ST7841863961
SI No	SI Description	SI Value	SI Value	SI Value
1	Geographic location	1	1	1
2	Pond area	0.6	0.05	1
3	Pond permanence	1	0.1	1
4	Water quality	0.67	0.67	0.67
5	Shade	0.2	0.2	1
6	Waterfowl effect	1	1	1
7	Fish presence	0.67	1	1
8	Pond Density	1	1	1
9	Terrestrial habitat	1	1	0.67
10	Macrophyte cover	0.7	0.3	1
HSI Score		**0.72**	**0.43**	**0.92**
Pond suitability		Good	Poor	Excellent

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