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LAND SOUTH-WEST OF KIRTLINGTON, OXFORDSHIRE

PRELIMINARY ECOLOGY APPRAISAL

27th July 2023

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1.0 INTRODUCTION AND BACKGROUND

This report has been prepared by *James Johnston Ecology* (JJE) on behalf of Manorwood Homes ltd. It presents the findings of a preliminary ecology and protected species appraisal undertaken around a small parcel of farmland (0.9Ha) to the immediate south-west of Kirtlington, Oxfordshire, where there are proposals for a small housing development of 15 units. This report supports the planning application by providing an appraisal of potential ecology and protected species issues and an appropriate mitigation and enhancement strategy. JJE has undertaken a records search, habitat walkover survey (extended phase 1 survey), and newt habitat suitability appraisal of off-site ponds within 500m, over summer 2022. A separate biodiversity metric calculation has been submitted.

All British bat species and their roost sites (and great crested newts and their places of shelter) are fully protected from 'intentional' and 'reckless' harm and disturbance, under the Wildlife and Countryside Act (WCA), 1981, (as amended 1985 and 2000), and the Conservation Regulations 2017/19. Reptiles and birds are also offered some legal protection under the WCA. All British bird species are protected from disturbance during nesting (from nest building until the young have fledged), under the WCA 1981. Under the mitigation hierarchy principle, ecologically valuable habitats should be retained / protected within development schemes.

Potential adverse effects on protected species are a 'material consideration' within the planning decision, and Local Plan policies protect against development impacts to habitats of high ecology value. If bats or other legally protected species are found to be residing within impacted features, a mitigation strategy (and derogation licence for bats / newts impacts) will be required, to avoid unlawful activity.

The remainder of this report provides the following sections - Methods, Findings, Potential Impacts, Mitigation and Enhancement, and the Summary + Conclusions. Photos are interspersed within the text and plans are at the back of the report.

2.0 METHODS

Background Records – A ‘data trawl’ (or records search) was undertaken via Thames Valley Environmental Records Centre (TVERC), seeking any past records of notable fauna and legally protected species within 1km of the application site. Natural England’s ‘nature-on-the-map’ webpage (DEFRA.MAGIC.org) was also accessed for information on statutory nature conservation designations. The writer also has sound knowledge of the range of notable fauna active within this District, from ‘scores’ of ecology surveys undertaken for other projects over the last 27 years.

Walkover Survey – An ecology walkover survey / extended phase 1 survey was undertaken during acceptable (dry) weather by James Johnston on 02/06/22. This involved walking the whole site and its boundaries, noting the principal plant species and habitats, noting any evidence of notable fauna and/or potential for fauna arising from the habitats, and surveying the parts of the site affected by the scheme, for protected species evidence (especially for bats, bird nesting, and newt/reptile potential, based upon grassland type and presence of any features that they tend to need). Accessible ponds within 500m were visited and subject to a newt Habitat Suitability Index appraisal using the Oldham (2000) method.

Preliminary Bat Roost Survey – The preliminary bat roost appraisal / inspection was also conducted on 02/06/22, but was limited only to appraising roost potential in boundary trees, since there are no structures or buildings within the site.

Dates / Weather - The survey date and weather conditions were acceptable for reliable surveying. Conditions were as follows:

02/06/22 – Dry and warm. Mixed sunshine and cloud. Wind – 5mph south-easterly. Temperatures 20-10^{0}C (max/min, day/night).

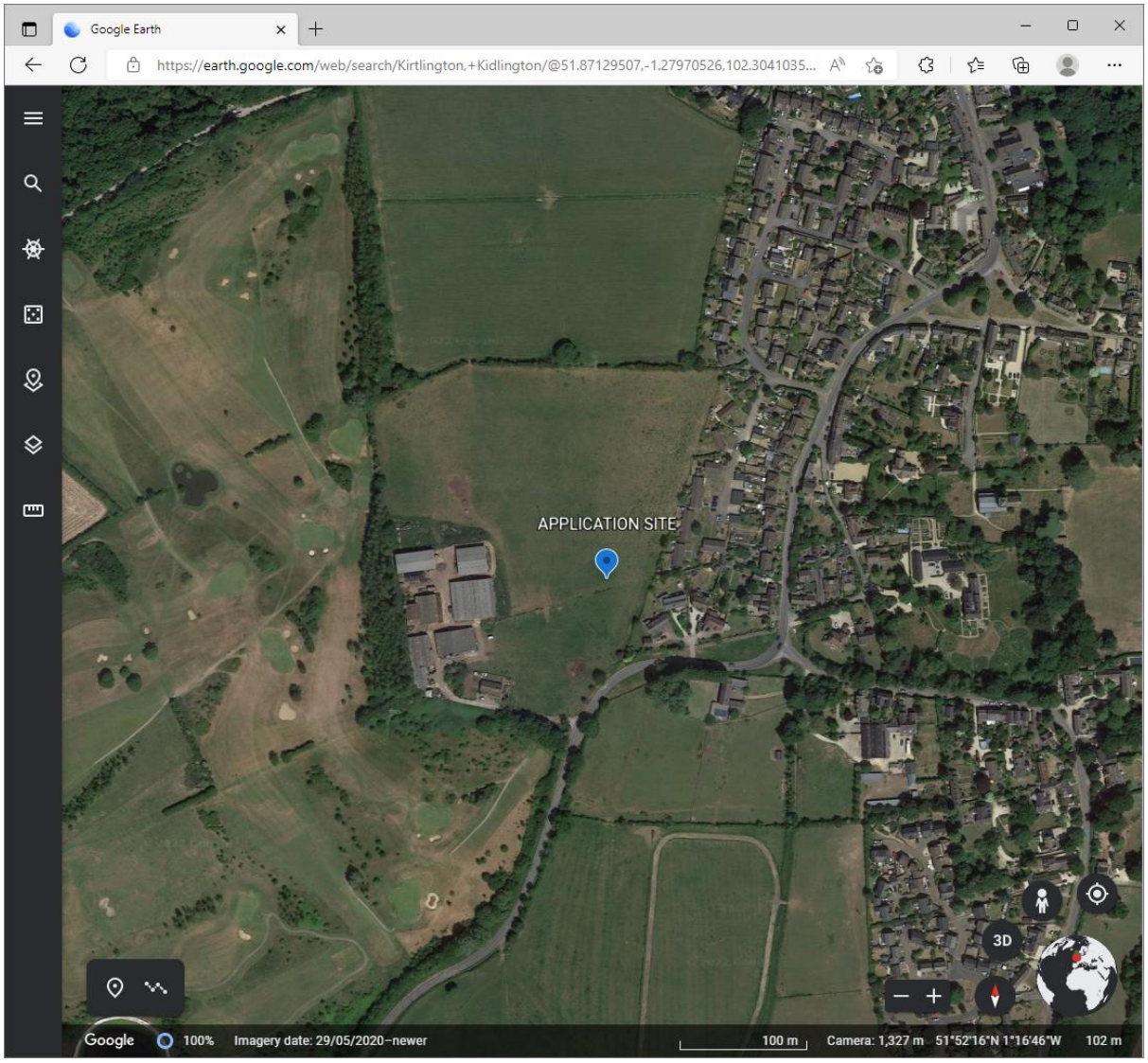
Personnel – The surveying was undertaken by James Johnston (MCIEEM / CEnv), a Consultant Ecologist with 27 years' experience, who holds current survey licences for great crested newts and bats (bat licence 2015-11566-cls-cls / newt licence 2015-17136-sci-sci).

Limitations - Ecology survey work can only present a 'snap-shot' of the ecology conditions at that time. Site conditions and fauna usage patterns can change over short timeframes and so new or altered ecology constraints in the near future can be different from the recent past. Detailed fauna surveys also only ever represent a sampling exercise, and so there is always an opportunity for some fauna usage to go unnoticed, particularly any rare or sporadic site usage by elusive fauna. No significant limitations were found particular to this site and all features affected by the scheme were accessed, viewed and surveyed.

3.0 FINDINGS

Site and Wider Surroundings

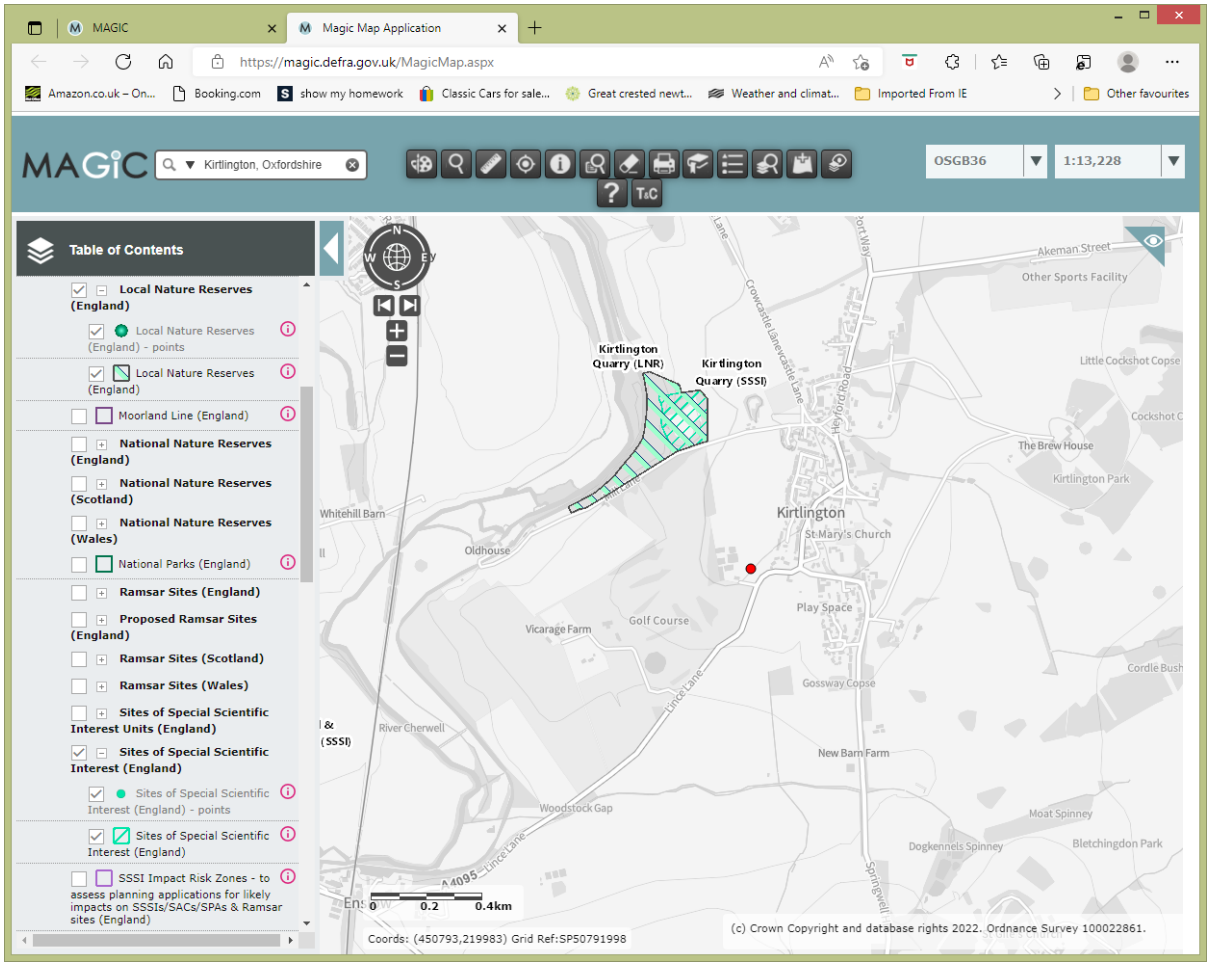
As can be seen in the aerial photo below, the application site is farmland in a village-edge setting. The local landscape is relatively flat and dominated by residential land (houses and gardens) to the east of the application site, with some intensive grazing land to the north and south, and a golf course to the west. The local hedgerow network is relatively poor, provision of woodland is locally poor, and ponds are occasional in this landscape. The local conditions therefore give opportunity for a limited range of notable fauna to be active in the locality, including common bat species, declining birds (of conservation concern), and reptiles and amphibians.



Site-centred aerial photo (courtesy of Google Earth)

Designations

There are no local or statutory designated sites within or adjacent to the application site. The nearest is Kirtlington Quarry SSSI, which is part of the larger Kirtlington Quarry Local Nature Reserve (LNR). This is around 0.3km away to the north-west, and is primarily designated as a geological SSSI for its Jurassic fossil record, and with the former quarry also now supporting a mix of grassland, scrub and woodland. The location is shown on the map below (courtesy of www.MAGIC.DEFRA), with the application site at centre.



Map of statutory designations, with application site at centre (marked with red dot)

Habitats

Most of the application site area supports agriculturally improved (fertilised and re-seeded) grassland, which could also perhaps be described as herb-poor sheep-grazed semi-improved grassland. The botany comprises a limited range of very common herbs and grasses (ryegrass, annual meadowgrass, clover, dandelion, creeping thistle, ribwort and broadleaf plantain, and daisy). There are also some small patches of tall ruderal herbs (stinging nettle and cow parsley), mainly around the field edges, indicating poor management (habitats mapped at back of report). The grassland condition is poor, since it is grazed short and has no structural diversity.

South boundary

Short, poor sward

Central part of application site, looking west

East boundary

There are no boundary hedges. The boundaries mainly comprise wire fences, also with some wooden board fencing on the east boundary, with an assortment of occasional ornamental shrub lines. The only trees on site are a small pine and a cherry on the south-east boundary, which are very young, and there are also two hawthorn bushes on this boundary (shown in photo below).

Small pine, hawthorn and cherry on south-east boundary

Fauna

Records – TVERC confirmed that they hold no past records of notable fauna or protected species for the application site, but within 1km there are records of bat roosts for common pipistrelles, soprano pipistrelles, brown long-eared bats, and a single barbastelle, at sites, houses and barns around the village and countryside 250m – 1000m away from the application site. Notable/declining birds recorded in the wider area include – barn owl, black redstart, brambling, bullfinch, corn bunting, cuckoo, dunnock, fieldfare, grey partridge, grey wagtail, house martin, kestrel, lapwing, linnet, marsh tit, mistle thrush, redwing, reed bunting, skylark, spotted flycatcher, starling and swift. Plus, a few rare invertebrates (stag beetle, brown hairstreak, small heath, grizzled skipper). TVERC have no records of great crested newts within 1km, but there are several records of grass snakes and slow worms from gardens and land around Kirtlington (including the golf course 100m away to the south-west).

Bat Inspection / Roost Potential – There are no structures within the application site, and the few small young trees on the eastern boundary have no features that could be used by roosting bats (no splits or rot holes), and so there is no potential for a bat roost within the application site. Bat foraging / commuting opportunity is poor.

Birds – No evidence was found of any nesting activity by rare birds such as barn owl, and there is no potential for them. Negligible bird activity was noted within the site during the walkover survey, just occasional over-flying by common farmland species (wood pigeon, rook, carrion crow). The site offers very poor bird nesting opportunities due to lack of cover and shrubs, although the few young trees on the east boundary could potentially support a nest from common village-edge species, such as blackbird.

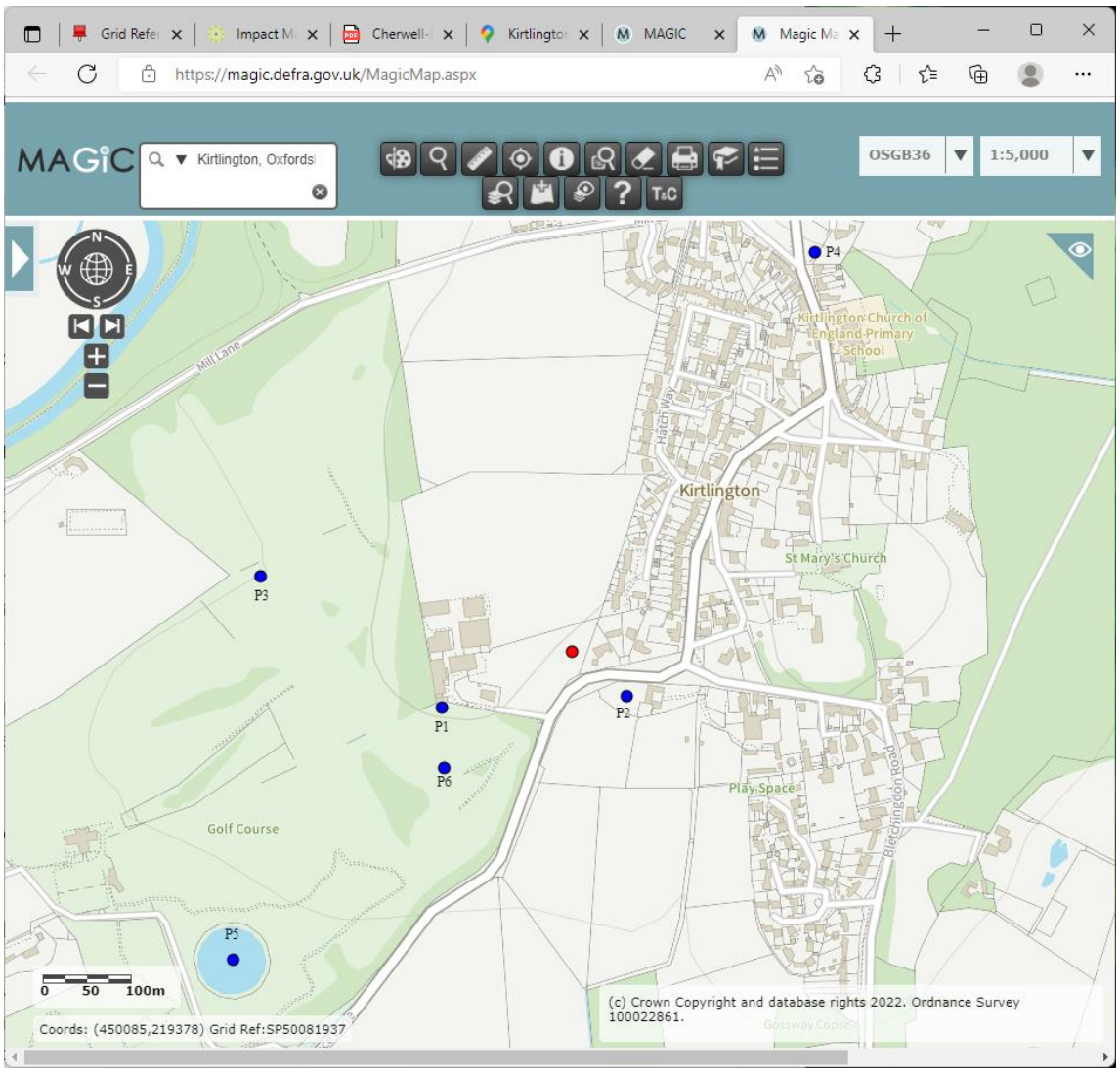
Reptiles – The species-poor grassland, lack of structural diversity to the sward, lack of tussocks and ant hills, lack of shelter / refuges, all combine to provide poor opportunities for reptiles. A reptile population would be highly unlikely with this type of poor agricultural grassland, but low numbers (or individuals) of grass snake and/or slow worm, occasionally moving through the site cannot be ruled out.

Amphibians / newts – TVERC hold no records of great crested newts (GCN) within 1km, but there are ponds in the area (with potential to support GCNs), and this has resulted in the application site area being ascribed a mix of 'medium' and 'high' (amber and red) risk potential for GCN impacts, using the NatureSpaceUK published GCN impact risk Map. The definitions of amber and red are as follows:

Red – highly suitable habitat – the most important areas for GCN

Amber – suitable habitat – great crested newt likely to be present

This is because there are a number of ponds within 500m of the application site, and newts are known to sometimes wander up to 500m from their breeding ponds, resulting in a risk of them wandering through this application site at times. Ponds within 500m (see plan below) were visited as part of this appraisal, and were subject to a GCN habitat suitability index appraisal (HSI) using the Oldham 2000 method.



Pond locations

Pond P4 was not surveyed, as it was found to be more than 500m from the application site and is located on the far side of a major barrier to newt movement (main road). Brief pond descriptions and the HSI results for the surveyed ponds are given below.

Pond ref	P1	P2	P3	P5	P6
SI1 - Location	1	1	1	1	1
SI2 - Pond area	0.02	0.15	0.4	0.8	0.01
SI3 - Pond drying	0.1	0.5	1	0.9	0.1
SI4 - Water quality	0.67	0.67	0.67	0.33	0.67
SI4 - Shade	0.6	0.8	1	1	1
SI6 - Fowl	1	0.67	0.67	0.67	1
SI7 - Fish	1	0.67	0.67	0.67	1
SI8 - Ponds	1	1	1	1	1
SI9 - Terr'l habitat	0.67	0.67	0.67	0.33	0.3
SI10 - Macrophytes	0.8	0.4	0.4	0.3	0.3
HSI	0.46 Poor	0.59 Below average	0.71 Good	0.63 Average	0.38 Poor

Habitat Suitability Index appraisal results for ponds within 500m (P4 omitted due to distance and barrier)

P1 – Tiny former slurry pit at edge of farmyard, 100m from application site. 4x4m area. Outflow drainage pipe means this is not really classed as a water body / pond. Well shaded by adjacent scrub. Dries ever year.
P2 – Small pond in private ownership, just across main road (probable barrier to newt movement), to the east of the application site. Pond size is 10m across. Well shaded by adjacent trees. Dries occasionally.
P3 – Pond within golf course. 25m across. Rarely dries. No adjacent trees. Rim of emergent vegetation. Moderate water quality. 330m from application site.
P5 – Very large circular raised reservoir, 72m across, with pond liner. Used as water source for golf course watering. Heavily managed. No nearby trees / shading. Never dries. No marginal vegetation.
P6 – Two adjacent recently constructed tiny ponds, 2-3m across, on golf course. Choked with dense reedmace. Dry annually.

The pond appraisals confirm that one pond within 500m (P3, 330m away) has good potential for GCNs, and is located where there is reasonable habitat connectivity with the application site, creating a moderate risk of some GCNs occasionally accessing the grassland of the application site.

Badgers – No badgers setts or signs of badgers were noted around the application site or nearby.

Evaluation

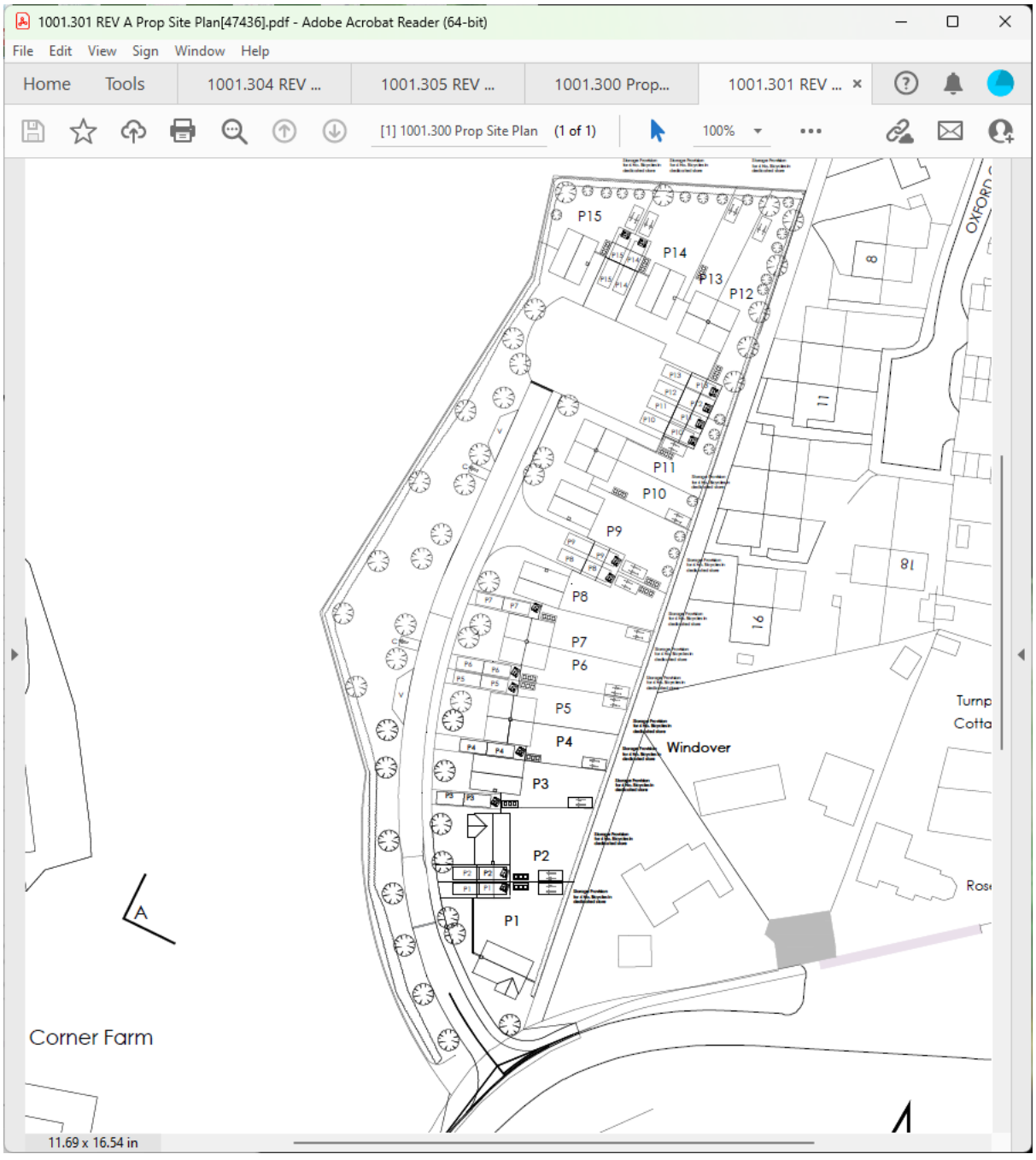
There are no wildlife designations at or adjacent to the application site. The habitat of the application site is a very common type of poor agricultural grassland, with very little structural or species diversity, which is easily re-created in the short term and offers little to local fauna. There are no old or valuable trees, and no hedges.

The site's habitat is of low ecological value.

4.0 POTENTIAL IMPACTS

The Scheme

The scheme involves a new access road in from the south-east, serving a small housing scheme of 15 (detached and semi-detached) units, as shown below.



The proposed scheme layout

Potential Impacts

Designations

There are no wildlife designations (such as SSSI / LWS) at the site or adjacent, and no potential for impacts to the more distant statutory designated sites to arise from this type of small housing scheme. No mitigation in relation to designated sites is required.

Habitats

The habitat affected by the proposals is low species-diversity agricultural grassland, a locally and nationally common habitat of low ecological value. No trees, hedgerow, or scrub is lost, and no 'priority habitats' are impacted. Habitat impacts arising from the scheme are therefore not significant, although there will be some biodiversity loss arising, which will require compensation in order to achieve net biodiversity gain (see separate Enhancement Section further below).

Fauna

Bats – The scheme has no potential for impacts to any bat roost as there is no bat roost potential within the site. There is also negligible potential for impacts to any notable bat foraging or commuting opportunity, since no species-rich habitats, trees, or hedges are impacted. It is likely that the development will improve foraging and commuting opportunities for typical village-edge bat species (such as pipistrelles, that are tolerant of residential habitats), because the landscaping strategy will increase provision of trees, shrubs and structural diversity, where there is currently none. There are considered no special bat mitigation requirements.

Birds – The scheme impacts upon no bird nesting habitat, and so there is negligible risk of unlawful disturbance to nesting birds. If there are any later layout alterations that change this, so that any boundary trees or scrub is removed, then the risk of bird nest disturbance would rise, but can be avoided through careful timing.

Reptiles – Without mitigation, there would be a small risk of unlawful harm to low numbers (or individuals) of grass snake and/or slow worm, that could occasionally be moving through the site's grassland. Such individuals can be at risk of crushing injury during top-soil stripping. No reptile population or significant numbers are at risk, as this habitat type has no chance of supporting more than occasional individuals or low numbers moving through.

Newts – Similarly to reptiles, there is considered to be a small risk of the top-soil stripping exercise causing harm to low numbers of great crested newts (GCNs) that could potentially be wandering through the site's grassland during their active season of mid-Feb to mid-October, since there are ponds suitable for GCNs within 500m. There is negligible risk to any significant newt population, as none of the suitable ponds are within 250m, or they are on the far side of major barriers to newt movement, making it very unlikely that any significant numbers of GCNs would ever be within the application site. Nevertheless, harm to an individual GCN would be unlawful, and so mitigation (avoidance, compensation and licensing) is recommended (see Section 5 below).

Badgers – No badger setts were noted at or adjacent to the application site, and no badger foraging signs were found, and so there is considered to be negligible risk of impacts to badgers.

5.0 MITIGATION AND ENHANCEMENT

See the second plan at the back of this report, for locations.

Birds

If any tree or shrub becomes proposed for removal, that clearance should be timed to occur between March to August (avoiding the nesting season), or could be undertaken within the nesting season if the Ecologist has first resurveyed at that time and confirmed no active nests.

Newts

Unlawful activity regarding potential GCN impacts will be avoided by the development site joining the District Newt Licence scheme (for which an initial enquiry / application has been made). This involves the payment of a Stage 1 fee during the planning application processing period, which funds a newt assessment conducted by NatureSpaceUK, which is submitted to the planning application and also confirms the level of Stage 2 payment to be made after planning consent has been given. The stage 2 payment then releases a Certificate confirming the development has joined the District Licence, which also then permits the Project Ecologist to undertake 'finger-tip searches' or trapping exercises within the site, with the aim of translocating newts to the safety of a suitable boundary area or nearby off-site receptor area (eg – suitable 'blue line' land also under the control of the applicant, likely involving the same farmland immediately to the north of the red-line boundary). The Stage 2 payment is used by NatureSpaceUk for off-site habitat enhancement at the landscape scale for newts, within the District. This approach ensures that newts are not harmed on site, and the development does not lead to reductions in quality or area of suitable newt habitat within the District, and so does not breach the GCN protection laws.

Reptiles

The newt search / translocation exercise (prior to any site clearance or top-soil stripping) will also be used to double as a precautionary reptile search and translocation exercise, since any individual (or low numbers) of reptiles that could be present on site, could be found and caught in the same manner as newts would be. If any reptiles are found and trapped, they would be released into the off-site newt receptor area (likely grassland to the north of the application site, which is suitable habitat also under the same ownership). No licence is required for this type of reptile translocation work. This precautionary mitigation would not involve any significant reptile population, since the habitats of the site have no potential to support any significant reptile population.

Enhancement

The Government's National Planning Policy Framework (NPPF) advises that LPAs should seek some ecological enhancement (net biodiversity gain) within all planning applications. This scheme causes a moderate amount of biodiversity loss from the change of agricultural grassland to hard-standing, buildings and gardens. Some biodiversity compensation / enhancement is achieved on site through new native tree planting and better management of retained grassland in the west, resulting in significant enhancement regarding linear features, but still with overall biodiversity loss regarding 'area' habitats. The separately submitted Biodiversity Metric Calculation indicates that some grassland 'off-setting units' are required off-site to achieve net biodiversity gain for this scheme.

A Planning Condition can be attached to the planning consent requiring these biodiversity credits to be purchased or arranged prior to site construction work starting. This could involve either setting up an agreement with a neighbouring landowner, to enhance their land, or buying enhancement credits using an organisation such as The Environment Bank.

There is also some on-site fauna enhancement proposed through the integration of a bird nest box and a bat roost box into the outer walls of each new property (one nest box and one bat box for each property), with bat boxes erected high up on gable walls (5-6m height, but not directly above windows), and bird nest boxes constructed at around 3m height (not directly above windows). No nest or roost boxes will be fixed onto south-facing aspects, as they can become too hot for fauna. Bird nest boxes will include either a woodstone sparrow terrace, woodstone open-fronted box, or closed box with 28mm entrance hole (woodstone single chamber).

New garden fences will also be constructed with at least one stretch incorporating a 13cm x 13cm hole at the bottom for hedgehogs to pass through. Two hedgehog nest boxes will also be installed at the site, one in the north-east and one in the south-east, under boundary scrub.

A single bee brick will also be installed at 0.5m above ground into each new garage building (one bee brick for each garage), facing towards gardens.

Woodstone sparrow terrace

Woodstone open-front

Woodstone single chamber

Woodstone build-in bat box

Bee brick

Hedgehog box

6.0 SUMMARY AND CONCLUSIONS

This report concludes that with the mitigation strategy followed, the proposed construction of 15 new houses within species-poor sheep pasture to the west of Kirtlington, will cause: No significant adverse ecology impacts; No impact to any designated site; No loss or damage to notable/priority habitat; No adverse impacts to roosting or foraging bats; No disturbance to nesting birds; No harm to reptiles; And, no harm or unlawful habitat impacts for great crested newts / GCNs. No badger evidence was found at the site and so there are no potential badger impacts.

The mitigation involves: The development scheme joining the NatureSpaceUK District Newt Licence (and following the Conditions of that licence, including hand-searches for newts throughout the site prior to top-soil stripping, and paying stage 1 and stage 2 fees which include a financial contribution to off-site landscape enhancement for newts); looking out for reptiles during on-site newt searches and moving them to a safe adjoining off-site location (a precautionary translocation exercise, linked to the newt mitigation implementation); A site briefing meeting / Tool-box Talk with Project Ecologist and Contractor; Financial contribution to off-site biodiversity enhancement scheme, to achieve net biodiversity gain; And, on-site landscaping to include enhancement of retained areas of grassland (mown twice per year and allowed to flower and seed), plus planting 200m length of new mixed native boundary trees.

The mitigation and enhancement can be guaranteed through use of Planning Conditions linked to this report. It is therefore concluded that this scheme does not contravene Local Plan ecological policy or wildlife laws.

PLANS

ig - species-poor agriculturally improved grassland / semi-improved sheep pasture

- Young cherry tree

- Hawthorn scrub

- Garden ends / patchwork of fences and short ornamental hedges

- wire fence

- Ruderal herbs / nettles

- Kirtlington
- Habitats
- JJ803 (19/9/22)

- Scheme will join District Newt Licence, and implement off-site newt enhancement. Reptiles included in newt searches/translocation. Financial contribution made to off-site biodiversity enhancement, to achieve net gain
- Grassland retained + enhanced through management
- Enhancement through native tree planting
- Hedgehog nest box into boundary scrub
- Integrated bat box into wall-top at 5-6m height, but not directly above windows
- Integrated bird nest box (Mixed styles) at 3m height
- Bee bricks into walls at 0 – 0.5m height

- Kirtlington
- Mitigation + Enhancement
- JJ803 (27/7/23)