



South West Milton Keynes

Addendum Environmental Statement

Chapter 7 Ecology

CSA Environmental

October 2020

ECOLOGY ADDENDUM

Introduction

- 1.01 This addendum to Chapter 7 (Ecology) of the Environmental Statement sets out findings of confirmatory ecological survey work conducted between April and August 2020. The addendum supports the assessments made of the likely significant effects of the proposed development in terms of Ecology and Nature Conservation within Chapter 7.
- 1.02 The addendum confirms baseline conditions at the assessment site and surroundings as described within Chapter 7 of the ES; affirms assessment of likely significant environmental (ecological) effects; the mitigation measures required to prevent, reduce or offset any significant adverse effects; and the likely residual effects after these measures have been employed. This addendum has been prepared by CSA Environmental.
- 1.03 This addendum (and its associated figures and appendices) is not intended to be read as a standalone assessment and reference should be made to the remainder of the ES, and particularly Chapter 7 in respect of assessment methodologies. The main text set in this addendum should also be read in conjunction with **Ecology Addendum Appendices A to E** which provides detailed survey findings, information and plans upon which any assessments are based.

Baseline Conditions

Nature Conservation Designations

- 1.04 Broadway Thrift and Wood Local Wildlife Site (LWS) is located c.0.1km west of the Site and is of importance at the County level. Further consideration of recreational effects has been provided herein.

Habitats & Flora

- 1.05 Botanical surveys conducted in 2020 confirmed habitats to be broadly as characterised within Chapter 7, with some confirmatory findings set out below. None of the further survey data elevated or reduced previous assessment in respect of importance of ecological features.

Arable

- 1.06 No notable or declining arable plants were recorded during botanical surveys conducted in 2020. As such, the previous assessment of arable land as falling short of the criteria for Local importance remains appropriate.

Grassland

- 1.07 Semi-improved grasslands within fields F2, F4 and F5 were found to comprise similar swards, dominated by coarse grasses and a modest abundance and diversity of herbs as previously recorded. These grasslands were cut in late-July.
- 1.08 F12 remained uncut at the end of survey work, although localised higher herb and fine-leaved grass abundance was recorded than previously. Specifically, locally frequent lady's bedstraw *Galium verum*, meadow vetchling *Lathyrus pratensis* and common bird's foot trefoil *Lotus corniculatus* were noted within furrows, and to the eastern corner of the field. In addition, two indicators of older grassland, meadow barley *Hordeum brachyantherum* and meadow fescue *Schedonorus pratensis*, not previously identified were

recorded rarely in the sward. However, given the modest area of habitat with F12, and the continued dominance of coarse grasses these findings do not elevate the grassland to 'local' importance. On this basis, the assessment of effects and mitigation as set out in Chapter 7 of the ES remain appropriate.

- 1.09 It should be noted that grassland within F12 and other semi-improved grassland at the Site have been considered in the wider assessment of net loss or gain of biodiversity at the Site, with permanent grassland being of greater interest than cultivated land.

Woodland, Hedgerows & Mature trees

- 1.10 Occurrences of midland hawthorn *Crataegus laevigata* and were noted within woodlands W4 and W5, with the hybrid hawthorn C x media also found within W5, reinforcing the relative age and interest of these woodlands within the Site context. These native woody species were not noted in any hedgerows across the Site, and therefore hedge assessments in this regard remain unchanged. Two additional ground flora species, wood sedge *Carex sylvatica* and male fern *Dryopteris filix-mas* was noted to occur rarely within W4.
- 1.11 A single tree within H9, adjacent to pond P5, was re-affirmed to be a close hybrid black poplar *Betula nigra* x, based upon multiple identification features reviewed during 2020, as fully described within Chapter 7.
- 1.12 Reference is made within the Chapter 7 to very mature/veteran trees within woodland W4b and W5. However, it is concluded within the completed 'Updated Arboricultural Impact Assessment' (Barton Hyett) that "No veteran or ancient trees were identified during the survey". As such, these older woodlands, whilst of greater importance than other wooded habitats on site are confirmed not to support any veteran specimens. To aid in explanation further information has been provided within the assessment of the effects with regard to of access through W4b and W5.

Ditches, Watercourses & Ponds

- 1.13 Ditches, watercourses and ponds across the Site were noted to dry completely during the course of survey work by June 2020. As such, the previous assessment that these fall short of criteria for Local importance remains appropriate.

Other flora

- 1.14 In addition to those species identified above in relation to habitats, and reflecting the additional survey effort, the following flora not previously recorded at the Site were found during 2020:
- Shining crane's bill *Geranium lucidum*: single plant found on path edge to northern boundary of Site. An uncommon plant locally.
 - Annual beard-grass *Polypogon monspeliensis*: small number of plants incidentally noted on path edge to northwest of Site. A non-native casual plant.
 - English stonecrop *Sedum anglicum*: small population of plants growing on gravel/asphalt surface to northeast of the Site. An uncommon plant locally
- 1.15 All of the species recorded above are reflective of incidental condition or ephemeral habitats formed across the Site, and do not represent important ecological features, or indicate the presence of important habitats.
- 1.16 A single tree within H9, adjacent to pond P5, was confirmed to be a close hybrid or hybrid black poplar based upon multiple identification features reviewed during 2020, as fully described within Chapter 7.

Traditional Orchard

- 1.17 No access was available to off-site land southeast of F6, northwest of Weasel's Lane. This land of approximately 0.7ha is listed under the Priority Habitat Inventory for Traditional Orchards on the MAGIC database, albeit with a low confidence in classification of this 'Main Habitat'. Based upon viewing the land from Weasel's Lane and from Whaddon Road, as well as viewing aerial photography, the land appears to be a private garden of the property 'The Leys' that may contain a small number of fruit trees within smaller portion (0.1ha) of land parcel. Historic maps indicate the land was converted from farmland after 1918, after which time a small orchard occupied part of the private garden of The Leys.
- 1.18 On the basis that this habitat may meet the criteria for Traditional Orchard priority habitat under the NERC act (2006), comprising approximately 0.1ha area with c.15 fruit trees, this off-site habitat feature is concluded to be of importance at the Local level.

Fauna

Bats

- 1.19 Survey work carried out at the Site in 2020 comprised three remote monitoring periods (May, June and July); transect surveys (May, June and July) and emergence/return to roost surveys of trees (May to July) with findings summarised below.
- 1.20 The survey work carried out confirmed the interest of the Site, in respect of bats, to be as characterised in Chapter 7, being of Local importance only. Those areas within the site of greatest importance to bats comprise principally the wooded northern boundary and the central Weasel's lane corridor, as well as hedgerows, field margins, grassland, trees and wooded habitats, rather than arable habitat which dominates the Site.

Roosting

- 1.21 In total, six individual trees/groups of trees were subject to further survey work or inspection during May to July in respect of their potential to support roosting bats following Preliminary Roost Inspections (PRAs) as set out within Chapter 7 of the ES. During 2020 no bat roosts were confirmed to be present in any of the trees subject to targeted surveys given their likelihood to be affected/felled during proposed works. These 2020 findings reflect previous survey work undertaken in 2008 and 2013 of trees at the Site where no emergences were recorded.
- 1.22 An incidental observance of a common pipistrelle *Pipistrellus pipistrellus* was made during transect surveys, emerging from the eastern gable end of a private dwelling to the north of the Site (New Leys).

Activity

- 1.23 A total of five confirmed bat species, common pipistrelle, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared *Plecotus auritus*, noctule *Nyctalus noctule* and serotine *Eptesicus serotinus* were found during the surveys, as well as one unconfirmed myotis *Myotis* sp. species, were recorded at the Site during both transect surveys and remote monitoring in 2020. Only a single additional species, Nathusius' pipistrelle was identified during previous surveys in 2013, with a single recording made that time.
- 1.24 The majority of bats identified both transect (n= 520; 95.9%) and remote monitoring (n=23887; 94.4%) were of common pipistrelle. A small proportion of passes were recorded for soprano pipistrelle (transects: n=14 /2.6%; remote monitoring: n=1247/4.9%), with less than 1% of passes for noctule and Myotis bat, and less than 0.1% of passes for brown long-eared and serotine. Highest levels of activity were recorded in June (n=14407; 56.9%) with similar levels recorded in May (n=5191; 20.5%) and July (n=5,700; 22.5%).

- 1.25 Only a single pass of serotine bat was recorded on transects (14 July 2020), with 3 passes during remote monitoring during the second monitoring period on two nights to the north (point A, 28 and 30 May 2020) and 1 night centrally (Point B, 02 June 2020) within the site. Given the very small number of passes/occasions serotine was recorded on-site it is concluded that the Site does not represent an important resource for this species.
- 1.26 This limited diversity of bat species observed, and their relative abundance, reflects the limited habitat extent and quality at the Site, which is dominated by arable land.
- 1.27 Spatially, bat activity was found to be greatest along the northern boundary and along Weasel's lane, as well as on some hedgerows/field boundaries. Despite sampling of open areas throughout transect surveys, as far as access/cultivation allowed, very few bats were observed within open arable habitats.
- 1.28 By far the highest levels of bat activity recorded during remote monitoring was centrally within the Site (Point B) at the intersection between Weasel's Lane and woodland W5, with 80.3% (n=20,306) of all passes recorded here, compared with 11.6% (n=2,926) on the northern boundary (Point A) and 8.2% (n=2,066) on hedgerow H31.

Badger

- 1.29 No active badger setts were recorded anywhere within the Site during 2020 survey work. Low levels of badger activity, such as latrines, snuffles holes and prints, were recorded along the southern boundary only as previously reported within Chapter 7 of the ES.
- 1.30 During 2020 mitigation works in relation to East West Rail (EWR) have commenced along the southern boundary of the Site. Mitigation works are understood to include an artificial sett being created to the southwest of the Site, with the main sett along the southern boundary closed under licence during Autumn 2020. Such works typically result in changes in badger activity and sett usage, and therefore future use of the Site by badger may change.
- 1.31 Based on the survey work carried out in 2020 it remains appropriate to consider badgers as part of this assessment on this basis their protection under the Protection of Badgers Act 1992 only. As such the assessment of effects and mitigation as set out in Chapter 7 of the ES remain appropriate.

Water vole & Otter

- 1.32 Surveys conducted in 2020 continue to confirm the likely absence of otter and water vole from the Site, with no evidence found. Furthermore, all watercourse and ponds were found to dry during survey work, further reducing the potential for such species to make use of the Site. As such, it remains appropriate to conclude both species are likely absent from the Site.

Birds

- 1.33 Breeding bird surveys conducted in summer 2020 (Appendix B) confirm those bird species making use of the Site is broadly as characterised in Chapter 7, with the breeding bird assemblage confirmed to remain of Local importance.
- 1.34 A single additional species, bullfinch was confirmed to make use of the northern boundary of the Site in 2020, with another, lesser whitethroat recorded off-site to the east. Both these species were recorded in previous years and included within the total breeding bird species, all years (49), upon which the assessment of Local

importance under Fuller (1980)¹ method is made. However, total breeding species in 2020 remain below this total, at 41. For clarity, the further 2020 surveys revealed the following additional territories: starling (2, northern boundary), dunnoek (3 across site) chaffinch (1 northern boundary), yellow hammer (4, across site) and swift (1, northwest of site) were recorded. The number of skylark territories recorded remains broadly similar, with only a single additional territory recorded (total 23).

- 1.35 Based on the above, the assessment of effects and mitigation set out in Chapter 7 of the ES remain appropriate. However, additional information in respect of farmland bird mitigation is provided herein.

Reptiles

- 1.36 Reptile surveys undertaken between April and May 2020 (Appendix C) confirmed reptile species and abundance at the Site to be broadly as characterised in Chapter 7, with a 'small' population of common lizard and grass snake within limited areas of suitable habitat present. The Site is confirmed to fall short of the criteria for local importance and reptiles are considered in this assessment in respect of their partially legal protected under the Wildlife & Countryside Act 1981. As such the assessment of effects and any mitigation as set out in Chapter 7 of the ES remain appropriate.

Amphibians

- 1.37 Amphibian surveys undertaken between May & June 2020 (Appendix D) confirmed species and abundance at the Site to be broadly as characterised in Chapter 7, with only a 'small' population of great crested newt (GCN) within the Site to the northeast, as well as large populations off-site to the east and north. It should be noted however, that all ponds and watercourses within the Site were later found to dry by June 2020, and therefore it is unlikely that successful breeding of some amphibians, including GCN, occurred in this year.
- 1.38 On the basis of update 2020 survey, the previous assessment of the Site being of Local importance only to amphibians, remains appropriate. In addition, given the legal protection afforded to GCN, amphibians are taken through to the assessment section on this basis also. As such the assessment of effects and any mitigation as set out in Chapter 7 of the ES remain appropriate. However, additional information in respect of mitigation is provided herein.

Summary

- 1.39 Important ecological features have been evaluated and assigned a level of ecological importance, as summarised in Table 7.3.

Table 7.3 Evaluation of Important Ecological Features

Level of Importance	Important Ecological Features
International	No species, habitats or nature conservation designations are present and of importance at the international level.
National	No species or habitats are present on-site that are considered to be important at the national level. However, Howe Park Wood SSSI and Oxley Mead SSSI are situated within 3km of the Site.
County	No faunal species are present on-site that are considered to be important at the county level. However, two Milton Keynes Wildlife Corridors are present on site. In addition, the

¹ Fuller, R.J., (1980), A method for assessing the ornithological interest of sites for conservation. *Biological Conservation* 17: 229-239

Level of Importance	Important Ecological Features
	Blue Lagoon LNR and three LWSs are situated within 3km and 2km of the Site, respectively, including Broadway & Thrift Wood LWS .
Local	Habitats present of Local importance include Hedgerows (with Mature Trees) , Woodland and Traditional Orchard (off-site), with species/groups including Bats , Breeding Birds and Amphibians (GCN) also of Local importance.
Protected	Badger are known to make use of the Site, with setts understood to be present nearby. Badgers are common and not considered to be of conservation concern, however, badgers and their setts are protected under the Protection of Badgers Act 1992 and are therefore included in the assessment of effects below in the context of this legislation. Legislative protections are also of relevance with regard to bats (roosts), nesting birds, reptiles, great crested newts and hedgerows (regulations).

Biodiversity

- 1.40 In addition to the above individually 'important' ecological features, a revised Biodiversity Metric Calculation (Ecology Addendum Appendix E), a 'Baseline Score' of '339.28' for habitats, and '74.84' separately for hedgerows, has been calculated based upon the type and condition of habitats present, as well as other factors such as connectivity. This score is used to establish overall net loss/gain of biodiversity across all habitats when considered in context of the proposed scheme.

Likely Significant Effects

- 1.41 As described in Chapter 7, in the context of this assessment an effect is considered to be potentially significant if it could give rise to a change in the conservation status or degree of integrity of any important ecological feature. The assessment of effects set out below is made in respect of the proposed scheme as shown on the Parameter Plans and summarised earlier in this ES.

Broadway and Thrift Wood LWS

Construction Phase

- 1.42 Broadway and Thrift Wood LWS is sufficiently separated from the Site (0.1km) as to be highly unlikely of being affected by the scheme during construction (no effect).

Operational Phase

- 1.43 In operation, an increase in recreational pressure will be exerted upon open space and recreational sites locally and could conceivably include publicly accessible LWSs including Broadway and Thrift Wood LWS. However, formal public access is limited to a single footpath bisecting the LWS of c.500m in length, with a further 150m path running along the southern boundary of the wood. Furthermore, access to this footpath is via 1.5km of public footpaths (Midshire's Way/ Swan's Way), with no circular route available and no carparking at the LWS. Furthermore, the scheme provides significant areas and variety of open space adjacent to residential areas, as well as direct walking links to Tattenhoe Park to north and Chepstow Drive local park to the east. These open spaces are anticipated to absorb the vast majority of recreational pressure generated by new residential development and avoid any significant increase in footfall to any LWSs
- 1.44 As such, it is very unlikely that significant numbers new residents would regularly access to the LWS, and where any visits are made only a small proportion of the LWS could be accessed.
- 1.45 No significant adverse effects are predicted to Broadway and Thrift Wood LWS, or other LWSs, as a result of the proposed scheme in operation (**no significant effect**).

Woodland

Construction Phase

- 1.46 In addition to the assessment set out within Chapter 7, further information is provided below in respect of vehicular access through woodlands W4b and W5. As set out above, no veteran or ancient trees were identified as part of the arboricultural survey.
- 1.47 Vehicular access designs via Standingway (A421) require the removal of a portion of woodland W4b (as set out within drawing reference 1067760-D013B), which is predicted to require the removal of up to three semi-mature oaks (multi-stem 40cm/30cm DBH; 60cm DBH; 30cm DBH) and a single field maple *Acer campestre* (30cm DBH) and associated understorey and ground flora. Such removals are subject to the final construction methods and working areas. Vehicular routes within the Site also require the removal of a portion of woodland W5, with detailed designs not available. Nonetheless it is estimated based upon the parameters plans that up to two mature oaks and associated shrub layer would be removed to allow this access to be constructed.
- 1.48 As set out within Chapter 7, damage of any retained hedgerows and/or mature trees could also occur as a result of construction works occurring close to the hedgerows or within Root Protection Areas. As such, based on the above, and that set out within Chapter 7, in the absence of mitigation, an adverse effect significant at the Local level (moderate adverse effect) is predicted.

Operational Phase

- 1.49 Given their retention within open space areas, no potential significant effects arising from the operational phase of the development are predicted on retained hedgerows and/or mature trees within the network (**no significant effect**).

Traditional Orchard

Construction Phase

- 1.50 Off-site traditional orchard habitat will be unaffected by the scheme, being located beyond boundary garden hedgerows and lying adjacent to proposed open space areas. As such, no significant adverse effects (**no significant effect**) are predicted during construction in respect of impacts to traditional orchards.

Operational Phase

- 1.51 No public access is available to the private garden within which traditional orchard habitat may be present. As such, there is no pathway of impacts possible to this habitat and no significant adverse effects (**no significant effect**) are predicted. It should be noted that a community orchard is proposed in close proximity of traditional orchard habitat adjacent to the Site, which would reinforce the ecological interest of the existing orchard, through extending resources for associated invertebrate or other wildlife interests.

Bats

Construction Phase

- 1.52 As set out in Chapter 7 of the ES, the construction phase will result in the permanent loss of the habitats utilised by bats for foraging and/or commuting, including semi-improved grassland and wooded habitats. The severance of linear hedgerows is also anticipated to interrupt some flight-lines through the Site with light-shy and low-flying species dissuaded from crossing open ground between hedge sections. Functionally the severance of hedges may reduce further the amount of available foraging and possibly roosting opportunities, for bats.
- 1.53 It should be noted that the majority of habitats removed for development (arable land) is not anticipated to result in significant adverse effects to bats.

- 1.54 No confirmed bat roosts are predicted to be directly impacted by development of the Site, including associated with trees. An anecdotal observation of a small common pipistrelle bat roost was made during transect survey at New Leys properties to the northeast of the Site. However, this roost will be unaffected by works
- 1.55 In addition, potential adverse effects arising from night working (e.g. noise and light pollution) within close proximity to the hedgerows include disturbance and avoidance of this area by foraging/ commuting bats. This could potentially temporarily hinder movement between foraging and roosting areas for bats in the local area. This would primarily effect common and widespread species but could also affect low numbers of rare species.
- 1.56 Based on the above, in the absence of mitigation, an adverse effect significant at the Local level (**moderate effect**) is predicted for the bat populations making use of the Site, with the potential for legal infringements.

Operational Phase

- 1.57 As set out in Chapter 7 of the ES, Artificial lighting, increased levels of human activity and associated noise arising from the residential areas and road infrastructure are anticipated to have an adverse effect on foraging/commuting bats within the Site. This could permanently hinder movement between foraging and roosting areas for bats in the local area. These impacts are considered to primarily effect common species recorded at the Site and in the vicinity. As such, in the absence of mitigation, an adverse effect significant at the Local level (**moderate adverse effect**) is predicted.

Birds

Construction Phase

- 1.58 As set out in Chapter 7 of the ES, removal of the wooded habitats and hedgerow to enable development could disturb/displace many of the 49 breeding bird species recorded at the Site. Based on survey work undertaken it is anticipated that at least c.23 skylark territories will be permanently lost as a result of clearance of the semi-improved grassland and arable land. Based on these broad assessments, an adverse effect significant at the Local level (**moderate effect**) is predicted.
- 1.59 In addition to the above, where clearance works are undertaken during the nesting bird season, there is potential for offences to be caused under the Wildlife and Countryside Act (1982), as amended.

Operational Phase

- 1.60 As set out in Chapter 7 of the ES, given the quantum of retained habitat and extent of habitat created within open space, as structural landscaping and for surface water attenuation/drainage purposes, it is anticipated that the majority of birds, save for certain arable species (i.e. skylark), would continue to utilise the Site for breeding during the operational phase. However, given the higher levels of human disturbance associated with residential development, it is anticipated that the more elusive species such as yellowhammer and bullfinch would be displaced to some extent also. In addition, the introduction of predators such as the domestic cat could result in a reduction in the abundance of breeding birds present at the Site.
- 1.61 Based on the above, in the absence of mitigation, an adverse effect significant at the Local level (**moderate adverse effect**) is predicted.

Amphibians

Construction Phase

- 1.62 As set out in Chapter 7 of the ES, works during the construction phase including habitat clearance could potentially kill and/or injure amphibian species recorded on or adjacent to the Site including both S41 priority

species GCN and/or common toad. Based on survey work undertaken, either species is likely to make use of a portion of the Site in small numbers, and therefore removal of wooded habitat, hedgerows and grassland could result in a reduction in terrestrial opportunities. No direct impacts to any aquatic habitat is anticipated based on the retention of ponds at the Site within open space and/or structural landscaping.

- 1.63 Based upon the above, any effects are considered to be low in magnitude and extent, and therefore not likely to constitute a significant adverse effect (no significant effect) is anticipated in respect of amphibians and specifically common toad and/or GCN. However, removal of habitat within the vicinity of previously known great crested newt breeding ponds has the potential to result in offences arising under the Conservation of Habitats and Species Regulation 2017 (as amended) and the Wildlife and Countryside Act 1982 (as amended).

Operational Phase

- 1.64 Potential effects during the operational phase include inappropriate management of retained habitats leading to killing and/or injury of amphibians, e.g. becoming trapped within drainage features along roads close to ponds. Again, these effects are considered to be low in magnitude and extent, and therefore not likely to constitute a significant adverse effect (no significant effect), although could result in potential legal infringement.

Mitigation Measures

- 1.65 Mitigation measures set out herein are in addition to, or clarify those which are set out within Chapter 7 of the ES.

Farmland Birds

- 1.66 Mitigation measures proposed in Chapter 7 of the ES seek to maintain opportunities for overall number of bird species and abundance through appropriate habitat creation at the site. However, it is acknowledged that c.23 skylark territories will be lost as a result of the proposed scheme, alongside other farmland bird opportunities. As set out within consultation response from Buckinghamshire Council, additional mitigation is sought via funding off-site habitat enhancements for farmland birds within the wider countryside, such as hedgerow planting/management and/or through cultivation regimes (e.g. skylark plots). Such mitigation would be secured via an appropriate legal mechanism (e.g. S106 agreement and payments).

Amphibians

- 1.67 Mitigation measures set out within Chapter 7 of the ES chapter provide options in respect ensuring compliance with legal protections for GCN. Such options allow for an appropriate mitigation approach to be adopted by the various parties implementing the scheme, including works undertaken either under non-licensed methods statement, derogation 'European Protected Species Mitigation Licence' (EPSML) or registration under the locally adopted district (organisational) level licence. A fourth option, not previously suggested, would be use of the Great crested newt Low Impact Class Licence (GLICL). However, the consultation response from Buckinghamshire Council requested that further clarification as to which of the proposed mitigation options would be pursued.
- 1.68 It is therefore proposed that given the very low level of risk of legal infringement, the scheme would be implemented under the auspices of a non-licensed methods statement to reduce any minor risk of legal infringement to de-minimis level in respect of impacts to individual GCN. This is on the basis that all ponds to the northwest of the Site were dry by June 2020, and only previously supporting low numbers of GCN, with the only other population being c.220m east of the Site (Pond 9) with only open space (ponds and woodland) proposed within 250m. At these distances, it becomes increasingly unlikely for GCN to make use of the Site,

which is dominated by suboptimal (arable) habitat, and therefore very unlikely for a licence to be necessary to allow works to be undertaken lawfully.

- 1.69 This non-licensed methods statement would clearly set out Reasonable Avoidance Measures (RAMs) including appropriate timing of habitat clearance works, storage of materials/soil away and appropriate briefing of any contractors. This methods statement would be appended in full to the EMEMP and implemented, as required, during development.

Residual Effects

- 1.70 In respect of farmland birds, based on the implementation of the proposed mitigation above, no significant adverse effects (**no significant effect**) are predicted
- 1.71 In respect of amphibians, based on the implementation of the proposed mitigation above, no legal infringement (**no significant effect**) is predicted
- 1.72 In summary therefore, based on the delivery of the mitigation set out above and within Chapter 7 of the ES, secured via detailed design, planning obligation and/or planning condition and enshrined within the proposed site-wide **Ecological Mitigation, Enhancement & Management Plan** (EMEMP) and implemented across the scheme, no residual adverse effects on important ecological features are predicted. This prediction remains consistent with Chapter 7 of the ES.

Biodiversity Net Gain & Ecological Enhancement

- 1.73 The following revised biodiversity metric calculation, provided in detail in Ecology Addendum Appendix E, sets out the anticipated biodiversity net gain/loss for the proposed scheme, based upon indicative layout, landscaping and ecological mitigation measure proposed herein:
- HABITATS:
 - **A. Existing Baseline**= 339.28 Habitat units
 - B. On-site Post-Intervention= 383.93 Habitat Units
 - **C. Total Net Unit Change** (B-A)= +44.66 Gain of Habitat Units
 - HEDGEROWS:
 - **A. Existing Baseline**= 74.84 Hedgerow units
 - B. On-site Post-Intervention= 99.43 Hedgerow Units
 - **C. Total Net Unit Change** (B-A)= +24.59. Gain of Hedgerow Units
- 1.74 The Biodiversity Metric Calculation demonstrates a substantive net gain for biodiversity of 44.66 units or **+13.16% for habitats**, and separately 24.59 units or **+32.85% gain for hedgerows** is deliverable based on the proposed scheme. Such a net gain would accord with draft policy NE1 of the VALP (and Policy NE3 of Plan:MK).
- 1.75 As set out in Chapter 7 of the ES, the final extent of any net gain will subject to the control of detailed landscape design and robust implementation of proposed ecological mitigation, as well as commitment to habitat establishment and longer-term management to be set out within the site-wide EMEMP. Subsequent biodiversity metric calculations may be necessary at the appropriate Reserved Matters stage.
- 1.76 Inclusion of Integrated Bat & Bird Boxes into new buildings across the Site was proposed within Chapter 7 of the ES, at a rate of 1 box per 10 dwellings (10%). Consultations via Buckinghamshire Council and BBOWT seek a higher proportion of dwellings to include a box (e.g. 30% in line with Kingsbrook development). The rate of integrated bird/bat boxes provided would be secured via an appropriately worded planning condition.

1.77 Following consultations provided by Buckinghamshire Council it is proposed that the community orchard proposed on-site should be planting with traditional and local fruit tree varieties, such as

- Dessert Apples (Ball's Pippin, Cox's Orange Pippin, Feltham Beauty, Langley Pippin)
- Cooking Apples (Arthur Turner, Small's Admirable)
- Dual Purpose Apples (Cox's Pomona)
- Damsons (The Aylesbury Prune)
- Plums (Allgrove's Superb, Bullace Langley and Stewkley Red)
- Cherries (Prestwood Black).

Conclusion

1.78 In summary, this addendum has, via presentation of confirmatory survey work findings, and clarifications with regard to certain aspects of the assessment of effects, shown how previous assessments set out within Chapter 7 of the ES is both accurate and proportionate. A number of clarifications with regard to both mitigation and enhancement measures have been provided, as well as how the scheme would result in measurable Biodiversity Net Gain.

References

Baker, J., 2016. *Biodiversity Net Gain: Good practice principles for development*. [pdf] CIEEM, CIRIA & IEMA. Available at: https://www.cieem.net/data/files/Publications/Biodiversity_Net_Gain_Principles.pdf [Accessed January 2019].

Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F. 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Appendix 5. Technical advice note for field and laboratory sampling of great crested newt (*Triturus cristatus*) environmental DNA. Freshwater Habitats Trust, Oxford.

British Standards Institution, 2013. BS 42020:2013 Biodiversity – Code of practice for planning and development. London: BSI.

CIEEM, 2016. *Guidelines for Assessing and Using Biodiversity Data*. Winchester: Chartered Institute of Ecology and Environmental Management.

CIEEM, 2017. *Guidelines for Ecological Report Writing*. Winchester: Chartered Institute of Ecology and Environmental Management.

CIEEM, 2018 (updated September 2019). *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Winchester: Chartered Institute of Ecology and Environmental Management.

Collins, J., ed., 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd ed. London: The Bat Conservation Trust.

Cresswell, P., Harris, S. and Jeffries, D.J., 1990. *The History, Distribution, Status and Habitat Requirements of the Badger in Britain*. Peterborough: Nature Conservancy Council.

Defra, 2011. *Biodiversity 2020: A strategy for England's wildlife and ecosystem services*. London: Defra.

Eaton, M., Aebischer, N., Brown, A., Heam, R., Lock, L., Musgrove, A., Noble, D., Stroud, D. and Gregory, R., 2015. Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*, 108, pp.708-746.

English Nature, 2001. *Great crested newt mitigation guidelines*. Peterborough: EN.

Fuller, R.J. 1980. A method for assessing the ornithological interest of sites for conservation. *Biological Conservation*. 17. 229-239. 10.1016/0006-3207(80)90058-0.

Harris, S., Creswell, P., and Jefferies, D.J., 1989. *Surveying badgers*. London: Mammal Society.

Joint Nature Conservation Committee, 1990. *Handbook for Phase 1 habitat survey – a technique for environmental audit*. Revised reprint 2010. Peterborough: JNCC.

JNCC and Defra (on behalf of the Four Countries' Biodiversity Group), 2012. *UK Post-2010 Biodiversity Framework*. [pdf] JNCC. Available at: http://jncc.defra.gov.uk/pdf/UK_Post2010_Bio-Fwork.pdf [Accessed March 2020].

Ministry of Housing, Communities and Local Government, 2018. *National Planning Policy Framework (NPPF)*. London: Ministry of Housing, Communities and Local Government.

Multi-Agency Geographic Information for the Countryside (MAGIC), 2013. *Interactive Map*. [online] Available at: <http://www.magic.gov.uk/MagicMap.aspx> [Accessed March 2020].

Natural England and Department for Environment, Food & Rural Affairs, 2014. *Protected species and sites: how to review planning proposals*. [online, last updated August 2016] Available at: <https://www.gov.uk/protected-species-and-sites-how-to-review-planning-proposals> [Accessed March 2020].

Oldham R.S., Keeble J., Swan M.J.S. & Jeffcote M., 2000. Evaluating the suitability of habitat for the Great Crested Newt (*Triturus cristatus*). *Herpetological Journal* 10(4), 143-155.

The Woodland Trust, no date. *Ancient Tree Inventory* [online] Available at: <https://ati.woodlandtrust.org.uk/> [Accessed March 2020].